

Exhibit IT-1
Capital Project/Program Summary

Org./Area	Project/Program Name	Supporting Exh.	Page #	Funding Requested (\$000)			
				RY1	RY2	RY3	Total
CUSTOMER OPERATIONS	Back Office Automation	IT-5	1	10,530	10,620	10,680	31,830
CUSTOMER OPERATIONS	Billing and Payments Enhancements	IT-5	30	3,000	500	500	4,000
CUSTOMER ENERGY SOLUTIONS	Building Energy Usage Portal	IT-5	36	4,858	5,425	5,141	15,424
CUSTOMER OPERATIONS	Community Distributed Generation Platform	IT-5	41	9,090	9,910	10,690	29,690
CUSTOMER OPERATIONS	Contact Center Cloud	IT-5	54	6,000	4,500	2,000	12,500
CUSTOMER ENERGY SOLUTIONS	Customer Analytics, Reporting, and Engagement (CARE)	IT-5	59	18,505	17,082	12,594	48,181
CUSTOMER OPERATIONS	Customer Care & Billing Enhancements and Upgrade	IT-5	66	28,066	28,176	89,406	145,648
CUSTOMER OPERATIONS	Customer Data Sharing	IT-5	93	2,500	2,500	2,500	7,500
CUSTOMER OPERATIONS	Customer Engagement Platform	IT-5	105	9,142	23,959	11,613	44,714
CUSTOMER OPERATIONS	Digital Customer Experience	IT-5	125	15,880	15,880	15,880	47,640
CUSTOMER OPERATIONS	Emergency Outage Communications Program	IT-5	138	2,097	3,202	3,202	8,501
CUSTOMER OPERATIONS	Enterprise Data Privacy Program	IT-5	145	15,600	16,800	9,360	41,760
CUSTOMER OPERATIONS	Outage Communications Program	IT-5	162	2,403	2,303	2,103	6,809
CUSTOMER OPERATIONS	Retail Access System Modernization	IT-5	171	16,222	13,950	1,395	31,567
CUSTOMER ENERGY SOLUTIONS	AMI Communication Network Steady-State	IT-6	1	2,827	2,772	2,772	8,370
INFORMATION TECHNOLOGY	AMI Systems Sustainability Program	IT-6	4	21,941	10,864	6,078	38,883
INFORMATION TECHNOLOGY	Clean Energy Mapping Platform	IT-6	12	30,000	35,000	35,000	100,000
INFORMATION TECHNOLOGY	Control Center Resiliency Phase 2	IT-6	22	6,290	4,420	5,750	16,460
INFORMATION TECHNOLOGY	DECC SCADA(CDMS) Upgrade 2026	IT-6	27	4,650	4,150	750	9,550
INFORMATION TECHNOLOGY	Enterprise Geographic Information System (eGIS) Implementation Phase 3	IT-6	33	43,300	-	-	43,300
GAS OPERATIONS	Gas_IT_Projects_GOSS and Gas Application and Hardware Upgrade	IT-6	40	1,280	1,280	1,050	3,610
CUSTOMER ENERGY SOLUTIONS	Grid Edge Renewable Laboratory (GERL)	IT-6	44	7,283	7,955	6,695	21,933
CUSTOMER ENERGY SOLUTIONS	Integrated Grid Management Visualization Optimization (IGMVO)	IT-6	53	26,947	30,783	27,200	84,929
ELECTRIC OPERATIONS	IT /OT Tower Sustainability	IT-6	64	4,412	4,832	6,027	15,271
INFORMATION TECHNOLOGY	IT System Testing COE	IT-6	70	20,264	16,352	16,864	53,481
ELECTRIC OPERATIONS	OMS System Hardening and Modernization	IT-6	78	24,929	19,067	13,821	57,817
ELECTRIC OPERATIONS	OMS Resiliency and Sustainability	IT-6	84	13,421	13,248	12,965	39,634
CUSTOMER ENERGY SOLUTIONS	REV-Grid Modernization (DSP)	IT-6	89	57,761	57,391	56,088	171,240
INFORMATION TECHNOLOGY	OpNet	IT-6	96	15,933	8,625	6,095	30,653
INFORMATION TECHNOLOGY	Storm Response Technology Advancements	IT-6	103	9,314	5,790	2,900	18,004
CUSTOMER ENERGY SOLUTIONS	Transforming Outage Management with Advanced AMI Integrations	IT-6	112	6,511	6,933	22,470	35,914
INFORMATION TECHNOLOGY	Adapt2 Battery Storage Scalability Enhancements	IT-7	1	702	-	-	702
INFORMATION TECHNOLOGY	AutoCAD Phase 2 (Engineering Software & Equipment Upgrade)	IT-7	4	550	550	550	1,650
INFORMATION TECHNOLOGY	Budget System Enhancements	IT-7	7	1,500	1,500	1,500	4,500
INFORMATION TECHNOLOGY	Central Operations Battery Monitoring Systems	IT-7	10	335	335	-	670
INFORMATION TECHNOLOGY	Central Operations Tableau to Power Bi Migration (Const)	IT-7	13	500	-	-	500
ELECTRIC OPERATIONS	Connected Vehicles - Enterprise Vehicle Telematics	IT-7	16	17,770	90	-	17,860
INFORMATION TECHNOLOGY	Construction Technology Improvements	IT-7	21	500	500	500	1,500
INFORMATION TECHNOLOGY	CPMS Customer Data Self-Service and Data Governance and Compliance Modernization	IT-7	24	11,142	9,942	1,520	22,603
INFORMATION TECHNOLOGY	EH&S Control Desk Application	IT-7	36	500	-	-	500
INFORMATION TECHNOLOGY	EH&S Navigator AI Search Tool	IT-7	38	300	-	-	300
INFORMATION TECHNOLOGY	Electric - ARM Replacement	IT-7	41	2,000	2,000	12,000	16,000
ELECTRIC OPERATIONS	Electric WMS – Open Grid Field Implementation	IT-7	48	4,600	3,500	-	8,100
INFORMATION TECHNOLOGY	Employee Data Warehouse (EDW) to Autonomous Data Warehouse (ADW) Project	IT-7	52	7,312	-	-	7,312
INFORMATION TECHNOLOGY	Environmental Management System	IT-7	56	350	-	-	350
INFORMATION TECHNOLOGY	Finance and Supply Chain Transformation	IT-7	59	170,861	168,535	60,402	399,798
INFORMATION TECHNOLOGY	FIS GTS Version Upgrade and Enhancements	IT-7	72	2,048	-	-	2,048
INFORMATION TECHNOLOGY	Fixed Asset and Tax Accounting Transformation	IT-7	76	25,717	25,758	13,059	64,534
INFORMATION TECHNOLOGY	Fleet Management Program	IT-7	81	2,093	3,302	150	5,545
INFORMATION TECHNOLOGY	FPET (Field Programmable Electronic Terminal) Migration	IT-7	86	2,415	1,066	-	3,481
INFORMATION TECHNOLOGY	Fraud Data Analytics Platform	IT-7	90	1,700	130	665	2,495
GAS OPERATIONS	Gas Digital As-Builting	IT-7	94	5,800	6,200	8,000	20,000
INFORMATION TECHNOLOGY	Increased Computing Capability for Clean Energy Analytics	IT-7	100	490	-	-	490
INFORMATION TECHNOLOGY	Integrated Workplace Management System Replacement	IT-7	106	2,016	5,662	5,806	13,484
INFORMATION TECHNOLOGY	Integration of virtual reality into Substation Operating Orders	IT-7	113	500	-	-	500
INFORMATION TECHNOLOGY	ISO Revenue Metering Enhancements to PCI Adapting to Market Changes	IT-7	116	1,429	1,168	-	2,597
INFORMATION TECHNOLOGY	L&I Digital Learning Transformation	IT-7	122	1,500	1,500	-	3,000
INFORMATION TECHNOLOGY	Learn, Talent Management & Compensation Replacement Project	IT-7	128	23,661	7,767	-	31,428
CONSTRUCTION	Material Management Inventory Upgrades for Contractor Yards	IT-7	137	1,800	1,800	-	3,600
INFORMATION TECHNOLOGY	Maximo Consolidation Program Phase 2	IT-7	142	13,323	12,743	10,287	36,353

Org./Area	Project/Program Name	Supporting Exh.	Page #	Funding Requested (\$000)			
				RY1	RY2	RY3	Total
INFORMATION TECHNOLOGY	Maximo New Functionality and Sustainability	IT-7	150	2,303	2,359	2,403	7,065
INFORMATION TECHNOLOGY	MetrixIDR Upgrade for Enhanced Functionality and Support Compliance	IT-7	156	-	-	613	613
INFORMATION TECHNOLOGY	Migration to Cloud, Version Upgrade, and Enhancements for the FIS Gas Transaction System	IT-7	161	-	3,976	3,438	7,414
INFORMATION TECHNOLOGY	Obsolete Oracle GRC Software Replacement and Enterprise SoD Tool	IT-7	165	356	374	424	1,154
ELECTRIC OPERATIONS	Outage Scheduling System (OSS) Replacement	IT-7	172	4,740	1,659	1,245	7,644
INFORMATION TECHNOLOGY	Phased Replacement of Legal Technology	IT-7	176	5,152	3,307	2,400	10,859
INFORMATION TECHNOLOGY	Rapid Restore Re-architecture	IT-7	184	3,207	1,447	240	4,894
INFORMATION TECHNOLOGY	Rate Case Enhancements	IT-7	188	750	750	750	2,250
GAS OPERATIONS	Service Line Inspection GIS Routing & Traceability	IT-7	193	2,000	2,000	-	4,000
GAS OPERATIONS	Service Line Inspection Program Customer Communication Automation	IT-7	197	1,500	-	-	1,500
INFORMATION TECHNOLOGY	Substation Technology Improvements Program	IT-7	200	2,500	2,500	-	5,000
INFORMATION TECHNOLOGY	Tech Modernization for PEGA Applications	IT-7	203	13,233	13,233	13,183	39,650
INFORMATION TECHNOLOGY	The Employee Hub System Improvements	IT-7	215	6,000	8,000	6,700	20,700
INFORMATION TECHNOLOGY	Transmission Owners Data Reporting System (TODRS) Market Demand Enhancements	IT-7	221	1,040	848	857	2,745
GAS OPERATIONS	Transmission Pipeline Integrity Information Management System (PIIMS) Replacement	IT-7	225	500	500	-	1,000
INFORMATION TECHNOLOGY	Transportation Customer Information System (TCIS) Reporting and Infrastructure Enhancements	IT-7	229	1,675	1,834	808	4,317
INFORMATION TECHNOLOGY	Wiring and Raceway System (WARS) Replacement	IT-7	234	440	-	-	440
ELECTRIC OPERATIONS	WMS Exadata Hardware Upgrade To Avoid Tech Debt	IT-7	237	7,575	3,575	-	11,150
ELECTRIC OPERATIONS	WMS Sustainability Project - Phase 3	IT-7	242	2,300	2,300	2,300	6,900
INFORMATION TECHNOLOGY	Work Management Mobility	IT-7	246	5,000	5,000	5,000	15,000
INFORMATION TECHNOLOGY	CCTN Program	IT-8	1	20,000	20,000	20,000	60,000
INFORMATION TECHNOLOGY	Data Center and LAN Infrastructure Improvements	IT-8	9	4,770	13,150	15,950	33,870
INFORMATION TECHNOLOGY	End User Computing	IT-8	14	1,084	1,189	509	2,782
INFORMATION TECHNOLOGY	Enterprise Architecture Modernization	IT-8	19	600	600	600	1,800
INFORMATION TECHNOLOGY	M365	IT-8	25	2,000	2,000	2,000	6,000
INFORMATION TECHNOLOGY	Mainframe Exit - Data Migration of CECONY Applications	IT-8	29	1,295	1,003	-	2,298
INFORMATION TECHNOLOGY	ServiceNow Platform Expansion	IT-8	37	1,741	7,249	5,843	14,834
INFORMATION TECHNOLOGY	Technology Modernization Program - Applications and Infrastructure	IT-8	43	44,599	34,941	34,790	114,330
INFORMATION TECHNOLOGY	XM 8 Telecommunications Equipment Priority 1	IT-8	53	4,980	6,425	6,915	18,320
INFORMATION TECHNOLOGY	XM10 Tier 1_2 Computer Equipment Critical Infrastructure	IT-8	61	32,477	28,581	28,929	89,987
INFORMATION TECHNOLOGY	Asset Reliability and Resilience Data and Analytics	IT-9	1	10,846	14,461	13,015	38,322
INFORMATION TECHNOLOGY	Clean Energy, AMI and DER Data and Analytics Program	IT-9	10	7,471	9,961	8,965	26,397
ED&A / CUSTOMER OPERATIONS	Customer Data and Analytics	IT-9	19	10,171	13,561	12,205	35,937
INFORMATION TECHNOLOGY	Data & AI Governance	IT-9	33	4,500	4,000	3,500	12,000
INFORMATION TECHNOLOGY	Data Integration Modernization	IT-9	44	4,500	6,500	5,500	16,500
INFORMATION TECHNOLOGY	Electric Work Management Data and Analytics	IT-9	54	6,098	8,131	7,317	21,546
INFORMATION TECHNOLOGY	Enterprise Data & Analytics Foundations	IT-9	63	9,591	9,745	7,823	27,159
INFORMATION TECHNOLOGY	Forecasting and Planning Data and Analytics	IT-9	71	6,796	9,061	8,155	24,012
INFORMATION TECHNOLOGY	Gas Systems Analytics	IT-9	80	3,735	4,981	4,482	13,198
INFORMATION TECHNOLOGY	Integration Technical Obsolescence	IT-9	89	33,400	33,400	33,400	100,200
INFORMATION TECHNOLOGY	Power Platform Governance and COE	IT-9	97	1,549	2,053	2,045	5,646
INFORMATION TECHNOLOGY	SharePoint Forms Upgrade	IT-9	103	2,719	2,719	-	5,438
INFORMATION TECHNOLOGY	Supply Chain Data and Analytics	IT-9	106	4,410	5,881	5,292	15,583

Exhibit IT-2
O&M Program Change Summary

Org./Area	Project/Program Name	Supporting Exh.	Page #	Program Change Requested (\$000)			
				RY1	RY2	RY3	Total
IT ENGINEERING & OPERATIONS	IT Telecom O&M	IT-4	1	\$ 7,000	\$ 924	\$ -	\$ 7,924
INFORMATION TECHNOLOGY	Oracle Strategic Partnership (OSP) Run	IT-4	6	\$ 8,448	\$ 1,420	\$ 848	\$ 10,716
VARIOUS	Enterprise Geographic Information System (eGIS) Support	IT-4	11	\$ 5,006	\$ -	\$ -	\$ 5,006
IT SOLUTIONS DELIVERY	Enterprise PI Historian System	IT-4	16	\$ 884	\$ 46	\$ -	\$ 930
CUSTOMER ENERGY SOLUTIONS	Rate Engineering Tech Roadmap Phase 0	IT-4	22	\$ -	\$ 325	\$ (325)	\$ -
INFORMATION TECHNOLOGY	IT Talent Transformation Team	IT-4	27	\$ 265	\$ 265	\$ 200	\$ 730
INFORMATION TECHNOLOGY	IT Quality Assurance & Compliance Office	IT-4	32	\$ 511	\$ 324	\$ -	\$ 835
INFORMATION TECHNOLOGY	Master Service Provider (MSP) Go-To-Market (GTM)	IT-4	70	\$ 3,889	\$ 33	\$ -	\$ 3,922
IT SOLUTIONS DELIVERY	Gas Applications	IT-4	41	\$ 1,838	\$ -	\$ -	\$ 1,838
CUSTOMER ENERGY SOLUTIONS	Integrated Energy Data Resource (IEDR)	IT-4	43	\$ -	\$ 1,467	\$ 533	\$ 2,000
IT ENGINEERING & OPERATIONS	IT Hardware and Software Maintenance	IT-4	47	\$ 37,189	\$ 15,617	\$ 2,790	\$ 55,596
CUSTOMER OPERATIONS	Back Office Automation	IT-5	1	\$ 6,938	\$ (68)	\$ -	\$ 6,870
CUSTOMER ENERGY SOLUTIONS	Building Energy Usage Portal	IT-5	36	\$ 1,464	\$ 175	\$ 90	\$ 1,729
CUSTOMER OPERATIONS	Community Distributed Generation Platform	IT-5	41	\$ 8,054	\$ 845	\$ 510	\$ 9,409
CUSTOMER OPERATIONS	Contact Center Cloud	IT-5	54	\$ 7,100	\$ 100		\$ 7,200
CUSTOMER ENERGY SOLUTIONS	Customer Analytics, Reporting, and Engagement (CARE)	IT-5	59	\$ 4,220	\$ 2,505	\$ 1,498	\$ 8,223
CUSTOMER OPERATIONS	Customer Data Sharing	IT-5	93	\$ 626	\$ 42	\$ 43	\$ 711
CUSTOMER OPERATIONS	Customer Engagement Platform	IT-5	105	\$ 155	\$ 2,335	\$ 802	\$ 3,292
CUSTOMER OPERATIONS	Digital Customer Experience	IT-5	125	\$ 2,524	\$ 330	\$ 277	\$ 3,131
CUSTOMER OPERATIONS	Emergency Outage Communications Program	IT-5	138	\$ 2,210	\$ (110)	\$ -	\$ 2,100
CUSTOMER OPERATIONS	Enterprise Data Privacy Program	IT-5	145	\$ 6,364	\$ (1,968)	\$ 161	\$ 4,557
CUSTOMER OPERATIONS	Outage Communications Program	IT-5	162	\$ 1,877	\$ 1,017	\$ 507	\$ 3,401
CUSTOMER OPERATIONS	Retail Access System Modernization	IT-5	171	\$ 1,641	\$ 2,029	\$ (1,641)	\$ 2,029
IT SOLUTIONS DELIVERY	AMI Systems Sustainability Program	IT-6	4	\$ 5,137	\$ 1,000	\$ 855	\$ 6,992
IT SOLUTIONS DELIVERY	Control Center Resiliency Phase 2	IT-6	22	\$ 3,100	\$ 3,370	\$ (2,500)	\$ 3,970
IT SOLUTIONS DELIVERY	DECC SCADA (CDMS) Upgrade 2026	IT-6	27	0	\$ 1,500	\$ 460	\$ 1,960
IT SOLUTIONS DELIVERY	Gas_IT_Projects_GOSS and Gas Application & Hardware Upgrade	IT-6	40	\$ 250	\$ 500	\$ -	\$ 750
CUSTOMER ENERGY SOLUTIONS	Grid Edge Renewable Lab (GERL)	IT-6	44	\$ 1,500	\$ 600	\$ 2,700	\$ 4,800
CUSTOMER ENERGY SOLUTIONS	Integrated Grid Management Visualization Optimization	IT-6	53	\$ 3,025	\$ 960	\$ 1,980	\$ 5,965
IT SOLUTIONS DELIVERY	IT OT Tower Sustainability	IT-6	64	\$ 300	\$ 300	\$ 100	\$ 700
IT SOLUTIONS DELIVERY	IT System Testing COE	IT-6	70	\$ 36	\$ 406	\$ (13)	\$ 429
IT SOLUTIONS DELIVERY	OMS IT System Hardening (OMS System Hardening and Modernization)	IT-6	78	\$ 1,395	\$ 50	\$ 1,613	\$ 3,058
IT SOLUTIONS DELIVERY	OMS Resiliency and Sustainability	IT-6	84	\$ 533	\$ -	\$ 595	\$ 1,128
IT SOLUTIONS DELIVERY	Opnet	IT-6	96	\$ 759	\$ 41	\$ -	\$ 800
CUSTOMER ENERGY SOLUTIONS	REV - Grid Modernization (DSP)	IT-6	89	\$ 721	\$ (5)	\$ (198)	\$ 518
IT SOLUTIONS DELIVERY	Storm Response Technology Advancements	IT-6	103	\$ 100	\$ 450	\$ 650	\$ 1,200
IT SOLUTIONS DELIVERY	Transforming Outage Management with Advanced AMI Integrations	IT-6	112	\$ 21	\$ -	\$ -	\$ 21
IT SOLUTIONS DELIVERY/TRANSPORTATION	Connected Vehicles - Enterprise Vehicle Telematics	IT-7	16	\$ 937	\$ 74	\$ -	\$ 1,011
ENERGY SERVICES	CPMS Customer Data Self-Service and Data Governance and Compliance Modernization	IT-7	24	\$ 2,167	\$ -	\$ -	\$ 2,167
ENVIRONMENT HEALTH & SAFETY	EH&S Control Desk Application	IT-7	36	\$ -	\$ 50	\$ -	\$ 50
ENVIRONMENT HEALTH & SAFETY	EH&S Navigator AI Search Tool	IT-7	38	\$ -	\$ 50	\$ -	\$ 50

Org./Area	Project/Program Name	Supporting Exh.	Page #	Program Change Requested (\$000)			
				RY1	RY2	RY3	Total
IT SOLUTIONS DELIVERY	Electric - ARM Replacement	IT-7	41	\$ 1,000	\$ 1,000	\$ 1,000	\$ 3,000
ENVIRONMENT HEALTH & SAFETY	Environmental Management System	IT-7	56	\$ -	\$ 150	\$ -	\$ 150
IT SOLUTIONS DELIVERY/SUPPLY CHAIN	Finance and Supply Chain Transformation	IT-7	59	\$ 104	\$ 17	\$ 1,764	\$ 1,885
IT SOLUTIONS DELIVERY	Fixed Assets Accounting, Tax Transformation	IT-7	76	\$ 643	\$ 32	\$ 34	\$ 709
AUDITING	Fraud Data Analytics Platform	IT-7	180	\$ 265	\$ 45	\$ -	\$ 310
IT SOLUTIONS DELIVERY	Gas Digital As-Building	IT-7	94	\$ 350	\$ 45		\$ 395
IT SOLUTIONS DELIVERY/HR/LDI	Learn, Talent Management & Compensation Replacement Project	IT-7	128	\$ 297	\$ 243	\$ 381	\$ 921
IT SOLUTIONS DELIVERY	Maximo Consolidation Program Phase 2	IT-7	426	\$ 1,386	\$ 103	\$ -	\$ 1,489
IT SOLUTIONS DELIVERY/LAW	Phased Replacement of Legal Technology	IT-7	176	\$ 163	\$ 617	\$ 215	\$ 995
CUSTOMER OPERATIONS	Tech Modernization for PEGA Applications	IT-7	203	\$ 425	\$ 100	\$ 100	\$ 625
IT SOLUTIONS DELIVERY	The Employee Hub System Improvements	IT-7	645	\$ 243	\$ 253	\$ -	\$ 496
IT SOLUTIONS DELIVERY	Work Management Mobility	IT-7	246	\$ 376	\$ -	\$ -	\$ 376
IT ENGINEERING & OPERATIONS	Enterprise Architecture Modernization	IT-8	19	\$ 313	\$ 238	\$ 200	\$ 751
IT ENGINEERING & OPERATIONS	Technology Modernization Program - Applications and Infrastructure	IT-8	43	\$ 13,039	\$ 2,691	\$ 450	\$ 16,180
IT SOLUTIONS DELIVERY	Mainfram Exit Data Migration	IT-8	29	\$ -	\$ -	\$ 250	\$ 250
IT ENGINEERING & OPERATIONS	ServiceNow	IT-8	37	\$ 451	\$ 703	\$ 552	\$ 1,706
IT SOLUTIONS DELIVERY	Technology Modernization Program - Applications and Infrastructure	IT-8	43	\$ 1,534	\$ 328	\$ 300	\$ 2,162
IT ENGINEERING & OPERATIONS	XM10 Tier 1_2	IT-8	61	\$ 325	\$ 195	\$ -	\$ 520
IT ENGINEERING & OPERATIONS	Asset Reliability and Resilience Data and Analytics	IT-9	1	\$ 1,032	\$ 895	\$ 969	\$ 2,896
IT ENGINEERING & OPERATIONS	Clean Energy, AMI and DER Data and Analytics Program	IT-9	10	\$ 762	\$ 490	\$ 621	\$ 1,873
CUSTOMER OPERATIONS	Customer Data and Analytics	IT-9	19	\$ 1,094	\$ 1,459	\$ 1,148	\$ 3,701
IT ENGINEERING & OPERATIONS	Data & AI Governance	IT-9	33	\$ 859	\$ 380	\$ 593	\$ 1,832
IT ENGINEERING & OPERATIONS	Data Integration Modernization	IT-9	44	\$ 2,513	\$ 28	\$ 11	\$ 2,552
IT ENGINEERING & OPERATIONS	Electric Work Management Data & Analytics	IT-9	54	\$ 597	\$ 556	\$ 581	\$ 1,734
IT ENGINEERING & OPERATIONS	Enterprise Data & Analytics Foundations	IT-9	63	\$ 2,737	\$ 2,637	\$ 390	\$ 5,764
IT ENGINEERING & OPERATIONS	Forecasting and Planning Data & Analytics	IT-9	71	\$ 636	\$ 337	\$ 478	\$ 1,451
IT ENGINEERING & OPERATIONS	Gas Systems Analytics	IT-9	80	\$ 314	\$ 353	\$ 380	\$ 1,047
IT ENGINEERING & OPERATIONS	Integration Technology Obsolescence	IT-9	89	\$ 3,030	\$ 4,042	\$ 6,037	\$ 13,109
IT ENGINEERING & OPERATIONS	Power Platform Governance and COE	IT-9	97	\$ 554	\$ 196	\$ -	\$ 750
IT ENGINEERING & OPERATIONS	Supply Chain Analytics	IT-9	106	\$ 395	\$ 286	\$ 338	\$ 1,019

Exhibit IT-3
Incremental FTE Summary

Organization	White Paper/Program Name	Exh. #	Page #	# of FTEs	Linking Period	RY1 Staffing Change	RY2 Staffing Change	RY3 Staffing Change	Capital, O&M, or Combined
IT SOLUTIONS DELIVERY	Enterprise PI Historian System	IT-4	16	12	0	12	0	0	Capital
CUSTOMER ENERGY SOLUTIONS	Integrated Energy Data Resource (IEDR)	IT-4	43	1	0	1	0	0	Capital
INFORMATION TECHNOLOGY	IT Quality Assurance & Compliance Office	IT-4	32	4	1	0	3	0	O&M
INFORMATION TECHNOLOGY	IT Talent Transformation Team	IT-4	27	2	0	2	0	0	Combined
IT ENGINEERING & OPERATIONS	IT Telecom O&M	IT-4	1	3	0	3	0	0	O&M
INFORMATION TECHNOLOGY	Master Service Provider (MSP) Go-To-Market (GTM)	IT-4	35	15	0	15	0	0	Combined
CUSTOMER OPERATIONS	Backoffice Automation	IT-5	1	8	4	4	0	0	Combined
CUSTOMER ENERGY SOLUTIONS	Building Energy Usage Portal (BEUP)	IT-5	36	1	1	0	0	0	Combined
CUSTOMER OPERATIONS	Community Distributed Generation Platform Solution	IT-5	41	4	0	4	0	0	Combined
CUSTOMER OPERATIONS	Contact Center Cloud	IT-5	54	10	0	10	0	0	O&M
CUSTOMER ENERGY SOLUTIONS	Customer Analytics, Reporting, and Engagement (CARE)	IT-5	59	5	0	5	0	0	Combined
CUSTOMER OPERATIONS	Customer Data Sharing	IT-5	93	1	0	1	0	0	O&M
CUSTOMER OPERATIONS	Customer Engagement Platform	IT-5	105	20	1	19	0	0	Combined
CUSTOMER OPERATIONS	Digital Customer Experience	IT-5	125	7	0	7	0	0	O&M
CUSTOMER OPERATIONS	Enterprise Data Privacy Program	IT-5	145	1	0	0	0	1	O&M
CUSTOMER OPERATIONS	Outage Communications Program	IT-5	162	1	0	1	0	0	Combined
CUSTOMER OPERATIONS	Retail Access System Modernization	IT-5	171	1	0	1	0	0	Combined
IT SOLUTIONS DELIVERY	AMI Systems Sustainability Program	IT-6	4	3	0	1	2	0	O&M
IT SOLUTIONS DELIVERY	DECC SCADA (CDMS) Upgrade 2026	IT-6	27	7	0	7	0	0	O&M
CUSTOMER ENERGY SOLUTIONS	Integrated Grid Management Visualization Optimization	IT-6	53	18	0	10	3	5	Combined
IT SOLUTIONS DELIVERY	Opnet	IT-6	96	1	0	1	0	0	Combined
IT SOLUTIONS DELIVERY	Storm Technology Advancements - Resiliency	IT-6	103	1	0	1	0	0	O&M
TRANSPORTATION	Connected Vehicles - Enterprise Vehicle Telematics	IT-7	16	5	0	5	0	0	
IT SOLUTIONS DELIVERY	Finance and Supply Chain Transformation	IT-7	59	19	0	19	0	0	O&M
SUPPLY CHAIN	Finance and Supply Chain Transformation	IT-7	59	3	3	0	0	0	O&M
IT SOLUTIONS DELIVERY	Finance and Supply Chain Transformation	IT-7	59	1	0	1	0	0	Combined
AUDITING	Fraud Data Analytics	IT-7	90	1	0	0	0	1	O&M
AUDITING	Fraud Data Analytics Platform	IT-7	90	4	0	0	0	4	O&M
IT SOLUTIONS DELIVERY	Gas Digital As-Building	IT-7	94	2	2	0	0	0	O&M
HUMAN RESOURCES	Learn, Talent Management & Compensation Replacement Project	IT-7	128	1	0	1	0	0	O&M
LEARNING AND INCLUSION	Learn, Talent Management & Compensation Replacement Project	IT-7	128	2	0	2	0	0	O&M
IT SOLUTIONS DELIVERY	Maximo Consolidation Program Phase 2	IT-7	142	5	0	5	0	0	Combined
LAW	Phased Replacement of Legal Technology	IT-7	176	5	0	5	0	0	Capital
IT SOLUTIONS DELIVERY	The Employee Hub System Improvements	IT-7	215	1	0	1	0	0	Capital
IT SOLUTIONS DELIVERY	The Employee Hub System Improvements	IT-7	215	1	0	1	0	0	O&M
IT ENGINEERING & OPERATIONS	Data Center and LAN Infrastructure Improvements	IT-8	9	8	0	2	3	3	Combined
IT ENGINEERING & OPERATIONS	End User Computing	IT-8	14	2	0	2	0	0	O&M
IT ENGINEERING & OPERATIONS	Enterprise Architecture Modernization	IT-8	19	2	0	2	0	0	O&M
IT ENGINEERING & OPERATIONS	SeviceNow	IT-8	37	11	5	6	0	0	Combined
IT ENGINEERING & OPERATIONS	SeviceNow	IT-8	37	3	3	0	0	0	O&M
IT ENGINEERING & OPERATIONS	Technology Modernization Program - Applications and Infrastructure	IT-8	43	10	0	10	0	0	Combined
IT ENGINEERING & OPERATIONS	Technology Modernization Program - Applications and Infrastructure	IT-8	43	1	0	1	0	0	O&M
IT SOLUTIONS DELIVERY	Technology Modernization Program - Applications and Infrastructure	IT-8	43	10	0	7	3	0	Combined
IT ENGINEERING & OPERATIONS	XM10 Tier 1_2	IT-8	61	1	0	1	0	0	Capital
IT ENGINEERING & OPERATIONS	XM8	IT-8	53	3	0	3	0	0	Combined
CUSTOMER OPERATIONS	Customer Data and Analytics	IT-9	19	2	0	2	0	0	O&M
IT ENGINEERING & OPERATIONS	Data Integration Modernization	IT-9	44	2	0	2	0	0	O&M
IT ENGINEERING & OPERATIONS	Enterprise Data & Analytics Foundations	IT-9	63	2	0	2	0	0	O&M
IT ENGINEERING & OPERATIONS	Integration Technology Obsolescence	IT-9	89	2	0	2	0	0	O&M
IT ENGINEERING & OPERATIONS	Power Platform Governance and COE	IT-9	97	3	0	3	0	0	Capital

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☐ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: IT Telecom O&M	
Project/Program Manager: Darrel Johnson	Project/Program Number (Level 1):
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date In Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: O&M: 106,174.2	
Work Description: The Company is making strategic investments in technology to ensure the smooth operation of its network infrastructure. This includes various telecommunication, data networks, and data centers, with a focus on security and support for all networks. Major capital programs, projects, and initiatives such as Corporate Communication Transmission Network (CCTN), Corporate Data Center Improvements, and XM8 critical radio systems are implemented under these capital programs. The technology solutions are purchased through capital investments, which include negotiated maintenance and warranty periods. Once these periods expire, the support contract becomes an expense to the Company. These contracts help fix issues, update software, secure systems, replace failed hardware, and leverage new product features. Additionally, newer solutions may only offer software licensing, support, and updates on a subscription model instead of the typical perpetual license, which could lead to increased operating and maintenance costs over the next five years. This could also result in new expenses for maintenance being incurred. It's important for the Company to plan for these potential increases in costs and consider strategies for managing them effectively. This could include negotiating longer maintenance and warranty periods, considering different procurement models, or investing in technologies that have lower maintenance costs. It's also crucial to keep abreast of technological advancements, as newer, more efficient solutions could potentially offer cost savings in the long run. The Company's Operations & Maintenance (O&M) activities are indeed comprehensive and cover a wide range of infrastructure categories. Here's a brief overview of each: 1. CCTN/Data Network Infrastructure: This includes outside plant fiber and network equipment such as routers, switches, telecommunication equipment, and cabling systems. 2. Radio Infrastructures: This encompasses the 800MHz voice radio system, 450 MHz Man-Down radio system, 6GHz microwave systems, 11 GHz microwave systems, WiFi and	

satellite systems, 4G/5G infrastructure, and their various subscriber units. This includes portables, mobiles, control stations, base stations, repeater stations, broadband data micro & femto cells and modems, radio frequency distribution systems, waveguides, and antenna systems including microwave dishes.

3. **Telephony Infrastructures:** This involves the VoIP system, turret system, dispatch console system, Automatic Ring-Down network, recorder systems, tele-collaboration systems, various hardware gateway interfaces, and subscriber units consisting of VoIP phones and cell phones.
4. **Common Plant support systems:** This includes internal power distribution, uninterruptible power supply(UPS), Rectifier, Converter, Inverter, battery systems, surge suppression, grounding, bonding and lightning protection systems, HVAC systems, Fire detection and suppression systems, equipment rack systems, rooms, cabinet and enclosures, physical security access control systems, environmental and application monitoring systems, and lighting systems.

Each of these categories plays a crucial role in maintaining the seamless operation of the Company's internal communication infrastructure.

It's important to ensure that all these systems are regularly maintained and updated to prevent any potential disruptions or security issues. As technology evolves, the Company may also need to consider upgrading or replacing some of these systems to keep up with the latest advancements and ensure optimal performance.

1. **Carrier Usage and Services:** Con Edison uses commercial carrier services, including wireline and wireless services, to supplement their communication requirements. These services incur monthly recurring charges (MRC) that include additional fees and taxes. The rates are negotiated to minimize usage cost, but actual usage varies depending on activity and new deployments.
2. **Infrastructure Support Services:** These services are performed on the aforementioned infrastructures by a combination of employee and vendor resources. Con Edison spends about \$16 million annually for these services, which are provided by more than 100 vendors.
3. **Infrastructure Systems:** The network and telecommunications infrastructure at Con Edison is extensive and includes a variety of systems such as the Corporate Communications Transmission Network, Land Mobile Radios systems, SCADA radio systems, corporate data network, VoIP telephone system, multimedia collaboration and teleconferencing systems, and more. The goal is to maintain all critical systems in optimal condition and operate them efficiently. This involves balancing between private infrastructure and supplemental services provided by commercial entities while minimizing usage cost.
4. **Increase in O&M Costs:** The increase in equipment through sustained targeted capital investments, upgrade of equipment through ongoing migration from legacy technologies to new technology platforms, and expansion of broadband wireless infrastructure have resulted in increased O&M cost. This includes routine maintenance of equipment and systems, increases in usage, fees, taxes, warranties and licenses, and preventative inspection and remediation and repair services.
5. **Equipment Systems Expansion:** Some of the equipment systems expanded and upgraded under the capital CCTN and programs include various land mobile radios systems and their subscriber units, dispatch consoles and repeater systems, turret and their recorder systems, and the new IP based telecollaboration system. These systems are maintained

by a group of highly specialized vendors like Advent, Cisco, Nokia, Ericsson, DPT, and Peak Energy. 6. FTEs – Seven (7) IT Infrastructure Engineers - \$2.7M: Seven additional full-time employees will be hired as System Analysts to support and operate telecom facilities and infrastructure systems on an on-going basis throughout the systems lifecycle. The employees must possess qualifications and experience in operating and maintaining all telecommunications systems including fiber optics, radio, microwave, and their common plants like backup power systems and remote monitoring platforms related to critical infrastructure.
Justification Summary: The Company uses support contracts to keep its technology investments valuable. These contracts help fix issues, update software, secure systems, replace failed hardware, and leverage new product features. IT's critical services are sustained and supported by these contracts, enhancing the reliability and availability of the network, applications, and infrastructure. These contracts are a strategic move to reduce risk and ensure long-term operation of the platforms. Without these contracts, the Company would face significant support risks.
Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act N/A – Telecom is necessary to operate the business. This program supports future growth, allows for security and support for all data and voice communication within the company

2. Supplemental Information

Alternatives Instead of using vendor's operation and maintenance services, the Company could expand its own workforce. However, this would require significant training and be quite expensive. Vendor services, obtained through a competitive procurement process, are more cost-effective. They help reduce operating costs by leveraging economies of scale and avoiding the need to hire specialists or retrain employees.
Risk of No Action If these essential support services are interrupted, the systems will slowly degrade. This will negatively impact the operations of all businesses dealing with commodities. It's crucial to maintain these services to ensure smooth business operations.
Non-Financial Benefits The support services provide the following benefits: • Increased reliability and efficiency • Improved workflows and communication between departments • Regulatory compliance
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required): N/A.

2. Major financial benefits:

Controlling escalating O&M costs.

3. Total cost

The total incremental cost over the rate years 2026-2028 is estimated at \$xxx resulting in a \$22,800,000 annual on-going O&M spending.

4. Basis for estimate

Estimates are based on historical cost for these ongoing O&M services.

5. Conclusion

Additional O&M funding should be provided to avoid a lapse in these critical support services that will result in gradual deterioration of systems that will adversely affect operations of all commodity businesses and put the energy delivery systems in jeopardy.

Project Risks and Mitigation Plan

The main risks with operation and maintenance (O&M) activities and services include rising costs, supportability issues, and supply chain delays. However, these risks can be managed in the following ways:

- **Managing Costs:** Using a competitive procurement process can help control costs.
- **Addressing Supportability:** Timely migration of systems platforms can prevent issues with obsolete, unsupported technologies.
- **Managing Supply Chain Delays:** Making bulk purchases in advance and re-prioritizing as needed can help deal with supply chain delays.

Technical Evaluation / Analysis

Technical evaluations are conducted based on the responses received from vendors who participate in the competitive procurement process for these services. All operation and maintenance (O&M) of systems is carried out strictly in accordance with the guidelines provided by the system manufacturers. This is done to ensure the reliability of the service and to safeguard warranty and sustainability requirements. This approach helps in maintaining the quality and longevity of the systems.

Project Relationships (if applicable)

Explain whether this project/program will impact other projects/programs. Some projects must be done together due to outages, or one project may depend on another (e.g. Mohansic/Buchanan projects or movement of distribution work due to Substation service date change).

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M	<u>12,267.3</u>	<u>13,194.8</u>	<u>14,064.5</u>	<u>16,977</u>	<u>16,136</u>	<u>15,749</u>
Regulatory Asset						

Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M (Total)	<u>15,300</u>	<u>23,462.5</u>	<u>24,008.8</u>	<u>24,020.8</u>	<u>19,382.1</u>
Non-Labor	<u>15,300</u>	<u>22,587.5</u>	<u>23,133.8</u>	<u>23,145.8</u>	<u>18,507.1</u>
Labor	<u>0</u>	<u>875</u>	<u>875</u>	<u>875</u>	<u>875</u>

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☐ Capital ☒ O&M
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Oracle Strategic Partnership (OSP) - RUN phase	
Project/Program Manager: Jennifer Gu	Project/Program Number (Level 1):
Status: ☐ Planning ☐ Design ☐ Engineering ☐ Construction ☒ Ongoing ☐ Other: _____	
Estimated Start Date: n/a	Estimated Date In Service: n/a
A. 2025-2029 Total Funding Request (\$000) Capital: O&M: \$163,303	
Work Description: Con Edison is requesting funding for costs associated with its Oracle Strategic Partnership (OSP). OSP facilitates portfolio standardization, and predictable Operations & Maintenance expenditures with Oracle. In May 2018, Con Edison and Oracle established a Perpetual Universal License Agreement (PULA). Oracle Corporation is a global provider of mission critical enterprise technology and is one of Con Edison's largest IT vendors supporting: - Customer care, billing, and energy efficiency - Enterprise Resource Planning (ERP) including finance and supply chain, human resources and payroll, and Business Intelligence (BI) - Outage and distribution system management - Corporate hardware, integration software, and database management systems Con Edison has been an Oracle customer since 1990.	

Justification Summary:

Oracle Strategic Partnership provides CEI and its subsidiaries:

- Unlimited, on-premise use of Oracle utility and business software products including upgrades and replacements
- Innovate on new technologies that benefit from Oracle's industry leadership and enable Con Edison to improve business processes and customer service
- Discounted pricing for utility and business software and cloud-based applications
- Ability to influence Oracle product development
- Dedicated Oracle resources to assist with solution implementation
- Credits for consulting services and training
- Alignment with our corporate IT strategy
- Reduced legal and procurement costs over contract life
- Fixed support costs
- Deliver and adopt software and services that are "best in class" with respect to scope, functionality, performance, and quality
- Collaborate, utilizing Con Edison's knowledge of the industry to assist Oracle in improving their solutions and Oracle will provide Con Edison input to key solution design decisions
- Upside potential: the more technology we consume the greater the value and the higher degree of application/platform/hardware standardization

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Con Edison purchases of Oracle software will likely increase over the next decade as it implements its one enterprise system.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

Dollars are contracted/committed spend with Oracle. Exiting the OSP would incur significant budget rebalancing, increased cost to evaluate continued and discontinued Oracle solutions, and increased cost to adjust technology platforms because of said evaluation.

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

Risk of No Action

<u>Risk 1</u> See alternatives <u>Risk 2</u> <u>Risk 3</u>
Non-Financial Benefits Ability to influence Oracle product development Alignment with our corporate IT strategy Standardizing on Oracle platforms provides opportunity for streamlined integrations between systems.
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) n/a 2. Major financial benefits When migrating to applicable cloud solutions, Con Edison receives credits (cost reductions) towards on-premise PULA support costs. The current level of cloud subscriptions translates to approximately \$2.5M in annual credits with the potential to increase significantly as more cloud solutions are adopted through 2027. 18% to 20% savings expected to be achieved over 10 years (2018 through 2027) 3. Total cost The Oracle Global Business Unit (GBU) Cloud Services organization supports the cloud offerings provided by the following: • Communications Global Business Unit (CGBU) • Financial Services Global Business Unit (FSGBU) • Health Sciences Global Business Unit (HSGBU) • Hospitality Global Business Unit (HGBU) (former Micros Cloud Services) • Construction and Engineering Global Business Unit (CEGBU) • Retail Global Business Unit (RGBU) • Utilities Global Business Unit (UGBU) Con Edison's usage includes the Primavera suite of project management software and Opower software in support of the Company's Digital Customer Experience (DCX) solution. Oracle Fusion Applications (APPs) include, but is not limited to:

• Oracle Fusion Financials manages financial flows, including assets, ledgers, cash cycle, invoices and payments, accounts receivable, collections, and setup of subledger accounting and tax configuration. • Oracle Fusion Governance, Risk, and Compliance integrates business intelligence, process management, and automated controls enforcement to enable sustainable risk and compliance management. • Oracle Fusion Human Capital Management provides employee management for an organization. • Oracle Fusion Procurement manages the procurement process including requisitions, purchase orders, and supplier negotiations. • Oracle Fusion Supply Chain Management integrates and automates all key supply chain processes, from design, planning, and procurement to manufacturing and order fulfillment. Con Edison's usage includes Enterprise Performance Mgt. (EPM), Enterprise Resource Planning (ERP), and Human Capital Management (HCM). Oracle Universal Cloud Credits (UCC) provides a simpler buying experience. You can subscribe to a single set of credits for all infrastructure and platform as-a-service (IaaS and PaaS) cloud services. Con Edison's usage of UCC is reviewed annually and only committed for the current year. PULA Support: Perpetual Universal License Agreement (PULA) yearly support costs established in 2018 (see "Work Description" section). Dollars include Shelving Credits. Support costs to manage the partnership with Oracle includes a consultant; approximately \$180k with annual 20% escalations for benchmarking for future contract negotiations in 2026-2029. 4. Basis for estimate Dollars are a combination of contractual and estimated costs. 5. Conclusion Dollars are contracted/committed spend with Oracle.	Project Risks and Mitigation Plan Risk 1 See above. Risk 2 Technical Evaluation / Analysis n/a Project Relationships (if applicable) There are multiple projects under the OSP, with dependencies across multiple projects. For example: Business Intelligence (BI) platform for Human Capital Management (HCM) and Enterprise Resource Planning (ERP), and Chart of Accounts design for ERP/HCM.

3. Funding Detail

Historical Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2022</u>	<u>Test Year</u> (O&M only)	<u>Forecast 2024</u>
Capital						
O&M	\$13,753	\$14,033	\$18,444	\$19,772	\$21,336	\$25,393

2025-2029 Request (\$000):

Total Request by Year:

	<u>Request 2025</u>	<u>Request 2026</u>	<u>Request 2027</u>	<u>Request 2028</u>	<u>Request 2029</u>
Capital					
O&M*	\$29,325	\$31,774	\$33,194	\$34,042	\$34,967

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☐ Capital ☒ O&M ☐ Regulatory Asset																
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic																	
Project/Program Title: Enterprise Geographic Information System (eGIS) Support																	
Project/Program Manager: Baeth Fanek	Project/Program Number (Level 1):																
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)																	
Estimated Start Date: Q1 - 2026	Estimated Date In Service: Q4 - 2028																
2025-2029 Funding Request (\$000) Capital: O&M: \$17,781																	
Work Description: In 2019, the company launched the Enterprise Geographic Information System ("eGIS") project to unify legacy mapping systems into a new, comprehensive tool aimed at supporting the customer-centric, clean energy future envisioned by both New York State and the Company. The project is being rolled out in three phases. The Company submitted a business plan in 2019, with an updated version in 2022, and received approval from the PSC to proceed with all three phases of the project as shown in the table below. <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr style="background-color: #002060; color: white;"> <th style="text-align: left;">Phase</th> <th style="text-align: left;">Timeline</th> <th style="text-align: left;">Focus</th> <th style="text-align: left;">Status</th> </tr> </thead> <tbody> <tr> <td>Phase 1</td> <td>2019 - 2022</td> <td>Replacing VISION system for low-tension electric and gas customer maps</td> <td>Completed within budget</td> </tr> <tr> <td>Phase 2</td> <td>2020 - 2024</td> <td>Electric primary feeders, high-tension maps, Staten Island Mapping system</td> <td>Concluding on budget in November 2024</td> </tr> <tr> <td>Phase 3</td> <td>2023 - 2026</td> <td>Updating electrical conduits mapping system</td> <td>In progress and most technically demanding and labor-intensive</td> </tr> </tbody> </table> Upon completion of all phases, the GIS will consolidate all mapping systems for various commodities onto a single platform. The Company projects annual operation and maintenance costs of \$20 million in clearing costs which is split between capital and O&M funding amongst operating organizations who utilize the eGIS platform. We anticipate the O&M cost of the clearing account to be \$5,927 million per rate year. This cost includes the already approved O&M costs for the legacy mapping system. These expenses encompass vendor fees, labor costs, and licensing charges estimated across the entire business, including CECONY's electric and gas operations. It should be noted that the Orange and Rockland ("O&R") O&M costs, are not accounted for in these estimates. We are anticipating to complete O&R by 2027. Additional costs will be required to support O&R in 2028.		Phase	Timeline	Focus	Status	Phase 1	2019 - 2022	Replacing VISION system for low-tension electric and gas customer maps	Completed within budget	Phase 2	2020 - 2024	Electric primary feeders, high-tension maps, Staten Island Mapping system	Concluding on budget in November 2024	Phase 3	2023 - 2026	Updating electrical conduits mapping system	In progress and most technically demanding and labor-intensive
Phase	Timeline	Focus	Status														
Phase 1	2019 - 2022	Replacing VISION system for low-tension electric and gas customer maps	Completed within budget														
Phase 2	2020 - 2024	Electric primary feeders, high-tension maps, Staten Island Mapping system	Concluding on budget in November 2024														
Phase 3	2023 - 2026	Updating electrical conduits mapping system	In progress and most technically demanding and labor-intensive														

By 2026, all electric and gas operations will be utilizing the eGIS platform, this includes all NYC boroughs and Westchester, adequate staffing and system support must be ensured to maintain functionality and support ongoing business requirements. Without this support, the Company will face challenges in preventing or promptly addressing potential system issues such as hardware failures, cyber vulnerabilities, and software updates. To ensure proper support for the eGIS platform, it is crucial to operate on the latest version of the GIS application software. This involves regularly installing updates that include roll-up patches. The process of installing system patches requires thorough functional and technical analysis, custom code remediation, regression testing, and final installation procedures.

As with any complex integrated IT platform, the user will periodically encounter system defects. To correct GIS defects a combination of IT and business resources must go through a defect remediation process. This involves the review of the defect, identifying the corrective action, and implementing the solution. This process may involve updating of design documents, changing system configurations, coding of a solution in test environments, testing the solution so that no new defects are created by the code change and moving the code to production. For defects to be corrected quickly, resources need to be available to perform these functions and to perform the code deployments as needed.

Justification Summary:

Operating and maintaining a detailed and accurate mapping system is critical to Con Edison's ability to manage its extensive electric and gas network safely, reliably, and efficiently. This need is heightened as these systems become more complex in the future. Con Edison's maps are used to catalog millions of assets in every street in our service territory, and are critical to plan, maintain, repair, and operate the system. An enterprise GIS has become standard technology for large utilities, and for companies that have adopted it, GIS has evolved from being a "mapping system" to an interconnected visualization platform that is a central component of both operations and asset management.

The Company has already begun to use eGIS to develop up-to-date models of its system that reflect both Company assets and third-party DERs. The Company's control center depends on these models to reliably operate the DER-integrated grid. The eGIS is critical to building the distributed system platform ("DSP") envisioned by the New York State Public Service Commission's Reforming the Energy Vision ("REV") initiative. The Climate Leadership and Community Protection Act ("CLCPA") and other clean energy policies and programs (i.e., Make Ready EV, Managed Charging EV, Bulk Energy Storage Solicitations, and Grid of the Future) are setting and supporting targets for emission reductions, defining policies for safety and community protection, and driving an equitable energy transition. These programs further cement the criticality of the eGIS platform, a fundamental mapping and modeling tool.

Con Edison is already achieving the benefits from the eGIS platform. These benefits include:

- New mapping tools for primary and secondary electric distribution system and gas distribution
 - Spatial Asset Management Tool

○ Planning & Analysis tool ○ Field Mobility Mapping Tool • New visualization tool • Asset management capabilities for example, Distributed Energy Resources Management System (DERMS), Advance Metering Infrastructure (AMI), and Metropolitan Transit Authority (MTA) assets • Enhanced Load Flow Analysis • Retired legacy mapping applications • Con Edison developed geo-coder based on integrations with government-provided data (e.g., NYC Open Data, Westchester County) • Electric Primary, Secondary Connectivity Model • Robust Enterprise-Wide Spatial Analytics Platform • Regulatory filings for electric, construction, and gas with increased accuracy (e.g., accurate layouts and drawings submitted for permitting requirements) • Enhanced data sharing with customers in line with state policy goals • Cost avoidance for ownership for technology and potential partnership opportunities • Enhanced regulatory compliance for Gas through visualization of assets such as fuse tracking The new mapping and visualization tools have already improved key processes and work activities in IT and the business units through greater operational efficiency, improved data accuracy, and improved data sharing. By utilizing these tools, users can depend on higher levels of accuracy and fewer boundaries when accessing information in the field or for planning purposes.
Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act The Company's long-range plans include having an eGIS system to enhance storm response and system sensors & grid modernization.

2. Supplemental Information

Alternatives N/A
Risk of No Action Risk 1: In the absence of essential support and maintenance, Con Edison's GIS platform might not operate at its best, potentially diminishing or nullifying the benefits of the newly implemented system. Risk 2: Without the requisite hardware and software tools, proper maintenance of the system will be compromised, leading to delays in issue resolution. Risk 3: Insufficient staffing and a lack of system subject matter experts will result in limited support for system users and other business areas that depend on GIS maps for their operations. Risk 4: Security patches will not be installed on Con Edison servers exposing the Company to cyber security risks.
Non-Financial Benefits The Company's new GIS system will create a sustainable foundation and modernize the distribution grid, offering core capabilities and flexibility crucial for current and future customer needs. Additionally, Enterprise GIS enhances cyber security, improving defense against threats with advanced analytics and compliance support. Utilities are increasingly targeted by cyberattacks due to their key role in national infrastructure. These attacks can have extensive public safety implications

and are becoming more frequent and sophisticated, often costing millions in resolution and operational disruptions. A 2023 IBM report states the average cost of a data breach in the energy sector is about \$4.45 million, higher for major incidents. Given Con Edison's high-risk, high-volume environment servicing targets like Wall Street, costs would likely exceed this average. While exact cost avoidance from potential cyber events cannot be calculated, having a proper supported system reduces attack risks, enables rapid identification, isolates affected systems quickly, and enhances overall security.

These are some of the non-financial benefits provided by the new eGIS platform:

- Grid Visibility & Monitoring – With geo-spatial data, grid operators can visualize variables and equipment conditions. Advanced monitoring relies on GIS-enabled visualization tools.
- Grid Modeling & Simulation – Integrated grid models with AMI data and DER assets will enhance load flow modeling to customer meters and improve data quality for engineering systems. Also, isolation traces will be more efficient, and gas load flow models will benefit from increased accuracy.
- Grid Planning – The eGIS platform enables spatial analytics for better reliability planning. Engineers can identify low reliability areas for investments, aligning with infrastructure projects to cut costs. Over time, machine learning will improve asset management.
- Grid Hosting Capacity – Interconnected models will boost the accuracy of DER impact assessments and hosting capacity calculations.
- Grid Operation – The eGIS will integrate with outage management systems, providing near-real-time visibility and situational awareness for resource dispatch.
- Vegetation Management – The eGIS will combine spatial analytics with mapped facilities for more efficient vegetation management, reducing outages. It supports condition-based programs and will soon integrate LiDAR technology.
- Outage Management – The eGIS will improve outage count accuracy and restoration speed by combining AMI data visualization with predictive analytics to prevent future outages.
- Damage Assessment – A standardized damage assessment tool integrated with OMS and WMS systems will boost operational efficiency.
- Software Licensing and Infrastructure Costs – Migrating to an enterprise-wide GIS will reduce software and hardware costs, consolidate mapping systems, and lower support costs through vendor partnerships.
- Reducing Non-enterprise GIS applications – An eGIS will streamline processes, reduce segmentation, match support levels to system needs, and cut costs.
- Support Costs – Standardizing common mapping tools on an eGIS will focus talent on high-value work, reduce training costs, and lower support costs by avoiding custom tools.
- Software Integrations – The eGIS will reduce integration costs of future platforms, improve availability, security, and reduce cybersecurity risks by phasing out obsolete technology.
- Customer Collaboration – An eGIS can accurately visualize DER installations and hosting capacities, enhance data collection, and promote the use of DERs during emergencies.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

Con Edison conducted a cost benefit analysis on the implementation of an Enterprise GIS against the retention of the legacy system. The financial analysis considered the capital and O&M costs for implementing the Enterprise GIS and the costs avoidance and savings benefits for the gas and electric business projected over a 20-year period. In addition to the financial benefits, the analysis also considers the non-financial benefits that stem from the adoption of the new system. While the cost

avoidance and savings account for about ninety percent of the expected project costs, the non-financial benefits more than outweigh the difference and further inform the critical nature of the Enterprise GIS.
Project Risks and Mitigation Plan N/A
Technical Evaluation / Analysis N/A
Project Relationships (if applicable) N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year*</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	3,556	5,927	5,927	5,927	7,408
Regulatory Asset					
Capital (Total)					
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☐ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Enterprise PI Historian Platform	
Project/Program Manager: Wayne Hui	Project/Program Number (Level 1):
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 01/02/2026	Estimated Date In Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: \$0 O&M: \$5,744	
Work Description: The Plant Information (PI) Data Historian, developed by OSIsoft (now Aveva), is a real-time data management solution. It serves as a time-series database system and application modules that are currently in use across Electric Transmission, Distribution, Gas, Steam, and Central Engineering organizations within our company. The PI Historian records data values over time in a proprietary time-series database. All different types of data can be recorded, and each distinct piece of data is known as a PI tag. For a given PI tag, you record its events or data values over time. The recording of different data over time allows for historic data graphing and analysis. The PI Data Historian is designed to address the challenges faced in industrial environments. Different Industrial Control System vendors like Siemens, Allen Bradely, and Rockwell have proprietary protocols and it used to be very difficult to interface all these different control systems and manage a centralized historical data repository. With the Aveva PI system, we have more than 450 interfaces readily available which can integrate any control system on any communication protocol, like Profibus, Modbus, DNP3 (Distributed Network Protocol), OPC (Open Platform communications), etc. The PI system interfaces helped manufacturing companies to bridge the data silos which were present earlier in the system. The enterprise agreement established in 2020 with Aveva PI System (formerly OSIsoft PI System) has proven to be both strategic and cost-effective. It offers flexibility for growth and support, enabling various groups within Con Edison to create systems and expand application capabilities by capturing and utilizing operational data for critical, time-sensitive decisions. Our goal is to extend this program beyond 2020-2025 by renewing the agreement for another five years (2026-2030). This extension will support growth in all the operational areas	

mentioned above. Additionally, the PI Data Historian provides foundational application support for other projects such as the Network Remote Monitoring System (NetRMS) rewrite, High Value Network (HVN) PI and contributes to enhancing our cybersecurity posture. We plan to integrate data diodes and migrate our Distribution Electric Control Center (DECC) PI systems to Operations Network (OPnet).

The renewed enterprise agreement will continue to offer the following benefits:

- Unlimited PI Servers, Tags & Clients
- Unlimited PI Interfaces/Connectors
- PI Technical Advisory Services
- PI Training & Event Vouchers"

Justification Summary:

Subscription Fee:

The previous enterprise agreement with OSIsoft was based on a one time Enterprise Agreement fee and yearly ESRP fee. In 2021, OSIsoft was acquired by Aveva and now they have introduced a subscription based fee.

The subscription fee includes new PI installs, existing PI System upgrades, training, workshops, PI Visualization Suite, and High Availability (HA). The HA add-on will provide dynamic failover and redundant reliability that ensures continuous collection, storage, and availability of our data for sites that currently do not have HA PI systems.

Maintaining, upgrading, expanding, and continuing efforts below: Now totaling 16+ sites where PI systems licenses are deployed with projected growth in sites, servers, tags and solutions utilizing the systems.

With the Enterprise Agreement in place, ConEd was able to implement the PI system as an Enterprise data historian, which allows data sharing across various departments including but not limited to Distribution Engineering, Central Engineering, Regional Engineering and Control Centers.

Since we were not limited by tag count, the PI Enterprise Agreement allowed us to increase the tag count from 1.5 M to 9.9 M. We are now able to meet the ever expanding data demands of the electric distribution system and include more assets such as SCADA Network Protectors (NWP), Underground VISOs (a Type of Fault Interrupter Device), Distributed Energy Resource Management Systems (DERMS), etc. EA has also helped us in separating our critical infrastructure High Value Network (HVN) from the mid-Value network. This separation of environments would help us to maintain business continuity in case of a cyber event.

As we continue our relationship with Aveva with the EA renewal, we will be able to maintain the current highly available PI environments, as well as grow with future demands of our business partners. We will be able to integrate universal gateways to allow critical HVN PI data to flow one way to corporate IT environments delivering data to internal business users while maintaining the highest security level of our SCADA assets. We have plans to implement cloud solutions for the Distribution Electric PI system. Deploying a cloud solution would help us seamlessly share data with any enterprise application like Enterprise Data Analytics Platform (EDAP) for complex data analytics and business reporting.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The PI historian and the data it collects will play a crucial role in our company's ability to track and communicate our progress in relation to the New York State climate initiatives. By providing comprehensive and real-time data analytics, the PI historian will allow us to effectively monitor the impact of our sustainability efforts and initiatives.

This data will enable us to showcase the advancements we are making in reducing our carbon footprint, enhancing energy efficiency, and promoting renewable energy sources. Furthermore, it will facilitate transparent reporting on our contributions to the state's climate goals, helping us to demonstrate accountability and commitment to environmental stewardship.

As we develop and implement various strategies aimed at addressing climate change, the insights derived from the PI historian will inform our decision-making processes, allowing us to optimize our operations and ensure that we are on track to meet our sustainability objectives. Ultimately, this capability will not only enhance our internal strategies but also strengthen our engagement with stakeholders, regulators, and the community, highlighting our leadership in driving positive environmental change.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

Do Nothing and revert to purchase PI software licenses and PI Services on a project-by-project basis.

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

Risk of No Action

Risk 1: Reverting to purchasing PI software licenses and PI services on a project-by-project basis poses significant inefficiencies, consumes time, and lacks cost-effectiveness. Such an approach would result in Con Edison incurring millions of additional expense dollars in the coming years.

The annual maintenance cost (PI SRP) is expected to rise due to the following factors:

- Purchasing additional PI tags to expand existing PI Systems (Electric, Gas & Steam)
- Acquiring new PI Systems for future expansions across other groups
- Procuring additional PI Client licenses to accommodate new PI users throughout the Company

Furthermore, the annual PI Support/Maintenance (SRP) rate is likely to increase from 15% to 18% each year."

Non-Financial Benefits

1. Additional Modules and Services:

- The PI Enterprise Agreement enables Con Edison to utilize additional modules such as PI Analytics, PI Notifications, PI Visualization Suite, and PI Integrator for business analytics, etc.
 - PI Analytics – PI analytics is a calculation engine which lets business users quickly build and deploy advanced calculations and run scenarios on historical data to find insights which they can use to take appropriate actions.
 - PI Notifications – PI Notification service allows business users to subscribe to email alerts and notifications for any specific system condition that they might be interested in.
 - PI Visualization Suite – Application suite provided by Aveva software vendor to view historical data, import data into excel, run data trends and define sequence of events on historical data.
 - PI Integrator for business analytics - PI Integrator for business analytics presents PI System data perfectly suited to business intelligence tools including but not limited to Tableau, Tibco Spotfire, QlikView, and Microsoft Power BI for reporting and analytics. Business Intelligence client tools offer the ability to run retrospective analyses on a much larger set of real-time PI System data. Business Intelligence helps you learn from operational behaviors and patterns, identifying dependencies and correlations of various factors within ConEd operations.
- It also includes valuable services like on-site and off-site training workshops. All Con Edison PI users can receive training tailored to their business needs, following Aveva recommendations.

2. Strategic Advisory Services:

- A dedicated team of advisors will provide strategic guidance on the PI System deployment and enterprise architecture. They will assist with long-range planning to optimize system performance and scalability.

3. Enhanced Data Access:

- By eliminating direct access to the SCADA system and connecting all users to the PI System, we ensure stability. Users can run large queries without risking SCADA system crashes.

4. PI Data Standardization:

- We aim to standardize performance calculations within the PI Server and the performance dashboard in PI Vision.
- This standardization replaces existing spreadsheets maintained separately by different engineers, ensuring consistent results.
- The dashboard allows engineers to quickly verify performance and drill down for detailed information.

5. Environment Separation:

○ Our Gas and Steam PI system doesn't have proper separation in terms of Development, Test, and Production environment. This makes it difficult to perform upgrades and keep the system up to date with latest security patches, bug fixes, and product feature enhancements. 6. Predictive Maintenance: ○ Leveraging PI's built-in analytic tools, we can proactively perform condition-based and predictive maintenance. ○ Integrating these tools with existing Con Edison work management products enhances overall operational efficiency.					
Summary of Financial Benefits and Costs (attach backup) Cost-Benefit Analysis (if required): Major Financial Benefits: ○ The subscription fee will be increased but will remain fixed for the next 5 years Total Cost: Basis for Estimate: ○ The estimate considers the current customer count across Electric, Gas, and Steam, as well as the anticipated spend on tag licenses in the coming years. ○ \$2 per electric power customer/\$1 per gas customer/\$200 per industrial steam customer Conclusion: ○ Proceeding with the PI EA purchase would reduce costs company-wide and maximize the value offered by Aveva PI System and support.					
Project Risks and Mitigation Plan <table> <tr> <th>Risk 1</th><th>Mitigation plan</th></tr> <tr> <td>None</td><td></td></tr> </table>		Risk 1	Mitigation plan	None	
Risk 1	Mitigation plan				
None					
Technical Evaluation / Analysis • Annual evaluation of Con Edison PI system - PI experts will collaborate with the Con Edison IT Team and the various Electric, Gas, & Steam business stakeholders to ensure that value, alignment of business needs, and industry practices with PI system optimization, continues to be realized throughout the year. • OSISoft Cyber Security Experts would work with Con Edison Cyber Security Experts & the various stakeholders to ensure PI is being deployed in a consistent and secure manner, following Con Edison Cybersecurity rules and guidelines and implementing Industry Best Practices.					
Project Relationships (if applicable) Both of the following projects depend on the PI Historian: 1. DECC SCADA(CDMS) Upgrade 2026 will feed data to the PI Historian. 2. DERMS (Distributed Energy Resource Management System) implementation will feed data to the PI Historian. In the future, the PI system will integrate with GIS (Geographical Information System) and Asset Management System for better situational awareness.					

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		\$1,884	\$1,930	\$1,930	
Regulatory Asset					
Capital (Total)					
Labor		\$184	\$230	\$230	
M&S					
Contract Svcs.		\$1,700	\$1,700	\$1,700	
Other					
Overheads					

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☐ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Phase Zero Technology Roadmap for Rate Engineering	
Project/Program Manager: Ricky Joe, Lucy Villeta, Yan Flishenbaum	Project/Program Number (Level 1): NUMBER
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: Q1 2027	Estimated Date In Service: Q2 2027
2025-2029 Funding Request (\$000) Capital: O&M: \$325	
Work Description: Objective of the Work: This Phase Zero Technology Roadmap project aims to conduct a detailed technical assessment of the Rate Engineering Department's existing application portfolio to ensure future technology initiatives are aligned with the overall IT strategy and achieves business long-term objectives. The primary goal is to identify modernization opportunities, assess current processes and technical tools, and recommend future technological improvements to support the department's growing needs. Specifically, we will assess how to transition from aging and legacy, ad hoc tools developed in-house to modern platforms that can accommodate dynamic rate structures, such as demand-based rates, time-of-day pricing, and new customer classes. Of special interest will be the application, Customer Usage System (CUS) as we seek to understand how CUS and other Rate Engineering applications should evolve beyond 2029. The technical assessment will include: - Current State Assessment: Evaluate the current technology landscape, including existing systems, processes, and capabilities, while identifying gaps and areas for improvement. - Benchmarking: Assess the IT systems used in Rate Engineering Department comparable to other utilities. - Future State Definition: Outline the desired future state of technology within the organization, including the target architecture, new technologies to be adopted, and the expected benefits. - Initiatives and Projects: List the specific initiatives and projects that will be undertaken to move from the current state to the future state, each having a clear objective, scope, and timeline. - Resource Allocation: Outline the allocation of resources, including budget, personnel, and tools needed to execute the initiatives. Units and Costs: The work involves reviewing multiple in-house systems, interviewing stakeholders both technical and business teams, and estimating associated costs for modernization. For instance, the	

analysis and assessment phase will span across the Rate Engineering Department, with an initial estimated cost of \$325k.

Work Plan Categorization: This work falls under the strategic work plan category as it is essential for enabling long-term improvements in rate structure forecasting, customer billing impact analyses, and regulatory compliance. This project is not part of a Commission order or audit.

Schedule: The project is expected to begin in Q1 2027 and complete the assessment by Q2 2027, with milestones set to ensure progress aligns with regulatory timetables and rate cases.

Justification Summary:

Background: The Rate Engineering Department relies heavily on legacy systems to manage and estimate customer bill impacts as par of, but not limited to rate cases. However, some of these systems are outdated, difficult to maintain, , posing significant technical challenges, and are approaching legacy status. The push for technological modernization stems from IT's concerns over security, scalability, and compliance with both modern coding practice and data security and privacy standards. Modernizing CUS and associated tools will enable the department to respond faster to evolving regulatory needs and customer billing scenarios, such as EV adoption and dynamic pricing. For example, data warehousing has seen significant advancements over the past decade, transforming how organizations store, manage, and analyze their data. Some key advancements include:

- Cloud-Based Data Warehousing enabling organizations to handle larger volumes of data and scale their storage and processing capabilities as needed.
- Advanced Analytics and Machine Learning: Modern data warehouses are equipped with advanced analytics and machine learning capabilities.
- Modern ETL tools offer seamless data integration from various sources, including structured and unstructured data. This has improved the speed and accuracy of data ingestion and transformation.
- Self-Service BI and Data Visualization: The rise of self-service business intelligence (BI) has empowered business users to access and analyze data without heavily relying on IT teams. These tools provide intuitive interfaces and powerful data visualization capabilities, making it easier for users to gain insights from their data.

In addition, there are opportunities for Rate Engineering to adopt automation capabilities to reduce current manual processing and expand the current limited scope of capabilities to extend ad-hoc analyzes and perform more easily manipulations of data for wider and dynamic what-if scenarios with different rates and blocking structures as part of rate impacts and future rate planning.

Financial: The outcome of this assessment will include a cost benefit analysis for technology modernization.

Non-Financial: The outcome of this assessment will provide a better understanding of the technical landscape of the regulatory compliance elements, rate forecasting rules, business logic, and the responsive billing models.

By evaluating the current state of legacy systems, the rate engineering organization can make informed decisions about necessary upgrades or replacements, optimize resource allocation, and better plan for future IT needs.

The IT assessment can also provide insights into the security posture of legacy applications, highlighting vulnerabilities that may need to be addressed to protect sensitive data and prevent

breaches. Additionally, it can reveal opportunities for integrating newer technologies that can enhance functionality and support the department's objectives.

Overall, this IT assessment is a proactive step towards modernizing legacy applications, enhancing performance, and ensuring regulatory compliance, for example, the process of calculating customer bill impacts required under certain regulations like CRR-NY 720-2.2, which are all critical for the success and sustainability of this regulated department.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This project supports several key initiatives:

Greenhouse Gas Emissions: By researching and simulating the impact of dynamic pricing models and demand-based rates, the Company can encourage more efficient energy usage, thus reducing greenhouse gas emissions over time.

Disadvantaged Communities (DACs): The transition to modernized systems will allow for more equitable rate structures, especially for low-income and DAC communities, as dynamic and time-of-day rates can be designed to lower their energy costs.

Clean Energy Commitment: The roadmap will include future integrations with renewable energy billing and electric vehicle rates, directly supporting clean energy goals.

Risk Mitigation: The modernization of the CUS system ensures resilience in response to new regulatory mandates, such as the grid of the future, and minimizes the risk of system failure due to reliance on legacy technologies.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

Alternative 1: Continue maintaining the legacy systems as-is. This option is not recommended due to existing technical debt, ongoing maintenance costs, the difficulty in accommodating new rate structures, and the challenges of scalability.

Alternative 2: Outsource rate calculations to third-party systems. This option is not recommended because it would lead to reduced control over sensitive billing processes and require significant integration efforts with existing systems.

Risk of No Action

Risk 1

Risk 2

Risk 3

If no action is taken, the Rate Engineering Department will continue to rely on outdated, inefficient systems that are difficult to maintain and may not meet modern regulatory time-sensitive requirements. This could lead to slower rate case responses, inaccurate billing scenario calculations, and regulatory penalties from the Commission. Additionally, the inability to integrate new rate structures, such as demand-based rates and Electric Vehicle (EV) phase-in rates would be compromised, delaying our efforts to promote clean energy initiatives and dynamic pricing models.					
Non-Financial Benefits Current State Understanding: The phase 0 assessment will allow for an in-depth understanding of the current technical landscape, business challenges and opportunities that can lead to better recommendations and risk mitigation. Increased Efficiency: Evaluating the modernization of the technology will help streamline processes and improve the accuracy and speed of rate case analyses. Regulatory Compliance: Evaluating the modernization of the technology will help ensure compliance with evolving regulatory requirements for new rate structures. Improved Customer Satisfaction: Evaluating the modernization of the technology will help customers eventually from more transparent, accurate, and flexible billing options, improving overall satisfaction. Enhanced Department Collaboration: Evaluating the modernization of the technology tools will improve workflows and data sharing between Rate Engineering and other departments, such as Billing and IT.					
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) 2. Major financial benefits 3. Basis for estimate This project is expected to 325K between Q1 2027 and Q2 2027. The estimate was developed based upon prior experience of consulting services for technical assessment efforts. Regarding financial benefits, this project will result in cost benefits analysis that can be used for future projects that could result in cost savings and/or cost avoidance.					
Project Risks and Mitigation Plan <table border="0"> <tr> <td>Risk 1</td><td>Mitigation plan</td></tr> <tr> <td>Risk 2</td><td>Mitigation plan</td></tr> </table> Risk 1: Given the in-depth nature of the phase 0 technical assessment of the current state, personnel allocation for the discovery phase may compete with day-to-day activities Mitigation – Implement agile iterative planning with 2 week cycles to integrate phased discovery elements, thereby reducing the workload and expectations on staff. Risk 2: Regulatory changes requiring additional modifications mid-phase 0. Mitigation - Incorporate agile models of discovery and phase 0 to accommodate future changes.		Risk 1	Mitigation plan	Risk 2	Mitigation plan
Risk 1	Mitigation plan				
Risk 2	Mitigation plan				
Technical Evaluation / Analysis					

This project will include an evaluation of current systems and incorporate benchmarking against similar rate engineering departments in other utilities and industries. Analysis will also focus on future technology needs and business needs to include time-of-day pricing and dynamic billing models for new customer classes (e.g., EVs).

Project Relationships (if applicable)

The expected outcome of this assessment is to develop a roadmap for future work, as a result they should be no impact to other efforts within the utility.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M			325		
Regulatory Asset					
Capital (Total)					
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☐ Capital ☒ O&M ☐ Regulatory Asset																														
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic																															
Project/Program Title: IT Talent Transformation Team - T3 Project																															
Project/Program Manager: Milan Shah	Project/Program Number (Level 1):																														
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)																															
Estimated Start Date: 1/1/2026	Estimated Date In Service: 1/1/2026																														
2025-2029 Funding Request (\$000) Capital: O&M: \$702																															
Work Description: This strategic project establishes, staffs, and implements the IT Talent Transformation Team within the Office of the Chief Information Officer (OCIO). The primary objectives are to: - Assess the current state maturity of the IT Talent Management process domains and use the results to increase the maturity level within a 3-yr timeframe - Meet with IT department leaders and SMEs and collaborate with HR Talent Advisors to implement a recruitment strategy for IT, develop an <i>IT Talent Pipeline</i> as well as a short-term (quarterly), and long-term (3-yr) plan that supports the Company's Strategic Plans - Create a template for use by IT sections to inventory IT capabilities and job competencies The work will be completed over three years with an estimated cost of \$702K. This work plan categorization falls under 'Strategic Initiatives', and it is not part of a PCS order/audit. The high-level schedule is summarized below. The program will be reviewed and presented to the IT Leadership Team (ITLT) at the end of each calendar year from 2025 through 2027. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Project Overview - 2026 (RY1)</th> <th style="text-align: center;">Q1</th> <th style="text-align: center;">Q2</th> <th style="text-align: center;">Q3</th> <th style="text-align: center;">Q4</th> </tr> </thead> <tbody> <tr> <td>Create Project Charter</td> <td style="text-align: center;">•</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Recruit, select and hire team</td> <td style="text-align: center;">•</td> <td style="text-align: center;">•</td> <td></td> <td></td> </tr> <tr> <td>Review and assess the current state maturity of IT Talent Management process domains</td> <td></td> <td style="text-align: center;">•</td> <td style="text-align: center;">•</td> <td></td> </tr> <tr> <td>Meet with IT sub-units and partner with HR Talent Advisors to implement a best-in-class recruitment strategy for IT, develop an IT Talent Pipeline as well as supporting plan(s)</td> <td></td> <td></td> <td style="text-align: center;">•</td> <td style="text-align: center;">•</td> </tr> <tr> <td>Report out to ITLT on highlights of key results achieved during the current year</td> <td></td> <td></td> <td></td> <td style="text-align: center;">•</td> </tr> </tbody> </table>		Project Overview - 2026 (RY1)	Q1	Q2	Q3	Q4	Create Project Charter	•				Recruit, select and hire team	•	•			Review and assess the current state maturity of IT Talent Management process domains		•	•		Meet with IT sub-units and partner with HR Talent Advisors to implement a best-in-class recruitment strategy for IT, develop an IT Talent Pipeline as well as supporting plan(s)			•	•	Report out to ITLT on highlights of key results achieved during the current year				•
Project Overview - 2026 (RY1)	Q1	Q2	Q3	Q4																											
Create Project Charter	•																														
Recruit, select and hire team	•	•																													
Review and assess the current state maturity of IT Talent Management process domains		•	•																												
Meet with IT sub-units and partner with HR Talent Advisors to implement a best-in-class recruitment strategy for IT, develop an IT Talent Pipeline as well as supporting plan(s)			•	•																											
Report out to ITLT on highlights of key results achieved during the current year				•																											

Project Overview – 2027 (RY2)	Q1	Q2	Q3	Q4
Create a template for use by IT sections to inventory major IT capabilities and job competencies	•			
Work with Learning and Development (L&D) as well as IT sub-units to create a Training Matrix template		•		
Identify opportunities and work with various IT sub-units to implement changes to enhance attraction and retention			•	
Report out to ITLT on highlights of key results achieved during the current year				•
Project Overview – 2028 (RY3)	Q1	Q2	Q3	Q4
Develop recommendations to enable employees to upskill their skills to increase development and growth opportunities within the Company	•	•		
Design and implement innovative talent retention strategies by creating a rewarding, inclusive work environment that results in exceptional work flexibility as benchmarked among leading peer companies		•	•	
Reassess IT Talent Management Process Maturity and implement additional enhancements			•	•
Report out to ITLT on highlights of key results achieved during the current year				•
Program Objectives: • Talent Acquisition: Develop an IT talent recruitment strategy with supporting processes that will be used to attract and acquire top talent • Talent Model: Create a Talent Pipeline that can be used for recruitment and resource planning • Talent Retention: Design and implement innovative talent retention strategies by creating a rewarding, inclusive work environment that promotes work flexibility and leading among peer utility companies These objectives aim to ensure that the IT department has the right talent, at the right time and in the right area to meet its departmental and company's strategic goals.				
Justification Summary: Standardize IT Recruitment Activities and Reporting Tools - The Company has a large IT Department comprised of 518 employees who collectively, deliver IT services, support approximately 23,000 users, including 500 business applications at 132 sites, and safeguards the Company from a continuously				

increasing deluge of evolving cybersecurity threats. Currently, IT talent recruitment, screening, and other talent acquisition activities are primarily handled by HR's Talent Management department with considerable collaboration with IT hiring managers.

For the past two years, a Project Manager within the OCIO Section of IT has coordinated IT's recruitment efforts with support of HR's Talent Management Department. In 2022, OCIO was asked to coordinate and fill 26 new IT roles created by growth and organizational changes. IT hired 39 employees and filled an additional 40 positions through internal transfers.

The OCIO Project Manager also worked with Talent Management to develop a detailed *Recruitment Status and Activity Report* ("Tracker") which is currently used to provide weekly status updates to ITLT. The tracker is used to compile a number of recruitment statistics. The new IT Talent Transformation Team will operationalize the current talent management processes within OCIO as well as standardize and as appropriate, automate the use of various reporting tools such as the Tracker.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

A dedicated IT Talent Management function aligns with the broader company plans and initiatives in several ways:

Strategic Alignment: Better supports the Company's strategic objectives by ensuring that the IT department has the talent needed to timely and efficiently implement an ever increasing demand for IT.

Climate Leadership and Community Protection Act: The program supports the company's efforts to comply with the NYS Climate Leadership and Community Protection Act by ensuring that the IT department has the talent it needs to develop and implement con Edison's clean energy initiatives climate-friendly technologies and practices.

In summary, the IT Talent Transformation Team is not an isolated initiative and will be used to ensure the availability of IT resources to meet its broader company plans and initiatives.

2. Supplemental Information

Alternatives

Alternatives to the proposed program could include:

Outsource IT talent recruitment: The company could consider outsourcing talent recruitment to one or several dedicated recruiting agencies. However, this results in less control over the process, may not address the unique needs of the IT department, and will be more costly due to the external recruiter fees and other costs incurred.

Risk of No Action

Without a dedicated function within IT to focus on the entire talent acquisition and retention effort, the Company could lose needed talent and may continue to experience open job posts over an excessive period (> 90 days).

Non-Financial Benefits

Reduce departmental attrition. The new workgroup will identify and implement actions in an effort to reduce attrition and reduce the time hiring managers spend in the hiring process.

Reduce Time to Fill Statistic: Lack of a dedicated IT Talent Management function has led to persistent unfilled positions in critical roles within IT. For example, a Sr. Network Engineer role took over one year to fill. The new team will identify the root cause of recruitment issues with the objective of decreasing the time to fill statistic. The team will also create a *Talent Pipeline* as well as short-term (quarterly), and long-term (3-yr) plans. Currently, resources are not available to proactively monitor and manage IT staffing levels.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

As an example, in each year 2021 through 2024, IT attrition has been 5.5%, 7.8%, 5.7% and 5.7% respectively. Based on average IT headcount of 550 employees, reducing attrition from 7.8% to 6% results in 10 fewer separations. Proactively managing talent and reducing turnover also results in cost avoidance associated with hiring and training new employees.

Financial Costs:

Setup Costs: Initial costs will be incurred by setting up the department, including costs of staff, resources, and technology. Operational Costs: Ongoing operational costs will be incurred by running the department, mostly comprised of employee salaries, minor training costs, and other administrative expenses.

Project Risks and Mitigation Plan

Risk 1 – Taking these steps may not assist in further talent acquisition. Mitigation would be to then outsource to a third party recruiting agency.

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year*</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		\$200	\$400	\$600	\$600
Regulatory Asset					
Capital (Total)					
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☐ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: IT Quality Assurance & Compliance Office	
Project/Program Manager: Milan Shah	Project/Program Number (Level 1): N/A
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date In Service: 1/1/2026
2025-2029 Funding Request (\$000) Capital: O&M: \$462	
Work Description: The IT Quality Assurance and Compliance Office will establish a new section within the Office of the Chief Information Officer (OCIO). The program objectives are as follows: - Establish a centralized function within IT with dedicated staff and technology resources that will implement a quality assurance and compliance program within IT - Create process maturity models for each of the major IT process domains, assess the process maturity level in each domain, and create road maps and quality metrics that will be used to further increase ITs process maturity - Develop and implement an Information Technology Quality Assurance Improvement Program (QAIP) The scope of activities to be undertaken by this section includes: - Conduct and/or coordinate periodic quality assessments to evaluate technology processes against established standards, policies and procedures, and as necessary, develop and/or coordinate the creation of additional IT policies and procedures - Liaison with governmental or regulatory bodies in connection with external compliance reviews, internal audits, and/or mandated external assessments - Conduct or coordinate compliance training to improve employee awareness of quality standards and compliance requirements - Report on the status of ITs implementation of audit recommendations, and other corrective actions as noted in external assessments, compliance reviews, and continuous process improvement initiatives - Support or perform administrative responsibilities related to the Company's policy management system (PolicyTech) - Support the Company's Enterprise Risk Management (ERM) Program and relationship of compliance requirements to IT departmental risks.	
Justification Summary: IT wants to increase its maturity and develop an overall dedicated quality assurance and compliance program. This program will provide quality reviews, follow up on audit recommendations, and work	

with internal Company stakeholders to provide a better experience. To mature, IT needs a centralizes QA and risk management function to increase functional capabilities, provide resources, and reduce operational risks. The new section establishes a dedicated workgroup of 3 team members.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act .

2. Supplemental Information

Alternatives

Potential for operating errors due to inadequate quality processes as IT continues to meet the growing demand for IT services, number and scale of major projects, and supports critical systems.

Risk of No Action

Risk 1

Potential for unidentified risks or defects in routine processes. For example, lack of improved quality controls increases the likeliness of projects going over budget, scope, or time.

Non-Financial Benefits

- A dedicated IT Quality Assurance and Compliance Office creates an ongoing, repeatable process to identify, review, assess, and improve quality in the IT processes and services provided.
- IT services that are performed consistently, with precision, and in a standardized manner is efficient, effective and may reduce the cost of rework.
- A well defined process to enhance the quality of policy and procedures increases data accuracy.
- The use of quality standards improves system resiliency, reduces waste, and increases the optimization for the use of technology resources.
- The use of a quality assurance framework provides a methodical approach to assess quality in the IT process domains as well as a means to regularly review processes for control gaps or defects in process design or operation.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Basis for estimate

N/A

Project Risks and Mitigation Plan

Risk 1 – Please see Risk of No Action

Technical Evaluation/ Analysis

N/A

Project Relationships (if applicable)

N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year*</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		\$324	\$138		
Regulatory Asset					
Capital (Total)					
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☐ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Master Service Provider (MSP) Go-To-Market (GTM)	
Project/Program Manager: Nash Silverman	Project/Program Number (Level 1):
Status: ☒ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: April 2025	Estimated Date In Service: February 2027
2025-2029 Funding Request (\$000) Capital: 0 O&M: \$11,568,000	
Project Description: Con Edison's current Master Service Provider (MSP) contract is nearing its expiration in 2026, providing Con Edison needs to be reassess our current MSP contract to confirm it can meet our evolving needs. An MSP is critical to our IT organization as they serve as the centralized entity responsible for managing and delivering a range of IT services and solutions. The purpose of partnering with an MSP is to gain IT support for our applications and infrastructure, ensure compliance for IT assets, and secure favorable pricing for maintenance and Capital projects. Aligning with an MSP not only boosts efficiency and helps us meet our business objectives but also directly improves the end customer experience by delivering reliable, scalable solutions. Con Edison needs funding for legal services, administrative support, and consulting services associated with this revaluation. The aim is to identify a partner or partners capable of delivering optimized services at competitive rates, aligned to our long-term objectives. This paper also examines the costs and strategic advantages of onboarding a new Master Service Provider (MSP), including transition and integration efforts. By engaging in a competitive bidding process, Con Edison can secure a partner that ensures scalability, innovation, and cost-efficiency, positioning the company for future growth and operational excellence. Project Objectives The Master Service Provider (MSP) Go-To-Market (GTM) Project for Con Edison is designed with the following key considerations: Evolving Business Needs: As Con Edison's operational requirements continue to grow and change, it is crucial to find a Master Service Provider capable of adapting to new regulatory standards, technological advancements, and increased service demands. Some examples include addressing new technology risks posed by the rise of artificial intelligence and managing the potential need for greater scalability. Addressing new technology risks and ensuring scalability proactively is crucial to ensuring	

uninterrupted and secure services for our employees and customers. By proactively addressing evolving business needs, we enhance operational resilience, protect sensitive data, and provide a seamless experience to our customers.

- **Performance Review:** To enhance our competitive analysis, we will evaluate the current Master Service Provider's performance against benchmarks from industries beyond the Utility sector. While we continuously benchmark with others in our sector, it is essential to understand how our performance compares to other industries. This will help us identify any gaps or shortcomings in our service, focusing on improving future service levels. Examples include assessing Service Level Agreements (SLAs) against competitors across various sectors, benchmarking incident resolution times, and comparing security and compliance standards. By conducting these broader competitive benchmarks, we ensure our services are not only reliable but also faster and more secure. This approach directly benefits our customers by delivering consistent, high-quality support, reducing downtime, and providing robust protection for their data.
- **Strategic Sourcing Development:** Leveraging the bid process as an opportunity to enhance our strategic sourcing capabilities can lead to long-term benefits, including the ability to manage vendor relationships more effectively, negotiate better terms, and implement continuous improvement practices. Some examples include using insights from performance reviews to strategically select and onboard partners that align with our evolving business needs. As highlighted above, these steps are essential for enhancing overall IT efficiency delivering the best possible service to our customers.
- **Market Competitiveness:** Engaging in the bidding process allows us to assess the current market, ensuring that Con Edison receives the best value for services while exploring new innovations and efficiency opportunities from other providers. Some examples include taking advantage of on the current MSP capabilities and leveraging vendor innovation to introduce advanced solutions that enhance efficiency and better serve our customers.

These considerations are crafted to support Con Edison's IT mission of enabling the business to achieve its goals by leveraging technology as a strategic asset that both supports and drives business success.

Scope

The scope of this encompasses a series of activities aligned with the project's objectives:

- **Legal Services** – Bidding out Master Service Provider (MSP) services necessitates careful legal review to minimize risk and ensure that contract terms are clear and enforceable. Legal services will include contract review and negotiation, risk management and compliance assurance. We leveraged Morgan Lewis's legal services during the bidding process in 2019 and throughout the duration of our contract with Cognizant, and we plan to continue the partnership with them. Their deep understanding of our strategy and past involvement makes them the ideal partner to help us achieve our goals.
- **Consulting Services** – Engaging a consulting firm to assist with the evaluation and selection process will ensure that we make an informed decision on industry best practices and trends. Consulting services will include market analysis, cost-benefit analysis, and vendor performance benchmarks. We leveraged ISG's consulting services

during the bidding process in 2019 and throughout the duration of our contract with Cognizant, and we plan to continue the partnership with them. Their deep understanding of our strategy and past involvement makes them the ideal partner to help us achieve our goals.

- **Administrative Support** – Administrative costs will include overseeing the bidding process, ensuring compliance with internal procurement policies, and managing communications between stakeholders and prospective vendors. Administrative support includes request for proposal (RFP) development, coordination of vendor selection and recordkeeping and documentation.

The investment in legal, consulting, and administrative costs will be justified by the potential cost savings, enhanced service delivery, and reduced long-term risk. An MSP drives cost savings through optimized maintenance and favorable pricing for new projects, enhances delivery by streamlining IT services with economies of scale and reduces long-term risk by ensuring consistent and reliable IT solutions. By thoroughly evaluating vendors, Con Edison will secure a partner or partners capable of meeting its future needs while aligning with the company's broader strategic objectives.

Justification Summary:

The decision to bid out Master Service Provider (MSP) services is justified by several key benefits. First, a competitive bidding process enables Con Edison to secure more favorable pricing compared to renewing the current contract without review. During the 2019 bidding process, the Supply Chain team negotiated a reduction of \$8.6 million from Cognizant's rate card. The alternative vendor's pricing was 23% higher than that of Cognizant. Our initial decision to partner with Cognizant for outsourcing yielded savings of \$85 million over a five-year period.

Additionally, competing vendors are likely to offer improved service quality, higher service level guarantees, and innovative solutions, which will result in better outcomes and operational efficiency.

Furthermore, a new contract allows for the inclusion of flexible terms that support scalability and adaptability ensuring the Master Service Provider (MSP) services can evolve with Con Edison's growing needs, particularly in response to technological advancement and regulatory changes.

This decision is important to our customers because it allows Con Edison to secure competitive pricing, enhanced service quality, and scalable solutions, ensuring we can offer the most cost-effective, innovative, and future-ready support for our customers.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The Master Service Provider (MSP) Go-To-Market (GTM) Project is not an isolated initiative; it is intricately linked with Con Edison's broader strategic plans and initiatives. The reassessment of Con Edison's MSP contract aligns with key company goals such as cost optimization, operational excellence, and sustainability. By leveraging the competitive bidding process, Con Edison can secure a provider that offers both cost-efficient and scalable services, directly supporting its capital efficiency plans. This reassessment also allows the Company to integrate advanced technology and cybersecurity solutions, ensuring that Con Edison can meet

regulatory compliance standards and protect its critical infrastructure. An MSP upholds cybersecurity standards, ensures IT assets are current and compliant, and protects our infrastructure through robust security and performance management. Additionally, the selection of an innovative MSP partner can enhance Con Edison's efforts toward clean energy and sustainability, supporting the company's mission to reduce emissions and modernize the grid.

This strategic move supports Con Edison's broader objectives, including the integration of digital platforms and renewable energy projects. An MSP partner that offers scalability and forward-thinking solutions will enable Con Edison to manage growing operational demands and continue its leadership in clean energy innovation. By ensuring that MSP services align with customer-focused improvements and regulatory compliance, the Company can improve service reliability and customer satisfaction, driving long-term success in a rapidly evolving energy landscape.

2. Supplemental Information

Alternatives

While considering this project, Con Edison evaluated several alternatives, including:

- Outsource to a different vendor without conducting the due diligence of bidding
- Terminate existing Master Service Provider contract and bring IT support back in-house.
- Continue to delay and extend the current Master Service Provider contract.

However, these alternatives were deemed not acceptable for the following reasons:

- Skipping the competitive bidding process risks higher costs, limited transparency, and inadequate due diligence on vendor capabilities.
- Transitioning services in-house leads to high upfront costs, lack of specialized expertise, and potential operational disruptions.
- Extending the contract delays cost savings and service improvements, while hindering long-term planning and futureproofing.

While alternatives may seem viable, they come with significant challenges, including higher costs, complexity, and inefficiencies. Ultimately, the Master Service Provider (MSP) Go-To-Market (GTM) Project remains the most strategic and beneficial option, ensuring cost savings, improved service quality, and long-term flexibility for Con Edison.

Risk of No Action

The risks associated with not proceeding with the Master Service Provider (MSP) Go-To-Market (GTM) Project are significant for Con Edison. Without action, the company may face:

- **Increased Operational Risk:** The inability of the current Master Service Provider to support new initiatives or main updated system poses a significant threat to operational stability and business continuity.
- **Service Degradation and Stagnation:** Without improvements or innovation, stagnant or declining service levels can severely impact operational efficiency and business growth.

• Lack of Flexibility and Futureproofing: An outdated contract that doesn't adapt to evolving technology or regulatory changes puts Con Edison at a strategic disadvantage in the long term. • Missed Cost Savings: While important, the financial impact of overpaying for services is less immediately damaging than operational or strategic risks but still results in inefficiencies and lost opportunities for better resource allocation. The Master Service Provider (MSP) Go-To-Market (GTM) Project is thus not only a strategic move to enhance Con Edison's capabilities but also a necessary step to mitigate these risks.
Non-Financial Benefits The non-financial benefits of the Master Service Provider (MSP) Go-To-Market (GTM) Project are substantial and contribute to the project's overall value proposition. These benefits include: • Improved Service Quality: Ensuring high service levels and responsive support is critical to maintain operational efficiency and minimizing downtime. • Scalability and Flexibility: Having the ability to adapt to evolving business needs, regulatory changes, and technological advancements is essential for long-term sustainability and growth. • Increased Innovation: Access to cutting-edge technologies and innovative solutions drives continuous improvement and operational efficiencies, helping Con Edison stay competitive. • Greater Accountability and Transparency: Clear performance metrics and accountability ensure vendors remain aligned with Con Edison's strategic objectives, helping mitigate risks. Stronger Vendor Relationships: Building long-term, trust-based partnerships with vendors enhances collaboration and fosters mutually beneficial outcomes, though secondary to immediate operational needs.
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) The financial benefits of the Master Service Provider (MSP) Go-To-Market (GTM) Project are anticipated to be significant, contributing to Con Edison's strategic financial objectives. The major financial benefits include: • Cost Avoidance: By engaging in a competitive bidding process, Con Edison can avoid overpaying for services, leading to significant savings compared to renewing the existing contract without evaluation. • Economies of Scale: A new Master Service Provider may leverage economies of scale, allowing Con Edison to benefit from lower unit costs due to bulk purchasing, enhanced efficiency, and improve resource allocation. Revenue Enhancement: Access to innovative solutions and improved service quality can lead to enhanced operational efficiency and customer satisfaction, ultimately driving increased revenue opportunities for Con Edison.
Project Risks and Mitigation Plan N/A
Technical Evaluation / Analysis

N/A
Project Relationships (if applicable) N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2019</u>	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test</u> <u>Year*</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M	\$6.8M	\$19.6M				\$13,144	
Regulatory Asset							
Capital							

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		\$17,000	\$17,000	\$17,000	
Regulatory Asset					
Capital (Total)					
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☐ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Gas Applications	
Project/Program Manager: Omar Bryson	Project/Program Number (Level 1):
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 01/01/2026	Estimated Date In Service:
2025-2029 Funding Request (\$000) Capital: O&M: \$7,352	
Work Description: The Gas Central Project implemented CGI ARM (Asset Resource Management) as the Work and Asset Management Solution for Gas Operations in November 2022. The integrated ARM solution has allowed for the standardization of work processes, better work scheduling, work prioritization, as well as provide a single repository for all work and asset data related to Con Edison's gas facilities. Included in this request is O&M funding of \$1M per year for the ongoing support of ARM solution implemented by the Gas Central project. In addition, O&M funding is required to maintain the following 9 insourced homegrown applications: Construction and Gas eForms – Scope change Form, Gas engineering Spec change, GESR General, Hold Point Inspections for Distribution and Transmission Operations, Gas Legacy Databases, Gas Analytics, Gas Outage Management and Service Line Inspection mobile app. Maintenance includes various technology upgrades, cloud hosting charges and defect fixes of the above mentioned production applications.	
Justification Summary: The ARM Work and Asset Management Solution has numerous integrations with various systems, including but not limited to Con Edison's Mapping System, Customer Relations, Customer Care and Billing, Meter Data Management and Payroll systems. These integrations require human labor for both technical and functional maintenance. Additionally, with the ever-changing threat landscape, the ARM application and supporting platforms require constant updates and maintenance to stay updated and secure. Remediating technical and functional defects to improve process and software efficiency and accuracy are also a significant aspect of the maintenance of the system. The O&M request is to support these required maintenance activities.	

2. Supplemental Information

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)
N/A.

2. Major financial benefits
N/A

3. Basis for estimate
Estimate is based on the number of employees and contractors required to support the application as well as historic defect fixes and software updates performed on the system.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		1,838	1,838	1,838	1,838
Regulatory Asset					
Capital (Total)					
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

Customer Energy Solutions 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☐ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Integrated Energy Data Resource (IEDR)	
Project/Program Manager: Leonid Bukhman	Project/Program Number (Level 1): 25508505
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 4/1/2027 (O&M)	Estimated Date In Service: 12/31/2029
2025-2029 Funding Request (\$000) Capital: \$0 O&M: \$5,581	
Work Description: In this rate case, we seek O&M funding to maintain IEDR functionality developed with the completion of Phase 2 of this project. This funding is necessary to maintain the infrastructure and data pipelines established for timely data deliveries to the IEDR platform that ultimately supports the Company's, our customers' and the State's clean energy goals. On February 11, 2021, the New York Public Service Commission (PSC) issued an Order (Case 20-M-0082) approving the design and implementation of a statewide Integrated Energy Data Resource (IEDR) platform. The purpose of IEDR is to securely collect, integrate, and provide broad access to large and diverse sets of useful energy-related information on one platform to our customers, Energy Service Entities (ESE) and Energy Service Companies (ESCO). The IEDR has two phases - Phase 1 (December 2021 to March 2024), and Phase 2 (April 2024 to estimated completion in March 2027). Phase 1 of the IEDR included the development of the initial public version (IPV) and the minimum viable product (MPV) use-cases. The IPV was released to the public on March 31, 2023, and included three use-cases: a statewide consolidated hosting capacity map, a repository of installed DERs, and a repository of planned DERs. The MVP added additional use-cases related to DER siting, hosting capacity and DER map enhancements, and a rate plan data catalog. The MVP use-cases, released on March 29, 2024, marked the conclusion of Phase 1 of IEDR development. As per the IEDR Order, ¹ Phase 1 capital costs will be recovered in this rate case. Phase 2 of IEDR development began on April 1, 2024 and is expected to run through Q1 2027. This phase will expand and enhance the initial IEDR implementation to incrementally enable approximately forty additional use-cases. On January 19, 2024 the PSC approved capital funding for the design, build, testing, and deployment of Phase 2 use-cases which include data sourcing and processing resources, materials, overheads, and other costs. The conclusion of Phase 2 will end the capital build phase of IEDR development. While the January 19, 2024 order approved recovery of the	

¹ Case 20-M-0082 – *Proceeding on Motion of the Commission Regarding Strategic Use of Energy Related Data* (IEDR Proceeding), Order Approving Integrated Energy Data Resource Phase 2 Budgets (issued January 19, 2024)

Phase 2 capital spend in the future rate case following Phase 2 completion, no authorization was provided for O&M funding to maintain functionality after Phase 2 build completion.

Justification Summary

The IEDR project is a regulatory mandate.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This project supports transformation to resilient and affordable clean energy and achievement of the Climate Leadership and Community Protection Act (CLCPA) legislation which calls for a just transition to a clean energy economy.

2. Supplemental Information

Alternatives

N/A - The IEDR project is a regulatory mandate.

Risk of No Action

N/A - The IEDR project is a regulatory mandate.

Non-Financial Benefits

As DPS states in their IEDR Order, "Effective access to useful energy data will play a critical role in this transformation, unleashing the power of integrated energy customer data and energy system data to speed the deployment of clean energy solutions. This will attract investment, enable analytics, help identify operational efficiencies, promote innovation, and encourage new business models, which will in-turn create value for customers and the State's energy system."

There is also an opportunity for current utility obligations to be implemented through the IEDR if allowable by the PSC. This could help prevent redundancies and rework in supporting data-related requests. For example, energy consumption reporting could be provided through the IEDR once customer data is ingested into this repository. Cost savings from these opportunities have not been factored into this estimate because it is not anticipated that regulatory policy changes would go into effect while Phase 2 deliverables are still being implemented.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Basis for estimate

Per the IEDR PSC order, we expect that Phase 2 will be complete 36 months after it was started (Q1 2027). After Phase 2 is complete, we are estimating a maintenance need for 4 full-time employees, 3 contractors, and platform/infrastructure costs. The full-time employees include a product owner, two business analysts, and a technical lead for pipeline maintenance work. The contractor support will be necessary to provide scrum support, data engineering, and IT support.

The IEDR is a shared cost project between Con Edison and Orange & Rockland (O&R) at 93.15% and 6.85% respectfully. O&R's IEDR O&M estimates (\$419k) for 2025-2029 are not included in the Con Edison estimate.

Project Risks and Mitigation Plan

The IEDR Phase 2 roadmap and technical requirements are still under development by New York State Energy Research and Development Authority (NYSERDA) and the IEDR Development Team. This limits the ability to accurately plan for IEDR maintenance needs. The O&M estimates have been compiled based on current work processes to project future requirements. The Company continues to meet with the IEDR Development Team on a regular basis to collaborate on Phase 2 plans.

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M	0	0	0	0	0	0
Regulatory Asset	0	0	0	9	0	0
Capital	0	168	1483	1560	0	2650

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	0	0	1467	2000	2114
Regulatory Asset	0	0	0	0	0
Capital (Total)	0	0	0	0	0
Labor	0	0	0	0	0
M&S	0	0	0	0	0
Contract Svcs.	0	0	0	0	0
Other	0	0	0	0	0
Overheads	0	0	0	0	0

PSC Approved Budget – Con Edison Phase 2:

	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>
Capital (Total)	2399	2780	2743	694	0	0
Labor	1496	1719	1720	438	0	0
M&S	449	493	458	114	0	0

Contract Svcs.	0	0	0	0	0	0
Other	14	19	19	5	0	0
Overheads	440	549	546	137	0	0

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☐ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: IT Hardware and Software Maintenance	
Project/Program Manager: Vincent Lanzillo	Project/Program Number (Level 1):
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 1/1/26	Estimated Date In Service: 12/31/28
2025-2029 Funding Request (\$000) Capital: O&M: 476,651	
<u>Overview & Objectives</u> Con Edison invests in technology to improve operating efficiency and system reliability. Maintenance and support contracts are crucial for keeping CECONY's platforms up to date ensuring critically necessary data protection capabilities. In recent years, there has been a significant shift by our vendor partners moving from perpetual software licensing to subscription-based models. The shift to subscription models offers several advantages, including more frequent software enhancement updates, improved customer service, and enhanced flexibility. The subscription services also come with a recurring cost increase which has been accounted for in this plan. These maintenance programs are essential for maintaining the integrity of our technology infrastructure platforms while protecting against emerging cyber threats. This plan supports critical investments across all technology tower domains including servers, storage arrays, networks, cloud, mainframe, data centers, monitoring toolset, and end user support. Con Edison is also experiencing organic growth across key infrastructure systems and data platforms, attributed to increasing demand for modernized systems and enhanced security requirements. The plan includes investments in our company datacenter IT management tools and maintenance programs while expanding automation capabilities tied to server and end use systems. <u>Proposed Scope of the Investment</u> Maintenance programs include hardware and software license renewals as well as replacement costs of outdated infrastructure and toolsets. Our plan for enhancing systems encompasses the following: • Collocation expansion, Server, Storage & Backup Systems Maintenance & License Renewal This grouping of initiatives involves maintaining and expanding over 5,300+ Cisco & Nutanix hyper-converged servers and Dell EMC storage products. It also includes Microsoft support extensions for operating systems & databases, and Cohesity backup system infrastructure platforms. Our plan provides critically necessary maintenance and license renewals for Oracle & RedHat software products. These technologies and vendor offerings support critical	

services for Con Edison's internal and customer facing applications. Critical applications that are supported include outage management, finance, customer billing, and work management. Our server systems and data storage technologies are realizing significant growth as newer systems are planned to replace legacy environments. We continue to experience year-over-year growth in data volume activity. Growth in data volumes across systems exceeded 15% year over year over the last 24 months. New products and tools, both on premise and in the cloud, resulted in increased data generation. Finally, we will be replacing end-of-life servers and storage arrays to ensure continued vendor support.

- In the 2026-27 rate period, Con Edison's virtual infrastructure provider VMWare (now Broadcom) will transition from the current perpetual license model to a subscription model. This change is expected to significantly increase the Company's VMware license cost basis. Our plan assumes a 300% increase in Broadcom VMWare licensing cost. This estimate is based on current market feedback from within the industry.
- We will be renewing extended support services (ESU) for Microsoft and Linux OS/database products that are at risk of being end of support. This is important as we continue our efforts to address tech debt by replacing end-of-life hardware, operating system and database products. This ESU service ensures compliance with security standards allowing for necessary patches and updates for the systems.
- Planned growth in production systems will require off-premise collocation services through Equinix. This investment in collocation provides better scalability as the systems continue to require higher levels of space and power.
- **Network Maintenance- Tools & Support**
Our operating budget includes the necessary maintenance support and toolsets to maintain the network. These products ensure that our network infrastructure platforms remain robust, up-to-date, and resilient- capable of meeting operational demands with minimal downtime.
 - Cisco SmartNet contract will be renewed and provides comprehensive technical support and maintenance of the Cisco hardware & software. Cisco provides software enhancements and security patches which are supported on a 24x7x365 basis. Cisco also participates in operations support via in office meetings. The contract provides hardware and software upgrades and replacement support across our data center and office locations.
 - NetBrain and BMC TrueSight toolsets allow us to manage and continually automate our network infrastructure. These capabilities ensure improved network efficiency, enhanced troubleshooting capabilities, and overall better performance through automated mapping and diagnostics.
- **Data Center Maintenance and Support Services**
Con Edison adheres to strict datacenter uptime Service Level Agreements (SLAs) due to regulatory requirements. As our corporate data centers host critical Information Technology (IT) and Operational Technology (OT) systems, maintaining their reliability with reducing

mean to repair and mean time between failures is paramount. Our electric, gas and steam technology platforms require increased levels of responsiveness.

- Our plan expands Managed Service Provider (MSP) on site presence to enhance the reliability and operational support of UPS plant, power distribution systems and HVAC infrastructure while improving operational efficiencies. This added coverage provides quicker time to resolution when issues arise. The expanded support will provide 24/7 onsite personnel at the Worth Street, Spring Valley, VanNest, and 4 Irving Place locations. This MSP coverage also includes additional real-time monitoring capabilities and rapid dispatch to address ad-hoc emergency situations. These services include frequent inspections and maintenance activities to comply with regulatory requirements, including those from North American Electric Reliability Corporation (NERC) and proactively address issues before they result in system outages and data center downtime. NERC develops and enforces reliability standards, monitors the bulk power system, and educates industry participants to promote best practices and enhance the overall reliability of the electric grid. The increased response levels are important to ensure ConEdison services meet customer service levels and standards. With enhanced MSP support, corporate data centers can expect improved reliability, quicker response times in emergencies, and rigorous maintenance practices that uphold the highest standards of operational excellence. Delayed response in supporting operational issues will adversely impact customer response & support.

- **Cloud Service Contracts & Software Licensing**

Cloud services offer a host of benefits that enhance the operational efficiency and flexibility of Con Edison's systems. Maintaining & expanding the cloud services will enhance our data processing capabilities, ensure secure remote access for contractors and employees, and integrate modern infrastructure management tools to improve overall efficiency and security.

- **Microsoft Azure Cloud Computing Services** : Infrastructure as a Service (IaaS) and Platform as a Service (PaaS) are key components and an extension of Con Edison's on premise infrastructure platform. This includes the provisioning of cloud servers and databases and resources which provide key services across the IT landscape. This service is scalable and flexible, enabling companies to adjust their infrastructure according to their evolving needs without the constraints of physical hardware.
- **Microsoft Enterprise Agreement & Unified Support** : As part of this multiyear plan we have renewed our Enterprise Agreement with Microsoft. This agreement includes all server, database and desktop device OS, for Windows server, SQL, Exchange/ Office 365, M365 Copilot, Defender endpoint security. The Unified Support agreement includes 7X365 product support coverage across the Microsoft suite of offerings. This support is critically important as it provides for higher levels of reliability and enhanced security.
- **Desktop as a Service (DaaS)**: This service allows Con Edison's contractors and employees, both overseas and domestic, to securely access the various resources, systems and applications environments from any devices. This ensures operational support and for remote work, enhancing productivity and flexibility.

- **Infrastructure as Code (IaC) Subscriptions:** These subscriptions are part of the Infrastructure Technology Modernization program. They help manage Terraform code, store secrets securely, and provide monitoring and analytics capabilities. IaC allows for automated and consistent infrastructure management, reducing the risk of human error and enhancing the reliability of deployments.
- **Mainframe Modernization & Agreement Renewals**

Con Edison applications and tools operate in a robust IBM mainframe computer environment. Although we continue to migrate and reduce our mainframe requirements we need to ensure that mainframe assets and software remain current. This modernization program enhances Con Edison's operations capabilities and will allow Con Edison to continue to provide reliable service. The plan modernizes the portion of its mainframe infrastructure portfolio and addresses the avoidance of technology obsolescence. The specific items below address critical software licensing and hardware upgrades:

 - The Con Edison mainframe is end-of-life for microcode in 2025. As part of this program, our plan is to replace the mainframe with newer hardware technology. Unsupported hardware poses a risk to the operations impacting Con Edison's ability to address and remediate cyber vulnerabilities in a timely manner.
 - In 2025 we will be renewing our Broadcom mainframe software license portfolio and anticipate a 300% increase in costs. This estimate is based on current market feedback from within the industry.
 - In addition to new hardware, we will be upgrading new software utilities and products which provide enhanced data protection using IBM's Safeguarded Copy product. This product replaces offsite legacy tape disaster recovery backups which enhances our data protection posture.
 - We are seeing significant increases in Broadcom mainframe software costs, and as such we are working with IBM and other vendors and plan to streamline and replace expensive Broadcom products and tools used for mainframe operations activities. The Broadcom contract expires in 2025 and the experience had in prior years is that the associated software licensing costs could triple.
- **End User Support Maintenance**
 - Regular PC maintenance is essential to ensure the optimal performance and longevity of hardware. Our plan provides licensing & support which includes software updates, hardware checks, virus scans, and system clean-ups, which prevent potential issues and improve overall system reliability. PC maintenance practices enhance data processing capabilities, ensure secure remote access for contractors, and integrate modern infrastructure management tools to improve overall efficiency and security.
 - Adobe license renewals require that we move to a more costly Enterprise agreement with subscription based licensing.
- **Labor**
 - The Data Center Operational run team will need two (2) full-time employees as Senior Systems Analysts responsible for the day-to-day operations and maintenance of our production systems. This includes infrastructure lifecycle management for servers, storage, data base products, operating system products, system performance tuning,

and maintenance. The role helps to assure that our infrastructure, hardware, and software is operating at the most current revision levels.
Justification Summary: ○ The Company safeguards the value of its technology investments through support and subscription contracts for diverse hardware, software platforms, and cloud services. These contracts facilitate platform access, issue resolution, software updates, cybersecurity vulnerability patches, hardware failure replacements, and the utilization of new product features. ○ IT plays a pivotal role in delivering essential services. The contracts mitigate risk, promote environmental sustainability and supportability, and enhance the reliability and availability of the network, business applications, infrastructure, and PCs. Absence of these contracts could expose the company to significant risk.
Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act Not Applicable.

2. Supplemental Information

Alternatives Do Nothing. See below.
Risk of No Action Failure to maintain these contracts will introduce significant risk to the availability of the technology solution and the business functions it provides. It also introduces a cybersecurity risk and compromise the capability to interact with external stakeholders.
Non-Financial Benefits • Increased safety, reliability, efficiency, or customer satisfaction: ○ Customers experience fewer outages, and power can be restored faster during disruptions. Timely software patches has allowed ConEd to proactively defend against cyber threats. This leads to a higher quality security posture. ○ Using predictive maintenance techniques, we can identify and address equipment issues before they lead to failures. ConEdison has begin to use AI tools and has increased automation capabilities. This proactive approach ensures reliability and safety while reducing downtime and maintenance costs.

Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) The two primary factors driving the costs are: - Investments in Hardware and Software: An increase in investments in hardware and software leads to a rise in maintenance and support agreements. The cost of support has greatly increased from the move from a perpetual license to a subscription based model. - Expansion of Cloud Services: This includes services like M365, Azure Cloud, and investments in data centers, including managed services and collocation. These factors contribute to the overall cost and are important considerations in budget planning and management. It's crucial to factor these into the financial planning to ensure the sustainability of the technology infrastructure. 2. Major financial benefits None 3. Basis for estimate - The basis for the estimate consists of current spend with anticipated growth for major enterprise initiatives.
Project Risks and Mitigation Plan Not Applicable
Technical Evaluation / Analysis IT conducts thorough planning and analysis for all introduced technologies. Solutions are explored in alignment with the IT strategy and vision planning process. Interactions with IT advisors, vendors, and company employees are leveraged to select the most optimal solutions. Each implementation undergoes technology evaluations and commercial Request for Proposals (RFPs) before final selection and rollout. This rigorous process ensures the selection of the best technology solutions that align with the Company's strategic goals and operational needs.
Project Relationships (if applicable) Not Applicable

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M	<u>19,207</u>	<u>20,200</u>	<u>21,051</u>	<u>36,962</u>	<u>51,135</u>	<u>36,407</u>
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M (Total)	<u>69,203</u>	<u>88,399</u>	<u>103,941</u>	<u>106,731</u>	<u>108,377</u>
Labor		<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>
Non-Labor	<u>69,203</u>	<u>88,099</u>	<u>103,641</u>	<u>106,431</u>	<u>108,077</u>

Customer Operations / Strategic Applications 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Back Office Automation	
Project/Program Manager: Richard Brown	Project/Program Number (Level 1): 23242008 L1
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 1/1/2020	Estimated Date In Service: Multiple
2025-2029 Funding Request (\$000) Capital: \$44,415 O&M: \$44,246	
Work Description: The Company has made significant investments over the last decade in systems to support billing completeness and accuracy and to enable new rates supporting clean energy programs, including the Customer Care and Billing System (CC&B), the Meter Data Management System (MDMS), and Advanced Metering Infrastructure (AMI). While these systems have provided significant benefits, the meter-to-cash cycle is now more complex, and rates and programs require more information for front and back-office employees to complete transactions and provide customer support. In response to this increased complexity and subsequent need for up-to-date information, the Company proposes to continue to enhance its back-office automation program. This program focuses on three main initiatives: 1. Automating routine back-office billing functions with Robotic Process Automation (RPA) 2. Improving workflow and exception handling with PEGA Customer Experience System software (PEGA CXS) 3. Enhancing the Knowledge Advance (KA) platform for employees This request includes contract services, IT and business labor, and licensing costs, as detailed further in <u>Exhibit_(IT-5)_Back Office Automation_Attachment 1_ Request Details</u>. <u>Automating routine back-office billing functions with RPA</u> Minimizing exceptions to the billing process is a key focus for Customer Operations. Because there will always be some number of billing exceptions give the Company's large number of customers and the number and complexity of its billing options, CC&B generates billing exception handling tasks that require manual intervention and pose a risk of inaccuracies, delays, and non-compliance. The Company uses RPA technology to intercept and automate the resolution of these exceptions through the following workstream and future actions, which require ongoing maintenance and enhancement.	

- Current workstreams include:
 - Completing any pending field activity by estimating the read.
 - Completing the field activity for meters that are missing reads.
 - Automating repetitive data entry tasks to input and validate rate changes improve accuracy and efficiency.
- Future RPA roadmap includes:
 - Migrating to a new platform to reduce software license costs through more cost-effective licensing options and increased scalability.
 - Streamlining and automating processes related to customer billing, including identifying and resolving discrepancies between MDMS data and the billing system.
 - Managing and automating the handling of exceptions in billing and customer service processes to reduce manual intervention and errors, specifically for error-prone areas such as data entry discrepancies and delayed payment processing.
 - Identifying new and evolving use cases for RPA technology to automate labor-intensive tasks that are susceptible to human error, such as assisting with Value of Distributed Energy Resources (DERs)/Community Distributed Generation (CDG) solar subscription transactions.

In 2026-2028, the Company plans to continue its use of RPA technology while also migrating to a new platform that will improve performance and reduce transaction processing time. This work includes migrating existing RPA processes for delayed bills and rate validation, while continuing to develop new RPAs.

Improving workflow and exception handling with PEGA CXS

To facilitate the handling of exceptions that require more complex investigation and involvement of multiple departments or external entities, the Company has deployed a case management software solution using PEGA CSX. Since 2024, the Company has deployed 12 cases management workflows, resulting in improved efficiency and reduced processing time.

Completed and ongoing work in this platform includes:

- Enhancing tools used by customer service representatives (CSRs) to guide them through customer interactions.
- Leveraging advanced reporting and analytics features that provide deeper insights into business performance.

In 2026-2028, the Company plans to continue work to date and develop additional workflows for the Energy Assistance Program, Inactive Gas, Rate Consultants, Shared Meter, and additional Routine Investigation Types. Additional pipeline items include:

- Implementing new features to assist CSRs in managing customer inquiries and issues more effectively.
- Automating workflows to streamline customer service processes and reduce response times.
- Developing a self-service portal for visibility of cases status and case updates.

Capital funding will also be required to support the existing software platform while this technology transitions from an on-premises solution to a cloud-based software as a service (SaaS) model which will bolster the system's scalability, dependability, and flexibility. See **Exhibit __ (IT-7)_Tech Modernization for PEGA Applications.**

Enhancing the Knowledge Advance Platform

The complexity of rates, programs, and associated customer interactions has grown with the deployment of AMI and clean energy programs. As such, the Company's front and back-office customer service employees require a robust and user-friendly method of accessing the information needed to assist customers in resolving inquiries.

In response, the Company deployed the Knowledge Advance (KA) platform in 2023. This platform provides a centralized repository of knowledge and training materials including policies, processes, and other information related to customer inquiries.

Ongoing workstreams to maintain and enhance the KA platform as a real-time, centralized knowledge management system include:

- Developing training materials and support resources to help users effectively utilize the KA platform.
- Enhancing analytics and reporting capabilities to track the usage and effectiveness of the knowledge base.

In 2026-2028, the Company plans to continue expanding and enhancing the KA platform and its underlying data sources. Specifically, the Company will deploy a virtual assistant onto KA to help end-users quickly collate information from multiple articles in the platform to answer their questions. In addition, the platform will begin ingesting data from additional Customer Operations departments, including Specialized Activities, Field Operations, Strategic Operations, and Arrears Management.

Additional KA roadmap items include:

- Enhancing searchability and usability for key cross-functional users.
- Implementing a feedback mechanism to improve the knowledge base based on user input.

This work requires resources to conduct discovery and educate the new departments on the KA platform, as well as to define employees' content needs, work with them to build this content, train resources on how to access it, and measure platform usage and content satisfaction.

Justification Summary:

The Company's Back Office Automation program has helped the Company issue more timely and accurate bills to customers. Since 2020, the program's use of RPAs has also helped the Company avoid costs related to estimated and delayed bills, program-related needs, and rate validation. See [Exhibit_\(IT-5\)_Back Office Automation_Attachment 2_RPA Performance](#).

From 2026 to 2028, the program will continue to invest in modern case management and workflow software to reduce billing errors and delayed responses, thereby improving customer experiences. By leveraging industry-leading software and systems, the program aims to simplify and speed up back-office processes.

Automating routine back-office billing functions with RPA

Continuing and expanding the Robotic Process Automation (RPA) program and migrating it to a new platform will position the Company to efficiently handle the increasing volume of exception processes and tasks.

Some of the expected benefits of continuing to invest in the RPA program include:

- Reducing software license costs by migrating to a new platform
- Reducing the time needed to handle billing discrepancies
- Enhancing compliance capabilities

- Mitigating risks and improving consistency and accuracy checks for new rates
- Increase bill completeness for customers by reducing delays
- Reducing manual workload and human errors through automation, allowing employees to focus on more strategic activities and thereby improving resource allocation and productivity

Maintaining and enhancing RPA workstreams will also help the Back Office Automation Program identify new use cases for the technology. For example, using RPA to assist with CDG/VDER billing reduces labor-intensive, manual tasks while improving accuracy and consistency in transactions, preventing errors that can lead to discrepancies and customer dissatisfaction while supporting the scalable growth of CDG projects and subscribers.

We also expect benefits from migrating to a new platform. Our current RPA solution, while effective, incurs significant costs in terms of licensing, maintenance, and support. By transitioning, we can leverage our existing enterprise solutions, resulting in substantial cost savings. The new system offers seamless integration with the Company's current applications. This integration will streamline workflows and reduce manual interventions.

The average annual cost of one RPA license is expected to decrease by over 90% with the migration to the new platform. Additionally, the new platform offers enhanced features and capabilities that will improve efficiency and productivity, including:

- Expected development time reductions of 10-15%, with an anticipated 20% reduction in processing time for completing exception billing tasks, based on an assessment conducted by a third-party vendor. (See Exhibit_(IT-5)_Back Office Automation_Attachment 3_Blueprism to Power Automation - Migration)
- Increased flexibility in complying with new laws and regulations, such as the recent legislation requiring the Company to issue certain bills within three months of the end of the service period.
- Lower risk and fewer billing errors associated with manual validations.

The new platform provides the scalability and flexibility required to support our evolving requirements. Its robust cloud-based architecture ensures that we can easily scale our automation efforts without the constraints of on-premises infrastructure. This future-proof approach positions us to adapt swiftly to changing market demands and technological advancements.

Improving workflow and exception handling with PEGA CXS

The PEGA CSX Project is an ongoing effort to both automate and simplify manual back-office processes using sophisticated case management functions.

Transitioning the PEGA CSX system to a cloud-based SaaS model will deliver significant benefits to our customers by providing a scalable platform that enhances service offerings and empowers our employees. By automating repetitive tasks, we increase efficiency, allowing our customer service teams to focus more on high-value interactions, ultimately enhancing the customer experience. (See Exhibit_(IT-7)_Tech Modernization for PEGA Applications).

The continued expansion of this program will also offer new and enhanced capabilities, enabling us to streamline customer inquiries and back-office dependent tasks. These enhancements will include advanced automation features, real-time data analytics, and improved user interfaces, all designed to streamline operations and provide a more seamless customer experience.

Enhancing the Knowledge Advance Platform

The Knowledge Advance Platform delivers information and instructional materials to the call center and back-office representatives, enabling them to provide enhanced customer service and make informed decisions. The platform was launched in late 2023 with the new CC&B system. It supports new and existing Con Edison employees by:

1. Helping new employees assimilate knowledge from experienced peers who can quickly point to the relevant information in KA.
2. Providing a centralized repository of knowledge and training materials for new hires, which enables timely and efficient training.
3. Providing all employees (new and experienced) with access to essential information about policies, processes, and other information they need to address customer needs. This is particularly relevant to processing updates and/or new information that needs to be disseminated quickly to the large call center and back-office population.

These benefits will become more important as the Company increases brings on new customer service and back-office representatives in 2025 and 2026.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The Back Office Automation program advances the Climate Leadership and Community Protection Act (CLCPA) by equipping CSRs with increased process efficiency and access to knowledge to allow them to support customer adoption of clean energy programs that contribute to the reduction of greenhouse gas emissions. The platforms will also provide faster, more accessible services to improve the experience of all customers, including those in disadvantaged communities.

2. Supplemental Information

Alternatives

- For RPA, the alternative is to continue current manual processes for back-office work, which would prevent the realization of cost avoidance and faster resolution times for customers. Moreover, maintaining the current processes on the existing platform will result in higher O&M license costs.
- For KA tools, the alternative is to continue to rely on current standalone application tools without improvement and integration with other systems, which will not position the Company to meet rising customer expectations.
- For PEGA CXS tools, the alternative is to persist with manual work, which would continue to constrain resources supporting back-office tasks, leading to delays in customer service. Transitioning to a cloud-based SaaS model will enhance system scalability, dependability, and security, which would not be achievable with the current manual processes.

Risk of No Action

Beyond failing to meet customer expectations and realizing operational cost avoidance, the consequences of no action in enhancing back-office automation could include:

- **Decreased Employee Productivity and Higher Turnover:** Outdated tools can lead to lower productivity, as employees spend more time on manual tasks that could be automated. This can lead to employees becoming frustrated with outdated tools, leading to decreased job satisfaction and higher turnover rates.
- **Reduced Scalability:** An outdated back office may struggle to handle increased workloads or scale operations effectively.
- **Higher Error Rates:** Manual processes are more prone to errors, which can lead to increased rework, compliance issues, and customer dissatisfaction.

• Slower Response Times: Inefficient systems can slow down response times to customer inquiries and issues, negatively impacting the customer experience. • Increased IT Maintenance Costs: Maintaining outdated systems can become more expensive over time as they require more frequent repairs and support. • Security Risks: Older systems may lack modern security features, increasing the risk of data breaches and cyber-attacks.
Non-Financial Benefits There are a number of non-financial benefits associated with the Back Office Automation initiative, as noted throughout this white paper. These include: • Increased customer satisfaction through faster resolution of inquiries handled by CSRs when speaking to customers and resolving back-office work; • Expedited processing from automated handling of back-office work; • Reduced errors from manual data entry; and • Easier access to point-of-performance information for new hires, reducing onboarding time.
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) N/A 2. Major financial benefits N/A 3. Basis for estimate Both capital and O&M are based on historical comparable projects and vendor quotes. See Exhibit_(IT-5)_Back Office Automation_Attachment 1_Request Details
Project Risks and Mitigation Plan Risk 1: New or upgraded technologies can introduce vulnerabilities that may be exploited by cyber attackers. Mitigation plan: Perform a comprehensive Vendor Risk Assessment and Privacy Impact Assessment. Implement robust access control management to ensure that only authorized users can access the systems. Risk 2: Inability to adapt to changing industry demands and customer expectations due to lack of innovation or flexibility. Mitigation plan: Perform industry benchmarking/best practices and in-depth examination of the project's requirements and specifications, aligning with customer and stakeholder expectations.
Technical Evaluation / Analysis The Company used a third-party vendor to conduct ongoing analysis and benchmarking of RPA opportunities. This analysis and benchmarking are the basis for scope, staffing, and cost estimates for the program. Please see Exhibit_(IT-5)_Back Office Automation_Attachment 3_Blueprism to Power Automation - Migration.
Project Relationships (if applicable) The Back Office Automation program is related to the following projects and programs: • Digital Customer Experience program (DCX) • Customer Care and Billing system (CC&B) • Customer Project Management System • Gas Information System

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M				\$3,200	\$4,027	\$4,500
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	\$4,698	\$9,938	\$9,870	\$9,870	\$9,870
Regulatory Asset					
Capital (Total)	\$2,000	\$10,530	\$10,620	\$10,680	\$10,585
Labor		\$1,470	\$1,410	\$1,420	\$1,423
M&S					
Contract Svcs.	\$1,700	\$8,360	\$8,510	\$8,560	\$8,461
Other	\$300	\$651	\$625	\$629	\$630
Overheads		\$49	\$75	\$71	\$71

*The test year runs from 10/1/2023 to 9/30/2024

Back Office Automation Capital and O&M Request Details

Table 1: Capital Breakdown Summary

Capital ('000s)	2026(RY1)	2027(RY2)	2028(RY3)
Contract Services	\$8,360	\$8,510	\$8,560
IT/Business Labor	\$1,470	\$1,410	\$1,420
Other	\$651	\$625	\$629
Overheads	\$49	\$75	\$71
Total	\$10,530	\$10,620	\$10,680

Table 2: Capital Labor Breakdown

Knowledge Advance Vendor/Contract Services Resources & Titles	# of FTEs	Monthly Run Rate
Project Oversight	1	42,300
Solution Architect	1	28,070
Senior Technical Lead	1	26,500
Functional Lead	1	29,500
Developers	4	16,500
Business Analysis	2	13,000
Test Lead	1	14,100
Tester	4	11,500
Total	15	181,470
Knowledge Advance IT/Business FTE's Resources & Titles	# of FTEs	Monthly Run Rate
Project Owner	1	11,500
Content Specialist	2	10,000
System Specialist	1	10,600
Total	4	32,100
Knowledge Advanced Software License Cost	# of Users 1500+	Units
Oracle Software	1	1

PEGA CXS Case Management Vendor/Contract Services Resources & Titles	# of FTEs	Monthly Run Rate
Project Oversight	1	39,800
Solution Architect	1	24,070
Senior Technical Lead	1	23,000
Project Lead	1	24,000
Functional Lead	1	22,000

Content Analysis	2	12,000
Test Lead	2	13,000
Tester	2	10,300
Developers	4	13,800
Total	15	181,970
PEGA CXS Case Management IT/Business FTE's Resources & Titles	# of FTEs	Monthly Run Rate
Project Manager	1	14,583
Sr System Analysis	1	12,000
Product Owner	1	11,250
System Specialist	1	12,900
Total	4	50,733
PEGA CXS Case Management VDI License Cost	# of Users 1500+	Units
VDI Licenses	1	1

Robotics Process Automation Vendor/Contract Services Resources & Titles	# of FTEs	Monthly Run Rate
Project Oversight	1	32,400
Functional Lead	1	24,000
Test Lead	1	13,340
Testers	2	11,100
Developers Onshore	5	16,400
Total	10	97,240
Robotics Process Automation IT/Business FTEs Resources & Titles	# of FTEs	Monthly Run Rate
System Specialist	1	11,668
Product Owner	1	10,833
IT System Specialist	1	10,833
Total	3	33,334
Robotics Process Automation Software License Cost	# of Users 1500+	Units
VDI Subscriptions	1	1

Table 3: O&M Breakdown Summary

O&M ('000s)	2026(RY1)	2027(RY2)	2028(RY3)
Internal Labor (Business & IT)	\$1,978	\$2,020	\$2,020
Contractor Services (Staff Augmentees/ Consulting & Professional Svcs)	\$6,500	\$6,500	\$6,500
Software Licenses	\$1,460	\$1,350	\$1,350
Total	\$9,938	\$9,870	\$9,870

Table 4: O&M Labor Breakdown

Knowledge Advance Vendor/Contract Services Resources & Titles	# of FTEs	Monthly Run Rate
Project Oversight	1	42,400
Functional Lead	1	3,000
Content Analysis	2	12,000
Developers	2	14,700
Total	6	72,100
Knowledge Advance IT/Business FTE's Resources & Titles	# of FTEs	Monthly Run Rate
Product Owner	1	11,068
System Specialist	1	10,600
System Analysis	2	10,000
Total	4	31,668
Knowledge Advanced Software License Cost	# of Users 1500+	Units
Oracle Software	1	1

PEGA CXS Case Management Vendor/Contract Services Resources & Titles	# of FTEs	Monthly Run Rate
Project Oversight	1	42,300
Functional Lead	1	35,000
Developers Onshore	6	16,500
Business Analysis	1	13,000
Developers	4	5,500

Total	13	112,300
PEGA CXS Case Management IT/Business FTEs Resources & Titles	# of FTEs	Monthly Run Rate
Program Manager	1	14,583
Product Owner	1	11,250
Product Analyst	1	10,000
Project Specialist	1	11,440
Sr System Analyst 2L	1	10,083
Testers	3	10,000
Total	8	67,357
PEGA CXS Case Management VDI License Cost	# of Users 1500+	Units
VDI Licenses	1	1

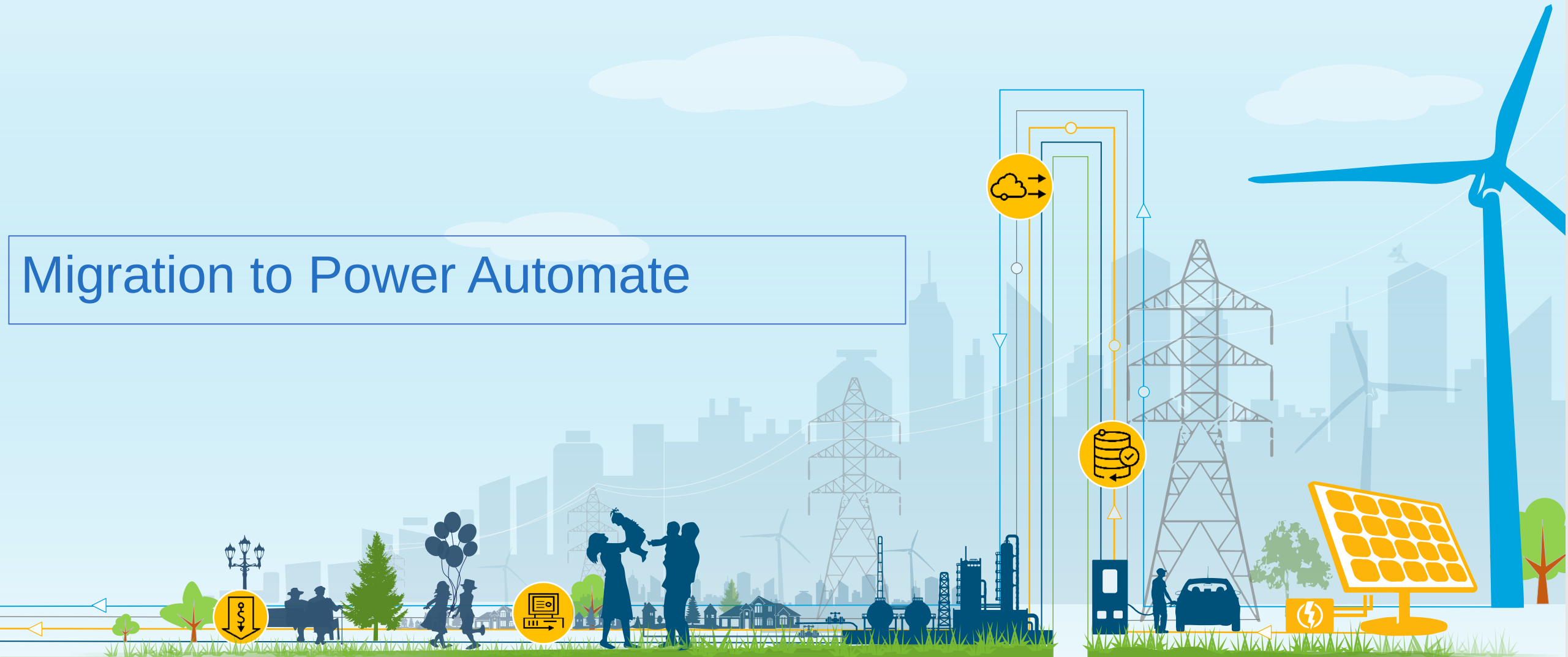
Robotics Process Automation Vendor/Contract Services Resources & Titles	# of FTEs	Monthly Run Rate
Project Oversight	1	42,400
Solution Architect	1	23,000
Functional Lead	1	35,000
Test Lead	1	13,340
Testers	2	10,300
Developers Onshore	2	16,500
Developers	9	5,500
Total	17	146,040
Robotics Process Automation IT/Business FTEs Resources & Titles	# of FTEs	Monthly Run Rate
Project Manager	1	10,833
Product Owner	1	11,667
IT System Specialist	1	10,833
Total	3	33,333
Robotics Process Automation Software License Cost	# of Users 1500+	Units
VDI Subscriptions	1	1

Process Name	Transactions #	Success #	Manual Intervention #	Potential Total Cost Avoidance (\$)	Hours Saved (Hours)	Automation Description
Executive Action Group - PSC Complaints	13,264	13,264	0	\$218,856.00	4,377.12	The PSC Complaint process captures case information from the PSC website and shares it with representatives for resolution. It is regulated by municipal law and must be resolved within 30 minutes, including weekends and holidays.
Processing TRC Credits	13,484	10,665	2,816	\$144,998.90	2,899.98	The Tax Remission Certificates (TRC) credit process reviews customer/rate consultant/property manager requests for a reduction on their Gross Receipts Tax (GRT) and either applies credits where applicable or rejects invalid submissions noting the reason. The RPA will review CC&B account characteristics and billing data to confirm that the credit request is valid. If the credit is deemed valid, the RPA will calculate and post the necessary adjustments.
Statement Generation	2,613	2,034	574	\$83,450.00	1,669.00	For customers requesting detailed billing statements, RPA captures the details from the CC&B system or archives and prepares the statement in a defined format for a defined period.
Solar Onboarding	5,789	4,101	1,688	\$58,267.70	1,165.35	To onboard solar host accounts, the system needs to check account information, update notes, and generate an off-cycle bill if applicable. The RPA will perform the checks on the accounts and will accordingly update the data in the system for onboarding.
ORU CCF Estimations - AMI	5,288	981	4,307	\$30,208.33	604.17	Some gas accounts with non-communicating meters result in billing errors, requiring estimates based on recent billing data. The automation performs these calculations, generates the MDMS data file, initiates billing in CC&B, and closes the To Do and the Freeze bill process. This applies to AMI and simple gas legacy accounts without actual reads for the error bill period in MDMS. Multi-meter accounts and meter exchange scenarios within the billing period are excluded.
ORU KWH Estimations - AMI	5,284	1,840	3,444	\$37,350.00	747.00	Some electric accounts with non-communicating meters result in billing errors, requiring estimates based on recent billing data. The automation performs these calculations, generates the MDMS data file, initiates billing in CC&B, and closes the To Do and the Freeze bill process.

Adding Customer Provided Reads	3,349	1,687	1,662	\$14,058.33	281.17	For some accounts, meter reads are not captured by the system and are provided in an Excel format. The automation updates these meter reads in the system from the provided spreadsheet. RPA will enter the meter reads in CC&B for the given accounts.
CECONY CCF Estimations - AMI	134,614	50,832	83,780	\$984,483.33	19,689.67	Some gas accounts with non-communicating meters result in billing errors, requiring estimates based on recent billing data. The automation performs these calculations, generates the MDMS data file, initiates billing in CC&B, and closes the To Do and the Freeze bill process. This applies to AMI and simple gas legacy accounts without actual reads for the error bill period in MDMS. Multi-meter accounts and meter exchange scenarios within the billing period are excluded.
CECONY KWH Estimations - AMI	212,401	58,559	153,840	\$1,372,987.50	27,459.75	Some electric accounts with non-communicating meters result in billing errors, requiring estimates based on recent billing data. The automation performs these calculations, generates the MDMS data file, initiates billing in CC&B, and closes the To Do and the Freeze bill process.
CECONY Manual Billing - Electric	504	216	271	\$2,700.00	54.00	The RPA aims to facilitate manual billing for CECONY Electric accounts using input readings from backoffice representatives. It performs limited validations, calculates the register read, splits usage into intervals, sends interval data to MDM in XML format, and reports failures. This automation is for AMI and electric legacy accounts without actual reads for the error bill period in MDMS. Demand, TOU, and IPP meters are included, except for legacy demand cases.
SSFTL - Start	6,335	2,958	3,377	\$24,650.00	493.00	For accounts with long-pending service activations, a TODO with Type - TD-SSFTL is created with pending Field Activity in CC&B. The automation involves completing the pending Field Activity by entering the missing read from MDMS, linking it to SA, and activating the Pending SA and SUB-SA's. The automation then generates and completes the pending bill from the service start date to the bot processing date for each bill cycle, and finally closes the TODO with remarks.

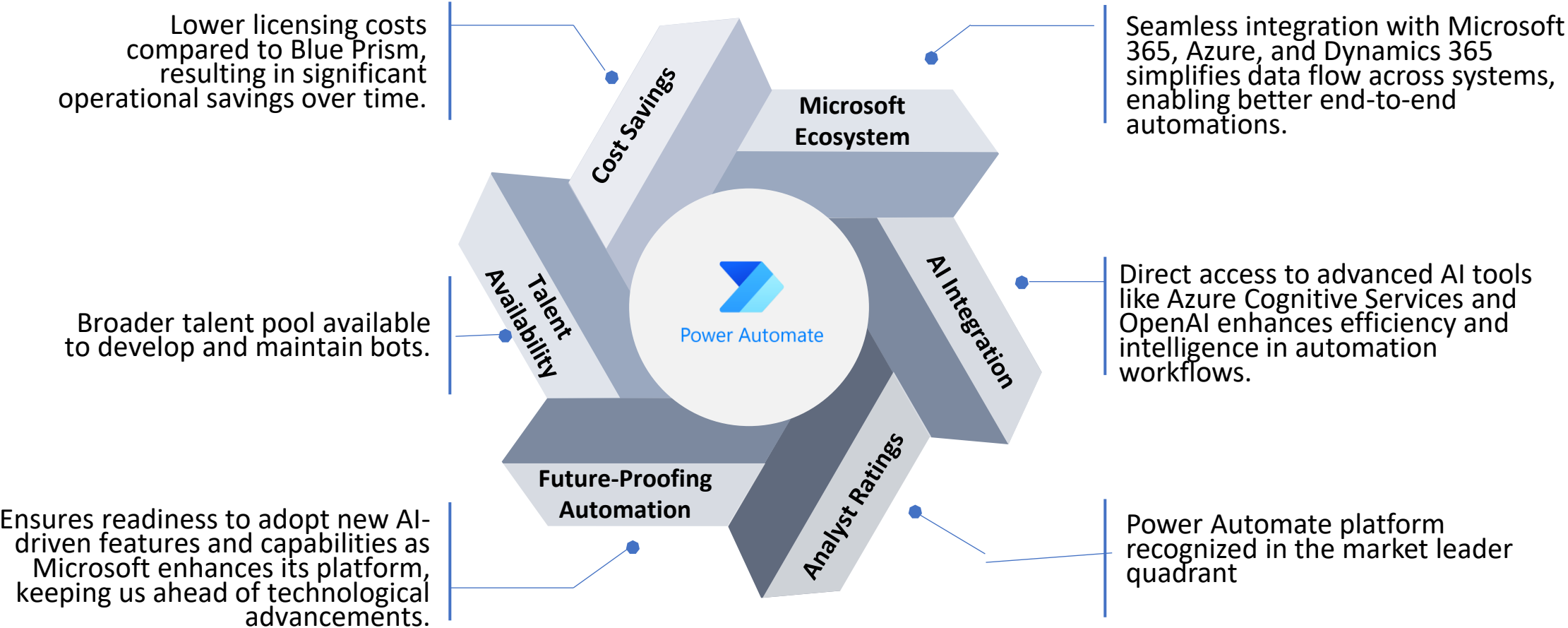
SSFTL - Stop	4,814	2,159	2,655	\$17,991.67	359.83	For accounts with long-pending service stops, a TODO with Type - TD-SSFTL is created with pending Field Activity in CC&B. The automation enters the missing read from MDMS, links it to SA, stops the Pending SA and SUB-SA's, generates and completes the pending bill from the last successful bill date to the stop date for each bill cycle, and finally closes the TODO with remarks.
Estimations And Billing Unbilled SAs	170,765	107,994	62,771	\$1,799,900.00	35,998.00	This process estimates and bills single meter (simple electric and gas) Service Agreements using reads from MDMS or estimated reads based on the last 1-2 years or latest bill data. It uses the bill segment portal for billing and updates MDMS with the latest read.
	578,504	257,290	321,185	\$4,789,901.77	95,798	

Migration to Power Automate



Infosys[®]
Navigate your next

Advantages of Migrating to Power Automate



Power Automate provides a modern platform that supports advanced features and AI-driven capabilities, ensuring our automation strategy remains aligned with evolving business and technology needs while delivering financial benefits through reduced licensing costs.

Analysis of our existing use cases - Summary

Below is an overview of the complexity of the bots being migrated to the Power Automate platform:

	V. Complex	Complex	Medium	Simple	Total
Rates	0	4	24	1	29
Core	4	7	7	2	20
Total	4	11	31	3	49

Key Core Processes:

Adding customer provided reads	Billing exceptions assignment
ORU KWH & CCF Estimates	HRA T Code
Solar Onboarding	HRA_AutoPprocessor_HUGO
Processing TRC Credits	Executive Action Group – PSC
Statement Generation	Complaints
HRA RESPONSE FORM	SSFTL - Start and Stop Process
CCG ROBOS	Estimation and Billing Unbilled
Field Activity Completion Issue (FACI-TODO)	SAs- Phase 1,2,3 &4

Key Rates Processes:

- Bills submission for Rate validation
- Rates insertion and validation for CECONY Monthly Rates and VDER, GRT, RDM, LIC
- Rates insertion and validation for ORU Monthly Rates and VDER, GRT, RDM, LIC
- Steam year rates and Steam statement of fuel adjustments
- Gas weather normalization and MSC Forecasted
- POR Electric and Gas, CESD, Value Stack
- CECONY SBS, CESS, EVMRS
- ORU SBS, CESS, EVMRS

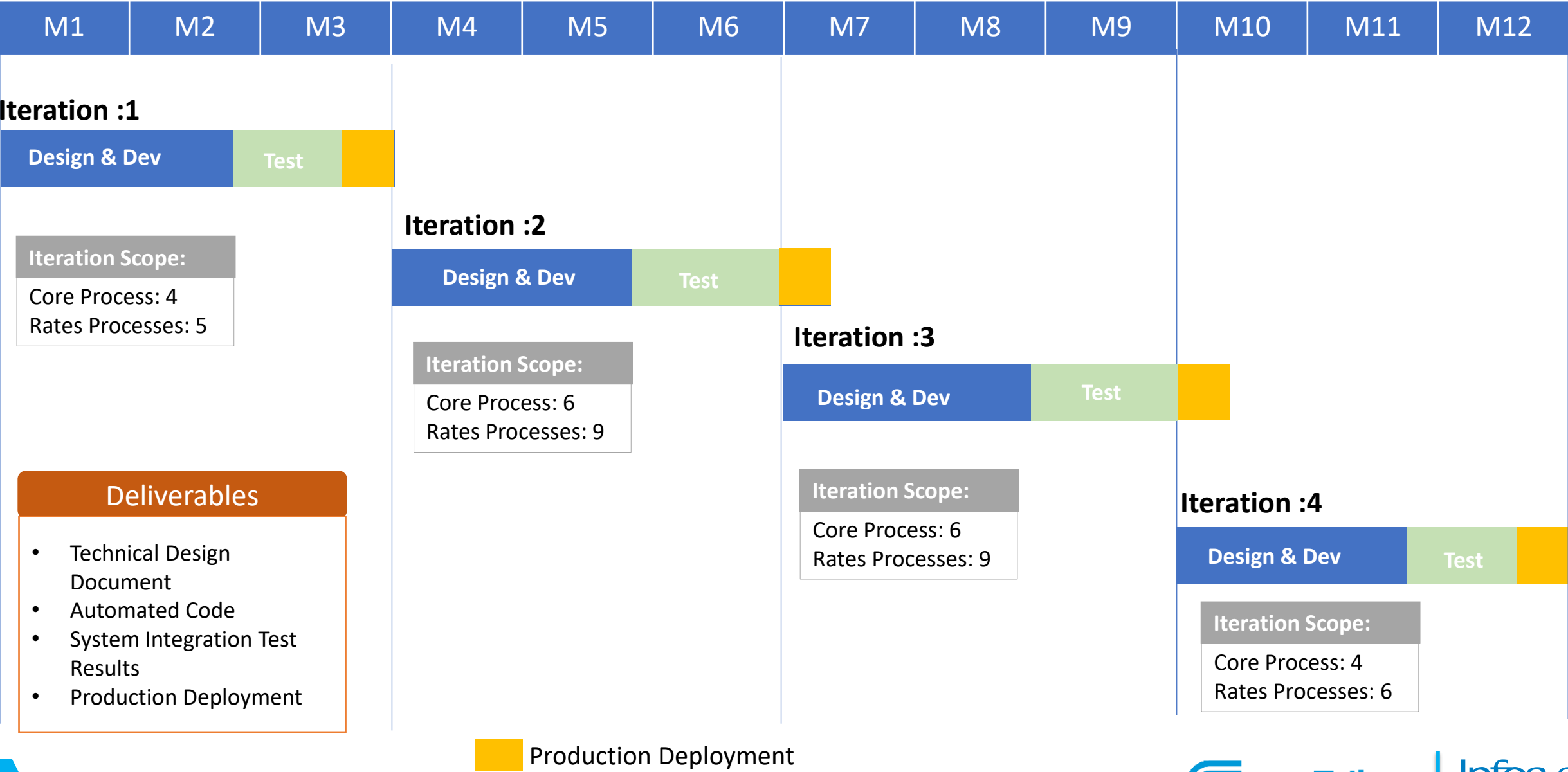
Potential Business Use Case to migrate processes from BP to PA

One Time Cost		
Particulars	Approximate Cost	Remarks
Services cost to migrate the BluePrism bots to Power Automate	\$1,200,000 - \$1,500,000	It is assumed that 49 bots will be migrated. All the bots will be rewritten, and no migration tool will be used.

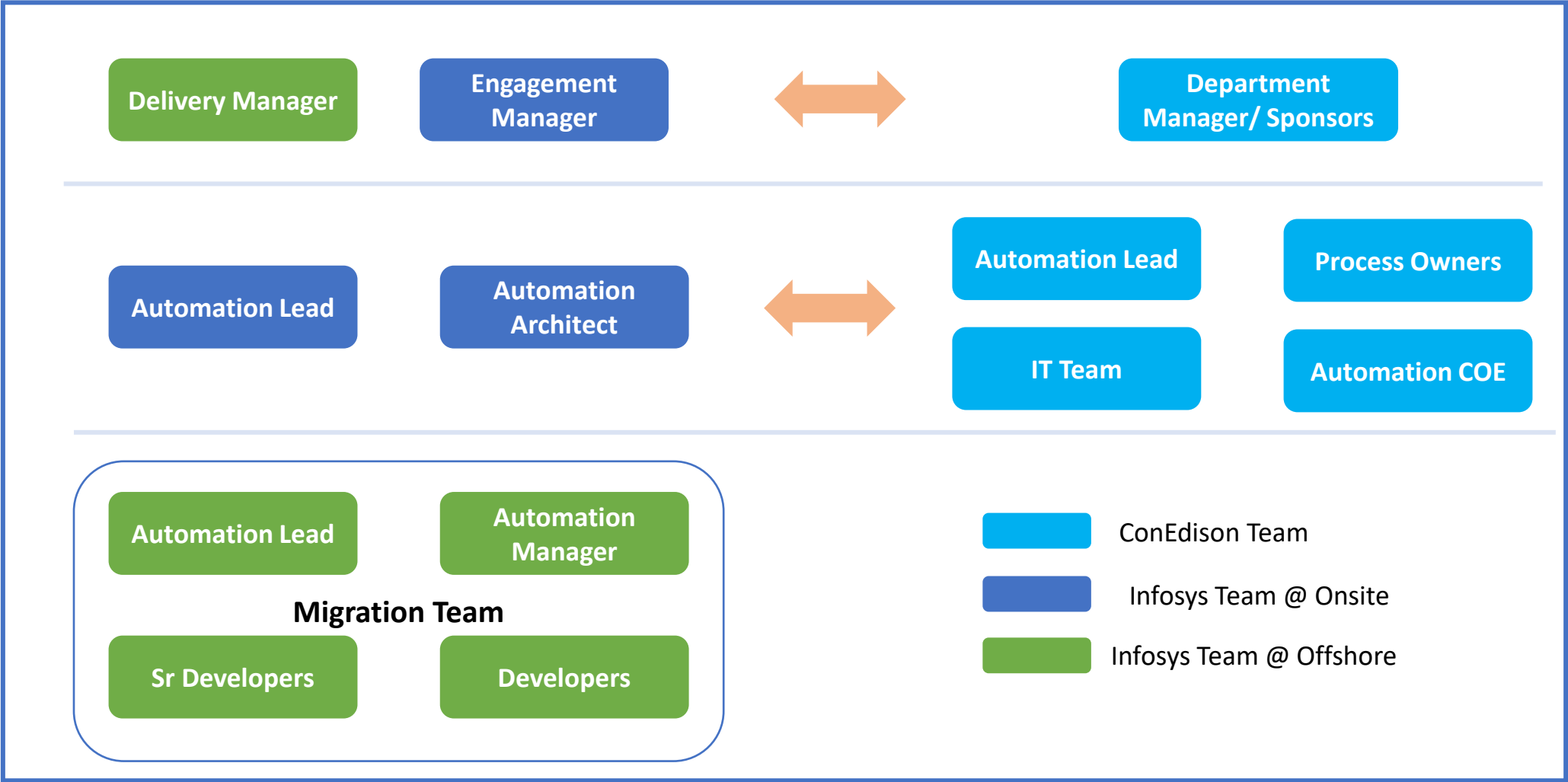
Potential Yearly Savings on License cost		
Particulars	Approximate Cost	Remarks
Existing BP licenses cost	\$ 275,000	For the current 22 BluePrism licenses @ 12,500
PA License cost	\$3,900	For the 26 Power Automate Licenses required for Production and Test environments @\$150

The decision to migrate from Blue Prism to Power Automate is a strategic initiative aimed at achieving seamless end-to-end automation, reducing licensing costs, leveraging future technological advancements, and benefiting from enhanced product support and a broader talent pool

Tentative Implementation Schedule



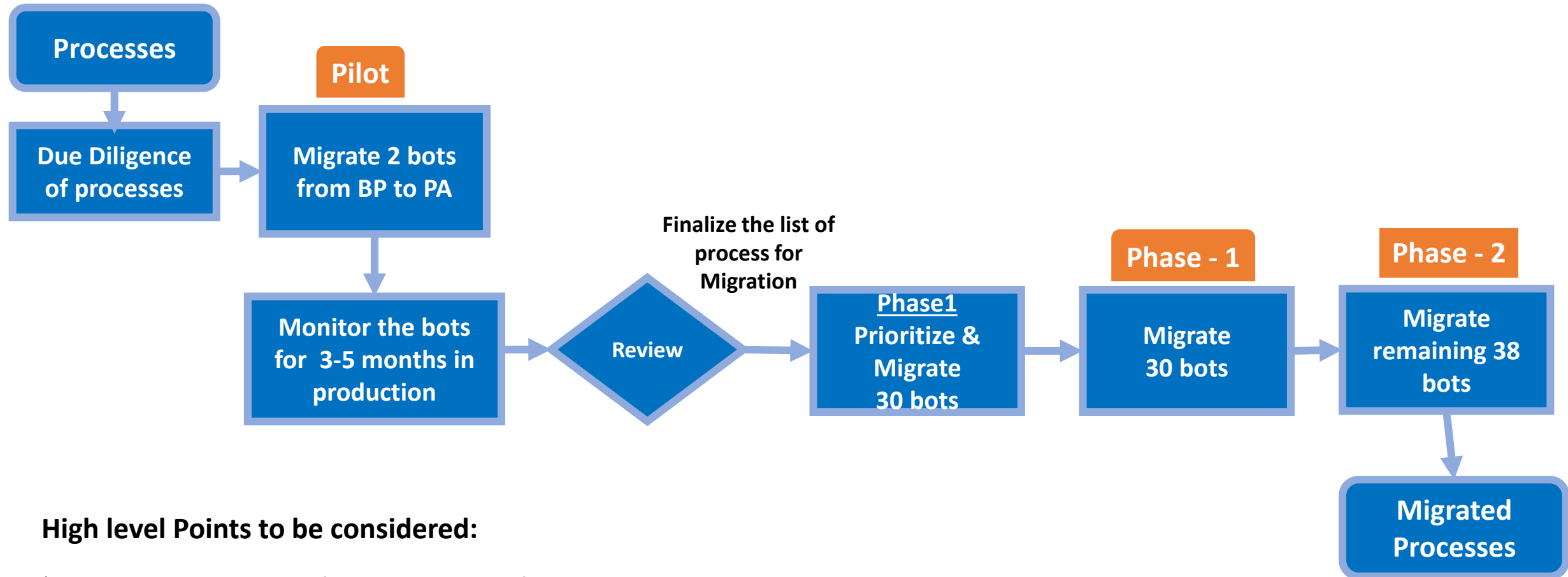
Proposed Team Structure





Migration Approach

Overall Approach for Migration



High level Points to be considered:

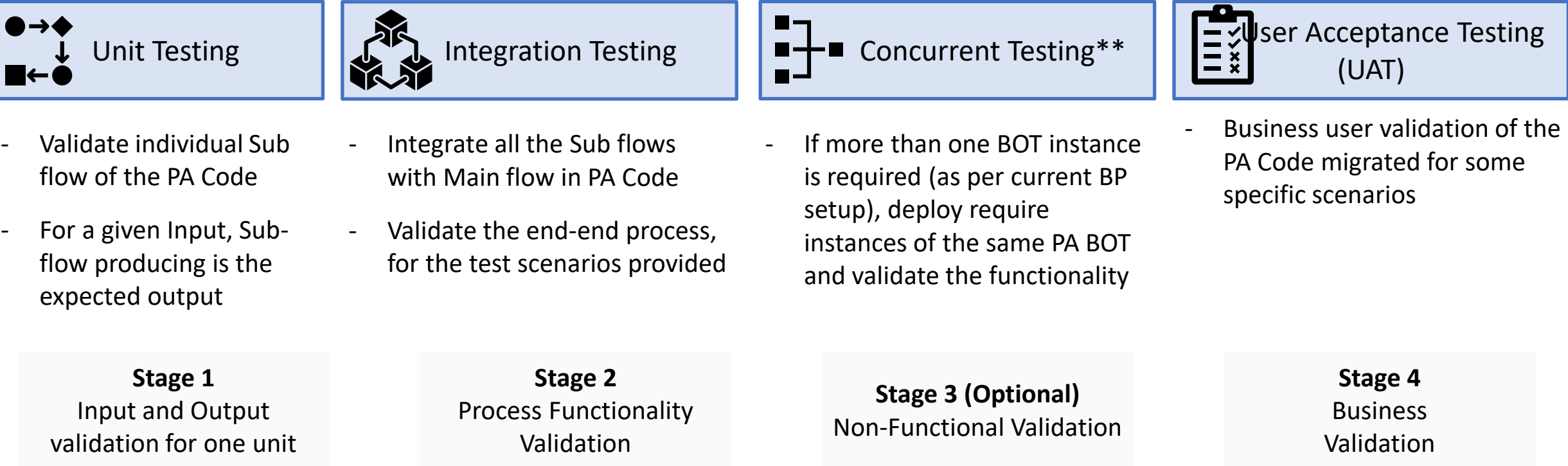
- For extensive UI interface processes – after the tool migrates the code to PA we need to do code changes related to all the UI elements and the effort required will be high
- Update the code to take advantages for the PA framework and better extensibility and maintainability
- Update the code to follow the overall automation architecture of ConEd

Detailed Approach for Migration

Readiness Check	Inputs Validation	Code Changes	Code Validation	Code Deployment
- Dependent Applications/ Interfaces/ DB etc. access enabled - Folder Structure, file paths defined and access setup - Business SME informed on migration plan and his/her participation - PA Code converted thru Blueprint is accessible - Get the PDD, TDD, videos, Test cases & data for the Process	- Check Test Data required for running the process - Check and view the BP Code and Custom Code - Check PA code migrated thru Blueprint for the Process - Check Configuration Files and Custom Code used in the process - Check and capture list of to do list and Errors in the migrated PA Code - Check the mapping of BP System Variables to equivalent PA variables - Check Azure Key Vault for Credential Management	- Follow Reuse Refactor Rewrite approach for the Code changes - Refer to the BP Code, in case of any cross validation with PA code to be done - Complete the to do list and Errors in the migrated PA Code	- Unit Test the Sub-flows of the PA Code (I/O validation) - Test the end-to-end process (Integrate Main Flow and Sub-Flows) with Test Data (Process Validation) - Concurrency testing, where multiple BOT instances are required (Non-Functional Validation) - User Acceptance Testing the migrated code with Business SMEs (Business Validation) - Seek UAT Sign-Off	- Baseline code for Production Deployment - Define release plan and packaging PA code - BOT ID creation and related Administration by Production Support team - Define the Azure Key Vaults for Credentials Management in Production - Deploy PA BOT in Production, Smoke Test - Support and Transition the BOT to Production Support team - Migration Signed-Off

BP to PA Migration Code Validation Process

Code Validation is the key activity in the migration and confirms process readiness for production deployment. The code validation process is split into 4 stages.



Note:

1. Business Users are expected to be available and provide respective approvals on results as per the plan for UAT. UAT delays can impact the production deployment.
2. UAT test cases can be leveraged as part of Integration Testing to fast track the UAT process and reduce any UAT defects
3. ** Stage 3 – Concurrency Testing is required only when the Number of BOT instances are more than 1 (As per the current BP Production Deployment Model).
4. **Unit Testing of the Sub-flows can be done from PA Designer Studio and other testing activities should be done from the Cloud Console to replicate the production run.**



Case Study

Migration of Automation Anywhere bots to Power Automate for Oil & Gas Client

Exhibit (IT-5)
Page 26 of 221

Business context /Challenge

- Customer had **100+ processes** which are automated with **Automation Anywhere (AA) v11.x** whose **End-of-Life (EOL) in March 2023**
- Client has taken a decision to **migrate the processes to Power Automate (PA)**, which are technically compatible to be automated with Power Automate RPA.
- Key applications in the client environment involve **SAP, Oracle, some custom web applications, SQL Server DB**

The plan for migration includes:

- Analyze:** Assessment of existing 77 processes which are in scope for Power Automate (PA) migration and define the best
- Plan:** Plan for the 77 processes which can be migrated from Automation Anywhere (AA) v11.3.3 to Power Automate (PA)
- Migrate:** Migration of processes from AA to PA using Agile framework.

Key Results

77
Processes

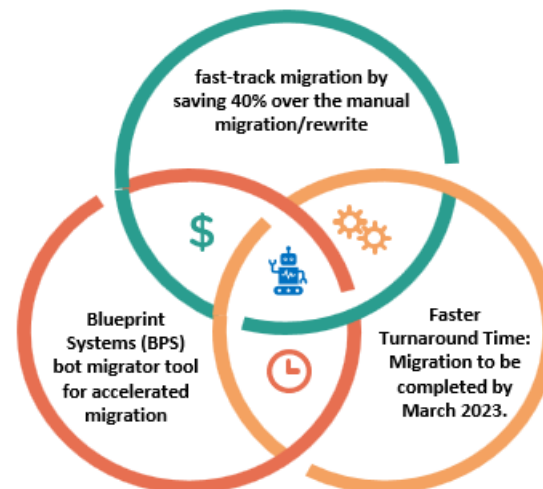
7 – Small
27 – Medium
26 – Complex

1600+
Task Bots

155
Meta Bots

50
Unique Systems

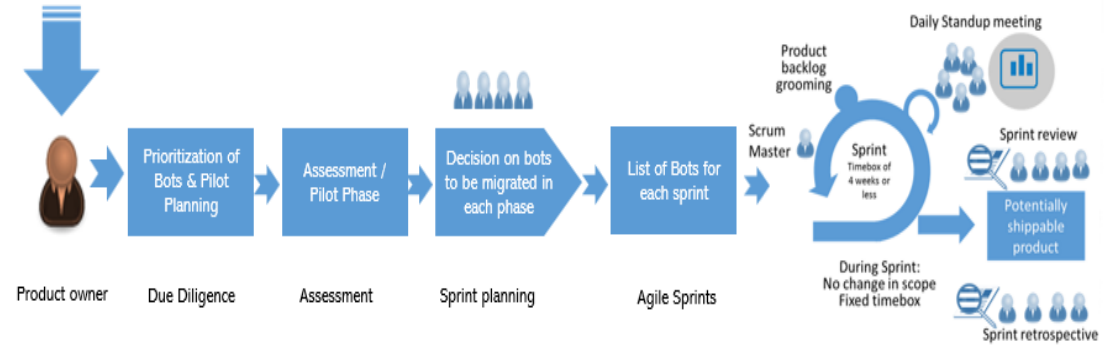
6
Unique DBs



Migration Approach

Assessment	Migration
✓ Assess 100 bots & Qualify eligible bots ✓ Try migrating 3 bots and define Migration Scope, Approach, Guidelines and Plan	✓ Migrate qualified bots using RRR approach ✓ Try migrating 3 bots and define the migration approach

Automation Anywhere Bots
Live in Production



MONTH	M1	M2	M3	M4	M5	M6	M7	M8
ASSESSMENT	Due Diligence of 100 bots and Pilot Migration of 3 Bots							
WAVE 1		Migration of 32 bots (Medium-14 Complex-18)		Support and Stabilization				
WAVE 2			Migration of 32 bots (Medium-17 Complex-15)		Support and Stabilization			
WAVE 3					Migration of 13 bots (Simple-7 Medium-2 Complex-1)		Support and Stabilization	



Thank You



Appendix

Software & Access Required

- Power Automate Cloud Access
- Data Gateway installation
- Power Automate Desktop Software
- Licenses
 - Power Automate Premium License for Development Environment
 - Power Automate Process License for UAT & Production Environment
- Power Automate Machine Runtime

Customer Operations / Strategic Applications 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Billing and Payment Enhancements	
Project/Program Manager: Raymond Joseph	Project/Program Number (Level 1): 25524461
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 01/01/2025	Estimated Date In Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: \$5,300 O&M: \$1,250	
Work Description: The Billing and Payment Enhancements program will maintain necessary processes and introduce new technology upgrades, such as personalized video messaging and expanded payment options, to improve the customer billing and payment experience. These enhancements will empower customers by increasing billing clarity, payment offerings, and program awareness. <u>Maintain Existing Technology Systems and Processes</u> During 2026-2028, the Company will perform the following upgrades to its backend billing and payment systems to evolve with advances in technology: - Replace and upgrade the Company's 36 existing Customer Office (also known as Customer Walk-in Center) kiosks with improved functionality that will add options such as credit and debit card payments and allow our diverse customer base to select from several languages in which to perform transactions. - Implement automated program interface (API) technology across customer payment systems to debit bank account transactions in near-real time. - Continue to monitor and act on customer and industry trends to offer simple and convenient ways for customers to receive their bills and transact business across the Company's digital platforms. This includes leveraging billing and payment aggregators, bank billing, kiosks, and same-day payments. <u>Expand Payment Enhancements</u> To keep pace with evolving customer payment methods and preferences, the Company is performing a pilot in 2025 to install several modern kiosks with advanced features, including the ability to accept cash, checks, debit and credit card payments; the ability to video conference with a live customer representative; the ability to create payment agreements; and additional language options. From 2026 to 2028, the Company will apply the findings from this pilot, while also broadening its range of payment solutions to include digital wallets apps like Apple Pay, Google Pay, PayPal, and Venmo; online bank bill payments; and text-to-pay features.	

In addition to upgrading the kiosks at its Customer Offices, the Company will evaluate strategically placing payment kiosks in non-Company locations to expand the geographical options available to customers.

Launch Personalized Video Messaging

The Company's personalized video messaging initiative enhances customer interaction and support through tailored video content. It visually guides customers through beneficial programs such as budget billing, auto-pay, e-bill, and government assistance programs via personalized email communications containing clickable videos.

In 2025, the Company is finalizing these videos and conducting a pilot targeting customers for enrollment in its paperless billing, budget billing, and auto-pay programs.

From 2026 to 2028, the Company plans to expand its personalized video communication to a larger customer base. These videos will be designed to clarify inquiries customers have about the Energy Affordability Program (EAP), help those in or likely to fall into arrears learn about how to sign up for a payment agreement, and educate customers about the various payment methods available through the Company.

Capital costs required to support the Billing and Payments Enhancements program include internal labor, vendor costs, technology infrastructure upgrades, programming implementation, and hardware and software costs. See [Exhibit \(IT-5\) Billing and Payment Enhancements Attachment 1 Request Detail](#) for a breakdown of costs associated with this request.

Justification Summary:

Maintain Existing Technology Systems and Processes

From 2023 to 2025, the Company focused on enhancing billing and payment processes by introducing vendor technology upgrades and providing more customer payment options. Additionally, the Company improved customer communications related to billing and collections and payment reconciliation processes for the Company's new Customer Care and Billing (CC&B) system.

Continuing and expanding upon this program is critical, as the Company processes more than 60 million bills annually and corresponds with its 3.5 million customers through both paper and electronic channels. Additionally, it handles more than 38.5 million customer payments each year. The Company's flexible bill design, for both paper and electronic (e-bill) delivery, produces customer-friendly formats consistent with the My Account portal and mobile applications.

Each month, on average, 18,000 customers make cash and check payments at our Customer Office Walk-in Centers in Staten Island, Brooklyn, Queens, Manhattan, the Bronx, and Westchester. To better serve unbanked, low-income, and small business customers, the Company will replace and upgrade our 36 existing Customer Office kiosks fleet to provide improved functionality to accept credit and debit card payments and provide additional language options.

Expand Payment Enhancements

In addition to replacing existing kiosks, the Company will evaluate strategically placing payment kiosks closer to where customers live and work, saving them time and travel to the Customer Office Walk-in Centers. An online customer survey in 2023 revealed that 46% of the 1,221 residential and commercial customers surveyed were interested in having a Company payment kiosk as an additional payment option. These kiosks could be located indoors at local retailers, such as pharmacies, or outdoors adjacent to Con Edison locations.

Kiosk transactions will update customer accounts in real time, eliminating the one- to three-day delay customers experience with existing Customer Walk-in Center kiosks. The Company will also develop improved payment reconciliation dashboards and reports to track customer payment behavior and trends and detect any potentially fraudulent activities.

Throughout the program, the Company will continue to engage its customers in developing and designing strategic offerings through in-depth customer research and proof of concept usability testing, including prototyping.

Launch Personalized Video Messaging

In 2023 and 2024, the Company conducted an online survey in which 282 members of the Con Edison Advisory Community, both residential and commercial, indicated their interest in using personalized videos produced by our digital marketing vendor, Questline. The purpose of the videos was to help customers understand and enroll in eligible billing and payment programs and services. After 72 percent of customers surveyed expressed strong positive feedback, the Company refined the videos to enhance clarity and incorporate customer suggestions.

Continued investment in a robust digital platform and personalized videos that meet rising customer expectations will likely lead to greater adoption of self-service channels. This, in turn, can reduce the volume of calls handled by customer service representatives, enhancing overall operational efficiency.

By enhancing bills with targeted messaging for customers needing payment assistance and using personalized videos to inform them of available programs, the Company will improve customer experiences and provide options for those facing financial difficulties to better manage their payments.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The Billing and Payments Enhancements program supports the Company's clean energy plans. To meet Climate Leadership and Community Protection Act (CLCPA) goals, the program seeks to deliver accurate meter and billing information to help customers make informed clean energy decisions, reducing greenhouse gas emissions. In addition, the Company will improve the presentation of new complex rates to boost customer satisfaction and encourage clean energy adoption, especially in disadvantaged communities.

2. Supplemental Information

Alternatives

The alternatives to the proposed investments would be to:

1. Cease expanding payment and messaging options and perform maintenance work only on the Company's current digital platform.
2. Take no action and miss opportunities to use more advanced digital self-service Customer Office Walk-in Center kiosks to engage customers in languages beyond English and Spanish and provide customers with additional payment options.

Risk of No Action

The key risks associated with no action are:

1. Diminished digital bill delivery and lower electronic payments, leading to increased costs of processing physical paper checks.

2. Customer frustration with an outdated user experience and technology.
3. More customers contacting Company customer service representatives instead of using self-service electronic applications.
4. Inability to adapt to evolving customer expectations around payment options such as debit and credit cards.
5. Failure to achieve operating efficiencies due to being at the end of the current kiosk equipment life cycle.
6. Failure to leverage new customer engagement opportunities and emerging clean energy initiatives made possible by smart meter technology.

Non-Financial Benefits

The Billing and Payment Enhancements program will result in several non-financial benefits, including:

- Improved customer satisfaction through a multi-channel, simple, and intuitive billing and payment experience.
- Improved customer awareness through more engaging and informative bill content and personalized videos.
- Improved customer engagement through proactive communications and additional choices and control in how and when to make payments.
- Improved agility with more robust technology modules, allowing flexible and iterative development of new billing and payment features.
- Providing additional options for those customers facing financial difficulties to better manage their payments.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Basis for estimate

Capital costs are based on quotes from meetings with kiosk vendors. O&M costs are estimated based on a review with IT of costs to maintain the Company's billing platforms, including ongoing software and labor costs to support associated IT infrastructure. See [Exhibit \(IT-5\)_Billing and Payment Enhancements_Attachment 1_ Request Detail](#).

Project Risks and Mitigation Plan

Risk 1 - No meeting unplanned Customer Needs

- **Mitigation Plan** - The Billing and Payment Enhancements program will mitigate this risk by working through an agile project management framework. This means scope is not necessarily fixed and the team can prioritize new customer needs for additional payment options at the kiosks, such as Venmo and PayPal, as they arise.

Risk 2 - Insufficient Information Technology and Business Resourcing

- **Mitigation Plan** - The Company has procured multiple contracts, including minimal staff augmentation partners, to allow for flexible teams that can scale to address capacity needs and mitigate this risk.

Risk 3 – Fraudulent Activities

- **Mitigation Plan** – The Billing and Payments Enhancements program will create new automated reconciliation reporting that monitors and reports on potentially fraudulent activities across payment platforms.

Technical Evaluation / Analysis

The Company conducted a comprehensive technical evaluation for both modern kiosks and the personalized video communication initiative. The Company used both industry and customer analysis to develop the scope, staffing, and cost estimates for the program's components. In addition, customer research was conducted to inform the technical evaluation. Additionally, in 2025, the Company will perform a customer payment analysis to determine the investment needed to meet customer expectations in future years, including preferred payment options. This analysis will enable the Company to forecast volumes, assess consumer requirements and market trends, develop strategies, and propose technological solutions to address these needs.

Project Relationships (if applicable)

The Billing and Payments Enhancements program complements the CC&B customer service system, the proposed Customer Engagement Platform (CEP) solution, and numerous clean energy programs. Additionally, the Billing and Payment Enhancements program is closely related to other programs proposed in this filing, including:

- Customer Data and Analytics
- Digital Customer Experience
- Back Office Automation
- Customer Outreach and Education

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year*</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M				0		
Regulatory Asset						
Capital				0		\$750

2025-2029 Request:**Total Request by Year:**

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M Total	\$250	\$250	\$250	\$250	\$250
Regulatory Asset					
Capital (Total)		\$3,000	\$500	\$500	\$1,300
Labor		\$200			
M&S		\$2,700	\$485	\$485	\$1,260
Contract Svcs.					
Other					
Overheads		\$100	\$15	\$15	\$40

*The test year runs from 10/1/2023 to 9/30/2024.

Billing and Payment Enhancements Request Detail

Capital (\$000)	2026(RY1)	2027(RY2)	2028(RY3)
Labor			
• 1 <i>Project Manager</i>	\$200	\$0	\$0
M&S	\$2,700	\$485	\$485
Overhead	\$100	\$15	\$15
Total	\$3,000	\$500	\$500

O&M (\$000)	2026(RY1)	2027(RY2)	2028(RY3)
Labor			
• 1 <i>IT Developer</i>	\$250	\$250	\$250
Contract Services	\$0	\$0	\$0
Total	\$250	\$250	\$250

Customer Energy Solutions 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Building Energy Usage Portal	
Project/Program Manager: Rebecca Lessem	Project/Program Number (Level 1): 27707874 - L1_Building Energy Usage Portal (BEUP)
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 01/01/2026	Estimated Date In Service: 12/31/2029
2025-2029 Funding Request (\$000) Capital: \$20,319 O&M: \$6,815	
Work Description: This program will continue the Company's work related to sharing benchmarking data. We plan to re-architect the customer-facing portal to deliver aggregated building usage data to comply with New York City and Westchester local laws and other benchmarking needs and support ongoing behavioral modification towards lower energy use. Con Edison will complete work in phases to be put in service sequentially and add value in every developmental stage. - Phase 0: Assess the present and future known needs for energy usage data, the success and limitations of the current Building Energy Usage Portal (BEUP), and how to add more flexibility for future regulatory requirements and program qualifications. End user goals will define how the platform delineates and models data so that they serve a variety of benchmarking data needs. - Phase 1: Define product requirements for the new data architecture, and conduct software and data build, testing, and releases. For example, customers now need to benchmark using the Building Identification Numbers (BIN) of their property as opposed to the Building Block and Lot structure used up until 2025. We will re-architect building data model to accommodate multiple input types including Borough Block and Lot (BBL), Service Address, BIN, Meter ID and pair with Energy Star Portfolio Manager - Phase 2: Optimize data sources between Meter Data Management System, C3, and CCB Billing data to support the application's expanded scope. - Phase 3: Allow for daily or hourly aggregated demand data vs monthly as required by the NYC Housing Preservation and Development (HPD) agency for HPD financing. - Phase 4: Adjust system to deliver "whole picture" results and trends of energy usage that incorporate confounding factor such as solar crediting, distributed generation, campus sharing, and fuel switches. This phase will also feature a dashboard which will show quantitative metrics and a 'behind the meter' view into a building's metering setup to evaluate distributed energy resources.	

This work supports regulatory requirements for local law benchmarking and anticipates potential future requests in terms of aggregating data with variable parameters, increased granularity, and incorporating adjustments into usage data that pertain to energy efficiency.

Justification Summary:

The Con Edison benchmarking portal has been supported under various customer programs for the last decade. Given the importance of this data, we are now establishing a separate BEUP workstream with unique funding and maintenance requests due to the criticality of energy efficiency reporting, dynamic regulatory and clean energy program requirements, and technical staffing to support the development and operation of the platform in support of end-user energy efficiency needs.

As we continue to expand our clean energy programs, the data demands for building performance and how this performance reflects mitigation efforts will grow. These energy data needs apply not only to large commercial facilities mandated to comply with local laws for reporting and energy reduction, but also to small independent building owners or managers who want to see the impact of regulations or measures, or to baseline energy usage before a fuel switch.

The purpose and scope of the current Con Edison benchmarking portal will also be expanded from supporting New York City customers who are required to benchmark annually for local law compliance, to all building owners in the CECONY territory who would like to access aggregated building consumption data on an ongoing basis. The program would allow more building owners to view and manage their energy usage for clean energy grants, participate in clean heat programs, gauge the efficacy of installed measures for compliance, or tie in with their building automation systems for a full picture of their energy management investments and results.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

- This program aligns with the broader Company plans to enable customers to reduce their energy consumption by supplying our large customers with detailed and accurate usage data. Customers can use the data to assess any deviation from usage goals and prioritize properties for remediation and efficiency projects. Customers can also use this data to see the efficacy of measures and programs that they have implemented.
- This program directly supports the goal to limit greenhouse gas emissions by enabling customers to comply with Local Laws (LL) 84 and 97. Local Law 84 requires reporting of aggregated usage annually to the New York City Department of Buildings (DOB). The usage information allows DOB to see which buildings and types of properties require the most attention in terms of energy reduction and informs their decisions on future Local Law 97 limits.
- The BEUP portal contributes to Pillar 2 of Con Edison's Clean Energy Commitment, Empowering All of Our Customers to Meet Their Climate Goals, and Pillar 5, Partner with Our Stakeholders. Information from this tool enables property owners to access accurate usage information for informing and tracking their electrification and demand reduction decisions. Stakeholders such as the DOB and property/energy management companies partnered with the Company in shaping the program and portal design features. The collaborative relationship with stakeholders has been productive and positive, returning functionality that is valued by both stakeholders and end use customers.

2. Supplemental Information

Alternatives

1. Comply with NYC Local Law 97 by changing data schema from BBL to BIN, with no other changes.

This would leave the platform in the same limited state it is in now, and if other parameters became important for data aggregation, the technology would require re-architecture without the proper resources. Additionally, this alternative would not address the benchmarking and usage needs of those outside of NYC or outside the Covered Buildings List.

2. Change input schema to accommodate more users and types, but do not make other changes.

The Company receives requests for aggregated hourly data, demand data, and data that takes into account information about how a building is performing given real world circumstances, including distributed generation or net metering credits and fuel switch accommodations. We would like to build out this platform to help customers accurately represent their usage, their demand, and their contributions to the grid, whether or not the law requires reporting.

Risk of No Action

Leaving the platform as-is will put the Company out of compliance with NYC Local Law 97 to report building usage by BIN. The platform also does not serve any customers other than those who must report their usage. Those customers would continue to have to benchmark manually with bills which may lead to user error and unverified data entries.

Non-Financial Benefits

1. Improved overall energy efficiency of NYC buildings through data driven decisions supported by the portal's strong analytical capabilities.
2. Compliance with NYC LL 84 and LL97 with the goal to reduce greenhouse gas emissions by 40% by 2030 and net zero by 2050.
3. Compliance with municipal county benchmarking regulations.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Basis for estimate

The initial work to build the Benchmarking Energy Usage Portal was under the umbrella of the Customer, Analytics, and Reporting Engagement (CARE) project. Actual spend from that scope of work informed the cost and effort estimates used to create the financial plans for this program.

The costs listed in the Funding Detail section incorporate:

- Software licenses, hosting and data transfer costs, and anticipated increases based on the growing needs as the program develops, and on the historic typical price escalation in costs from suppliers
- Data platform vendor maintenance and upgrade costs

• Temporary resources to assist with new capital build of specialized data architecture, engineering, and software development ○ Incremental labor supporting product maintenance and development: 1 product data manager to lead the work of validating data health, investigate data discrepancies between sources, and shape the necessary features and changes to accommodate the data needs of users. ○ 1 data architect to create data models, architecture, and data transportation between platforms. ○ 1 Data engineer/analyst to develop code for data transformations and refinement, and perform interventions and corrections to data. ○ 1 IT developer to write, test and optimize the application code • ½ capacity of an IT Project Manager to coordinate developers and engineers, plan for platform upgrades, and align resources to technical needs. Contingency costs for: ○ Cybersecurity and IT changes ○ Regulation changes requiring unplanned development outside of current scope ○ Inflation and wage or contract services escalation
Project Risks and Mitigation Plan Risk 1: Regulatory Requirement change Mitigation plan: Frequent and clear communication with the DOB to confirm anticipated changes are shared early. Build flexible foundational data structure to accommodate changes in reporting needs for Local Laws or Municipal laws. Risk 2: Data Software system cost increases Mitigation plan: Wherever possible, the Company will try to lock in rates for software and vendor contracts to avoid unexpected increases and will continue to benchmark costs to find the lowest rates. Cost estimates here are based on actual charges from 2024. We anticipate increases in the amount of data transfers as more customers continue to use the platform, and we accounted for those increases in our forecast.
Technical Evaluation / Analysis N/A
Project Relationships (if applicable) The data for the BEUP platform comes from our Advanced Metering Infrastructure (AMI). The AMI data operations management team and the Enterprise Data and Analytics teams are critical to the accuracy, timeliness, and quality of the data presented through BEUP. This program also intersects with the CARE program, especially for the front-end page of the BEUP website. This team will continue to work with the CARE program to maintain consistent standards, style, and a positive customer experience. Customer Clean Energy Programs (CCEP) uses the data for planning and targeting for demand reduction programs, or other offers.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year*</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		\$1,464	\$1,639	\$1,729	\$1,983
Regulatory Asset					
Capital (Total)		\$4,858	\$5,425	\$5,141	\$4,895
Labor		\$1,035	\$1,055	\$1,075	\$1,095
M&S					
Contract Svcs.		\$3,470	\$3940	\$3745	\$3,445
Other					
Overheads		\$355	\$355	\$355	\$355

*The test year runs from 10/1/2023 to 9/30/2024

Customer Operations – Specialized Activities 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Community Distributed Generation Platform	
Project/Program Manager: Raanan Korinow	Project/Program Number (Level 1): 27548644
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 2023	Estimated Date In Service: Ongoing
2025-2029 Funding Request (\$000) Capital: \$45,080 O&M: \$42,822	
Work Description: The objective of this project is to provide additional staffing for the Value of Distributed Resources (VDER) team and ongoing enhancements to the Company's Value Stack Customer Platform, the technology solution that the Company uses to manage Community Distributed Generation (CDG) programs. These investments will enable the Company to continue providing timely and accurate billing and crediting to project developers and customers whose participation in these programs help support New York State's clean energy goals. This work also includes \$750,000 in annual costs associated with ongoing VDER and CDG customer experience improvements that will support projects enrolled in the Statewide Solar for All (SSFA) and Renewable Energy Access Community Help (REACH) Programs. With respect to staffing, this funding request will cover additional employees necessary for the Company to manage CDG program growth and ongoing operations, including administration, management, reporting, and technology solutions and enhancements. Staffing will include: Clean Energy Market Operations Team (formerly known as VDER Billing Team) (10 FTEs): Responsible for all CDG/VDER billing and crediting activities including enrolling VDER, CDG, and Net Crediting projects; updating CDG subscriber allocations; managing relationships and communications with distributed energy resource providers; and implementing new regulatory requirements in a rapidly evolving and dynamic environment. • 2 Project Managers • 2 Project Specialists • 1 Senior Specialists • 3 System Analyst • 2 Senior Customer Service Representatives (SCSRs) Business Technology (3 FTEs): Oversee operations and maintenance of the Value Stack Customer Platform in coordination with Clean Energy Market Operation team and IT Business Services	

Department (BSD), including identification of issues and enhancements and providing oversight and project management for planned Platform updates.

- 1 Project Owner
- 2 Project Specialists

IT BSD (6 FTEs): Perform ongoing operations and maintenance of the Value Stack Customer Platform and ensure its compliance with IT standards, in coordination with Business Technology and Clean Energy Market Operations Team, including with respect to activities such as integrations with other Company systems, security, development, testing and deployment.

- 1 IT Architect
- 1 System Manager
- 1 Senior Product Analyst
- 2 Salesforce Developers
- 1 API Developers

This project will also focus on ongoing enhancements to the Value Stack Customer Platform to improve customer self-service and operational efficiency and support community solar market growth through automation of business processes and manual tasks. Additionally, these enhancements will further establish the Value Stack Customer Platform as the centralized tool to submit and manage incoming and outgoing communications between the VDER team and CDG hosts and third-party consultants.

Customer Self-Service Enhancements

- These enhancements will enable CDG project hosts and authorized third parties to view and access commonly requested project data and information in the Value Stack Customer Portal instead of submitting a general inquiry to the Company.
- Examples of project data and information that will be available to CDG project hosts and authorized third parties through self-service include account management updates, historical payments and bill statements, custom billing message uploads, meter data transactions and reporting, value stack modeling, and demand response communications.

Operational Efficiency Enhancements

- These enhancements will enable the VDER team to manage rapid CDG program growth through new collaborative tools accessible in the Value Stack Customer Platform and integrations with the Company's Power Clerk system (used by customers to manage their distributed generation interconnection application).
- New integrations between the Value Stack Customer Platform and Power Clerk system will enable CDG project metering data and updates to be sent from the Value Stack Customer Platform to Power Clerk throughout a CDG projects interconnection process and enable the Clean Energy Market Operations team to expedite the CDG project onboarding process.
- The Company will utilize planned 2025 enhancements to perform data-backed root cause analysis of issues and prioritize platform enhancements to resolve these identified issues that directly impact VDER hosts and subscribers. This work will be conducted in coordination with upstream groups and support teams (e.g., Distributed Generation, Energy Services, and Advanced Metering Infrastructure).

The Company will use an agile product development and delivery model to implement the proposed enhancements and enable the Company to adapt swiftly to change, mitigate risks, and navigate

uncertainties. This flexible approach will also enable the Company to implement timelier enhancements to the market platform that align with the evolving needs of CDG market participants. Key activities that will be planned, designed, developed, tested, and deployed to implement customer self-service and operational efficiency enhancements across the rate case period include the following.

Rate Case Year	Key Activities
2026	• Conduct quarterly VDER roadmap evaluations and reprioritization • Integrate the Value Stack Customer Platform with onboarding (Power Clerk) and metering systems, including: ◦ Pulling key account onboarding and billing data into Value Stack Customer Platform ◦ Validating CDG project onboarding and billing data to identify setup issues and usage scenarios • Implement CDG project host provider customer experience (CX) enhancements for self-service • Analyze internal business processes and tasks managed in the Value Stack Customer Platform to identify emerging data quality and process issues
2027	• Conduct quarterly VDER roadmap evaluations and reprioritization • Expand bi-directional integration capabilities with onboarding (Power Clerk), metering and billing systems
2028	• Conduct quarterly VDER roadmap evaluations and reprioritization • Develop enhancements to enable reporting and data sharing to support NYC Local Law 97 • Enable CDG project subscribers to view and get more information about other applicable clean energy programs (e.g., demand response) in the Value Stack Customer Platform. • Implement CDG project subscriber CX enhancements for self-service
Ongoing (2026 – 2028)	• Perform enhancements necessary to support implementation and maintain regulatory compliance for the following programs: ◦ Commercial Solar ◦ Energy Storage ◦ Remote Crediting ◦ Wholesale Value Stack (dual participation) ◦ Net Crediting ◦ Opt-Out CDG ◦ Virtual Net Metering ◦ SSFA ◦ REACH

See additional request details in [Exhibit_\(IT-5\)_CDG_Attachment 1_CDG Request Detail](#).

Justification Summary:

The staffing increases and technology enhancements described above are necessary to enable the Clean Energy Market Operations team to continue to adapt to the complexities brought on by (1) the growth of CDG host projects and subscribers; (2) implementation of new clean energy initiatives, such as the SSFA and REACH programs; and (3) evolving reporting and regulatory requirements. This includes

performance metrics proposed by the Department of Public Service last year that would create significant financial penalties if the Company does not meet billing and crediting goals related to CDG projects. Additionally, the VDER/CDG industry have long requested customer “self-service” enhancements to processes, reporting, data sharing, and new program offerings. This industry “wish list” continues to be refined in the statewide CDG Billing & Crediting Working Group. The Company’s existing manual procedures cannot be scaled up effectively to meet the growing CDG market demand, customer and industry expectations, and regulatory requirements without significant additional investments to augment the Clean Energy Market Operations team and enhance current procedures and IT systems.

Through administration of the VDER, or Value Stack program, the Company distributes credits each month to more than 19,000 customers (subscribers) who participate in over 900 CDG/VDER projects, together generating more than 150 MW of clean energy from solar photovoltaic (PV) and fuel cells, with an additional 72 MW of energy storage. New York State is leading the nation in its community solar market, and the Company forecasts continued growth in its service territory. More than 225 MW of solar photovoltaic PV projects and more than 1,600 MW of energy storage projects have applied for the Value Stack program. This work is critically supported and enabled by the Value Stack Customer Platform and includes onboarding new CDG or VDER host projects, determining each customer’s eligibility to subscribe to CDG projects, assigning subscribers to their CDG host projects, and facilitating numerous billing and crediting activities. Billing and crediting activities include converting each project’s hourly electricity export to a dollar credit, allocating those credits to the designated subscribers, issuing credits to subscribers’ bills and payments to CDG hosts, and generating statements for CDG hosts and their authorized agents.

The Company successfully implemented its Value Stack Customer Platform solution in 2024, customized to support the CDG program activities outlined above and integrated to meet existing IT standards (see Exhibit (IT-5)_CDG_Attachment 2_System Diagram). As part of this work, the Company identified additional ongoing enhancements to the Platform necessary to increase operational efficiency and continue to improve the customer experience through 2029. In 2025, the Company plans to focus on allocation file process improvements and automations to track and improve the timeliness, accuracy, and responsiveness of the Company’s Value Stack billing and crediting processes.

Both **Customer Self-Service** and **Operational Efficiency** enhancements outlined above for 2026 through 2028 will generate more important improvements to operational efficiency, the customer experience, and quality and accuracy of billing and crediting through further automations of business processes and manual tasks. Further integration between the Value Stack Customer Platform and the DER onboarding system (Power Clerk) will also allow greater visibility of the project pipeline and monitoring of VDER/CDG projects from application through permission to operate (PTO), the formal approval issued by the Company that allows new DERs to connect to the grid. An enhanced Value Stack Customer Platform will provide an improved digital customer experience for creating, tracking, and submitting requests and supporting documentation. Moreover, integrations to enterprise billing, DER onboarding, and meter order systems will reduce crediting cycle times and improve DER revenue streams that depend on key business workflows. This work will significantly improve the customer clean energy journey and effectively support the growing clean energy industry.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Value Stack CDG project hosts own or operate renewable technologies like solar PV that reduce greenhouse gas (GHG) emissions. Many energy storage generators also participate in the Value Stack program, further contributing to the reduction of GHG emissions by optimizing energy usage during off-peak hours and exporting to the grid during on-peak hours.

CDG is also particularly beneficial to low-income customers and customers in disadvantaged communities (DACs). State incentives have pushed clean energy investments in DACs, thereby optimizing CDG programs to support DACs. Further, CDG is a tool to enable participation in clean energy by customers who do not otherwise have the means to do so. For example, due to the high prevalence of multifamily buildings in the Company's service territory, many customers are unable to install their own clean energy generation and instead participate through off-site DERs like CDG.

The Company's Clean Energy Commitment pledges to support customer choice in clean energy, and the Value Stack Customer Platform is critical to enabling that customer choice. The proposed project will support easier access to programs and information, helping customers reduce fossil fuel use, manage their energy consumption and emissions profile, and transition to new clean technologies. Additionally, this project will enable the Company to continue to improve billing and crediting processes that could reduce soft costs for clean energy by making it easier for DERs to participate in CDG programs, resulting in increased further adoption of these technologies.

The Company's 5- and 10- year plans include more than 1 GW of installed solar PV and energy storage, helping to reduce the electric peak load. Enabling platforms to sustain and promote adoption of DER supports these goals. Similarly, the Climate Leadership and Community Protection Act (CLCPA) targets more than 10 GW of solar, 3 GW of energy storage, and 70% renewable generation by 2030. Value Stack CDG projects are key building blocks of progress toward those statewide targets, and investments in systems for these customers directly supports the State's clean energy policies.

2. Supplemental Information

Alternatives

Alternative 1

Do not enhance existing systems and processes. Continue manual processes, which are manually tracked in the existing systems but do not result in process automation that could improve key metrics.

Reason for rejection

The current tools and manual processes have resulted in an inferior customer experience, leading to customers filing complaints with the Commission. The Company has high standards for customer service, but laborious manual processing has hindered its ability to reach this level of excellence. Moreover, the current manual process cannot scale with the existing and growing CDG market and customer base, which will cause the Company to fall behind industry expectations for billing/crediting accuracy and timeliness. Manual data validation and coordination across disparate systems across the project and crediting lifecycle also impede the current processes from scaling to meet expectations.

Alternative 2

Evaluate alternative system solutions from other vendors.

Reason for rejection

Additional vendors were evaluated beyond the selected solution, but they lacked sufficient features to meet the defined requirements, did not possess the scalability to handle the projected volume of

requests, and required additional custom development work. Moreso, selecting an alternative vendor would have required existing development work to be set aside, further lengthening the project timeline and increasing exposure to the listed risks of no action listed below.

Alternative 3

Maintain current staffing levels.

Reason for rejection

Current staffing levels are insufficient to support the growth of VDER and CDG programs. Increases in VDER / CDG participation levels may cause billing and crediting backlogs, leading to poor customer experience, attrition from the program, increased project financing costs, reduced investments from DER providers in the Company's service territory. Additionally, the Company requires staffing to implement PSC orders related to VDER/CDG and potentially other enhancements developed in the CDG Billing & Crediting Working Group. Without these dedicated resources, the Company is at risk of delaying implementation of new regulatory requirements and potentially not meeting compliance requirements.

Risk of No Action

Risk 1

In January 2024, DPS Staff has proposed in Cases 19-M-0463 et al. negative revenue adjustments (NRAs) that could result in the Company incurring annual penalties in excess of \$77 million if CDG billing does not meet certain stringent metrics for accuracy, timeliness, and responsiveness to customer and host inquiries. The Company is at risk of not meeting these performance metrics without additional investment due to the significant number of manual processes that cannot be scaled up to meet the projected CDG program growth.

Risk 2

As the CDG program grows, the current manual administration is putting significant operational pressure on the teams that handle billing operations. The current processes cannot continue without funding increases to hire more personnel to process credits timely and accurately.

Risk 3

CDG subscribers may experience a degraded customer experience due to the high number of inquiries about CDG billing and crediting that are handled manually, which could impact customer satisfaction. Complaints from both customers participating in CDG and host customers may continue to grow if the remaining manual processes continue to be utilized. Moreover, late billing credits could cause problems for large buildings and their compliance with local environmental regulations on carbon emissions and offsets.

Non-Financial Benefits

These changes will enable the CDG program to scale up and effectively serve more customers who want to join, while advancing the Company's clean energy commitment and helping to achieve CLCPA goals by facilitating investment and participation in clean energy projects. Moreover, it provides assurance to clean energy project developers that the Company is dedicated to the cause and will keep supporting and enhancing its processes.

The proposed staffing and enhancements will increase customer satisfaction and engagement with both subscriber and host customers in the CDG program by adding transparency, improving communication with the Company, and introducing self-service features to reduce touch points. By

enhancing the customer experience, this will help reduce the number of customer complaints to the PSC and interactions with the Company call center.

Additionally, the proposed enhancements increase operational efficiency and reduce strain on the existing Clean Energy Market Operations team through greater automation. Integrating with multiple systems will make information more readily available to the team while automation can reduce the time spent on routine tasks.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

The planned enhancements to the Value Stack Customer Platform will help the Company meet proposed PSC crediting timeliness and accuracy guidelines, avoiding potential NRAs. The system will increase efficiency and automate many previously manual processes, eliminating the need to maintain up to 70 additional FTEs to support the projected CDG onboarding, crediting, and reporting work over the next 1-3 years.

3. Basis for estimate

The estimate stems from prior experience with implementing the Value Stack Customer Platform and its providers for existing implementations in other parts of the Company, as well as industry best practice. Additionally, the Company asked SaaS providers for presentations and cost assessments based on the scope of work, requirements, and specific use cases. These platform solutions and costs were then evaluated through our IT implementation approval process.

The current estimate is based on an initial discovery phase conducted in 2023 and subsequent implementation phase, as well as inflation assumptions. Change management activities such as training material development and process documentation are included in the estimates for the proposed enhancements.

Project Risks and Mitigation Plan

Risk 1

Resourcing and cross-functional collaboration for ongoing support and development.

Mitigation Plan

The VDER crediting and internal IT teams will closely define and mitigate high-priority risks and scenarios through a new team structure that clarifies ownership, roles, responsibilities, and governance. In the interim, the team will temporarily address resource gaps by staff augmentation with our system integrator partner and proactively plan and recruit full-time staff.

Risk 2

Delivery of enhancements to the Value Stack Customer Platform does not meet the needs of the Clean Energy Market Operations team, CDG project hosts, marketers and other third-parties, or new regulatory requirements.

Mitigation plan

Validate roadmap prioritization and solution design decisions through discovery cycles with subject matter experts. Discovery cycles will gather evidence through research activities to increase confidence that prioritized enhancements best meet the needs of CDG project hosts, marketers, other third parties, and the Clean Energy Market Operations team.

Risk 3

The final project roadmap may differ from the current plans once the enhancements are launched and operational. Future planning is already underway, even though the fully enhanced product is not yet live. There may be a need to increase implementation and deliver enhancements sooner.

Mitigation Plan

Partner with a vendor who is familiar with the Company's procedures and execution strategies. Work in an agile way that accommodates needed changes.

Risk 4

Data inconsistencies and inaccuracies from Value Stack Customer Platform source systems (Powerclerk, CPMS, MDMS, CC&B) may impact the overall success of the project and create roadblocks that may partially nullify some of the efficiencies gained.

Mitigation Plan

Develop a robust governance plan with partners responsible for Value Stack Customer Platform source system data to promptly address data inconsistencies and avoid delays that could adversely affect the customer experience and strain the crediting support teams.

Risk 5

Delays in hiring as a result of challenges identifying qualified resources

Mitigation Plan

Coordinate with recruitment, Clean Energy Market Operations, and technology teams to develop a robust hiring plan, including training to onboard new staff.

Technical Evaluation/ Analysis

N/A

Project Relationships (if applicable)

- CC&B
- Customer Data and Analytics
- Customer Data Sharing
- DCX
- Billing and Payment
- Customer Engagement Platform (CEP)
- Statewide Solar for All

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year*</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>

O&M						
Regulatory Asset						
Capital						\$4,500

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	\$6,490	\$8,054	\$8,899	\$9,409	\$9,970
Regulatory Asset					
Capital (Total)	\$4,500	\$9,090	\$9,910	\$10,690	\$10,890
Labor	\$2,000	\$3,710	\$3,990	\$4,260	\$4,900
M&S					
Contract Svcs.	\$2,190	\$4,580	\$5,050	\$5,470	\$4,920
Other	\$175	\$530	\$580	\$640	\$710
Overheads	\$135	\$270	\$290	\$320	\$360

*The test year runs from 10/1/2023 to 9/30/2024

Table 1: CDG Request Summary

Capital (\$000)	2026(RY1)	2027(RY2)	2028(RY3)
Labor	\$3,710	\$3,990	\$4,260
M&S	\$0	\$0	\$0
Contract Svcs.	\$4,580	\$5,050	\$5,470
Other	\$530	\$580	\$640
Overheads	\$270	\$290	\$320
Total	\$9,090	\$9,910	\$10,690

O&M (\$000)	2026(RY1)	2027(RY2)	2028(RY3)
Clean Energy Market Operations Team	\$1,180	\$1,369	\$1,369
Managed Service Provider	\$3,820	\$3,820	\$3,820
Business Technology and IT BSD	\$1,184	\$1,350	\$1,350
Third-Party Platform Testing and Support Vendor	\$1,590	\$2,050	\$2,530
Other	\$280	\$310	\$340
Total	\$8,054	\$8,899	\$9,409

Table 2: CDG Capital Request Detail

Role	2026	2027	2028
Labor	\$3,710,000	\$3,990,000	\$4,260,000
Program Manager	\$180,000	\$200,000	\$220,000
Product Owner/Functional Lead	\$140,000	\$150,000	\$170,000
Journey Mapper	\$150,000	\$160,000	\$170,000
Change Management Lead	\$150,000	\$160,000	\$170,000
UAT Test Lead	\$150,000	\$160,000	\$170,000
UAT Tester	\$570,000	\$580,000	\$600,000
Systems Manager	\$190,000	\$200,000	\$220,000
IT Project Manager	\$240,000	\$270,000	\$290,000
IT Product Analyst	\$100,000	\$110,000	\$120,000
Middleware Developer	\$240,000	\$270,000	\$290,000
Salesforce Developer	\$480,000	\$510,000	\$530,000
Salesforce Admin	\$440,000	\$480,000	\$520,000
IT Release Manager	\$140,000	\$150,000	\$160,000
IT QA Lead	\$230,000	\$260,000	\$280,000
DevOps Developer	\$100,000	\$110,000	\$120,000
API Developer	\$210,000	\$220,000	\$230,000
M&S	\$0	\$0	\$0
Contract Services	\$4,580,000	\$5,050,000	\$5,470,000
Other	\$530,000	\$580,000	\$640,000
Overheads	\$270,000	\$290,000	\$320,000
Total	\$9,090,000	\$9,910,000	\$10,690,000

Table 3: CDG O&M Request Detail

Cost Category	2026 (RY1)	2027 (RY2)	2028 (RY3)
Clean Energy Market Operations Team	\$1,180,763	\$1,369,000	\$1,369,000
Project Manager	\$319,125	\$370,000	\$370,000
Project Specialists	\$129,375	\$150,000	\$150,000
Senior Specialists	\$224,250	\$260,000	\$260,000
System Analyst	\$292,388	\$339,000	\$339,000
Senior CSR	\$215,625	\$250,000	\$250,000
Managed Services Provider	\$3,820,000	\$3,820,000	\$3,820,000
Business Technology and IT BSD	\$1,183,625	\$1,350,000	\$1,350,000
Business Technology	\$381,500	\$420,000	\$420,000
Product Owner	\$140,000	\$140,000	\$140,000
Project Specialists	\$241,500	\$280,000	\$280,000
IT BSD	\$802,125	\$930,000	\$930,000
IT Architect	\$172,500	\$200,000	\$200,000
System Manager	\$163,875	\$190,000	\$190,000
Senior Product Analyst	\$86,250	\$100,000	\$100,000
Salesforce Developers	\$276,000	\$320,000	\$320,000
API Developers	\$103,500	\$120,000	\$120,000
Third-Party Platform Testing and Support Vendor	\$1,590,000	\$2,050,000	\$2,530,000
Other	\$280,000	\$310,000	\$340,000
Grand Total	\$8,054,388	\$8,899,000	\$9,409,000

Current and Target State for the Value Stack Customer Platform

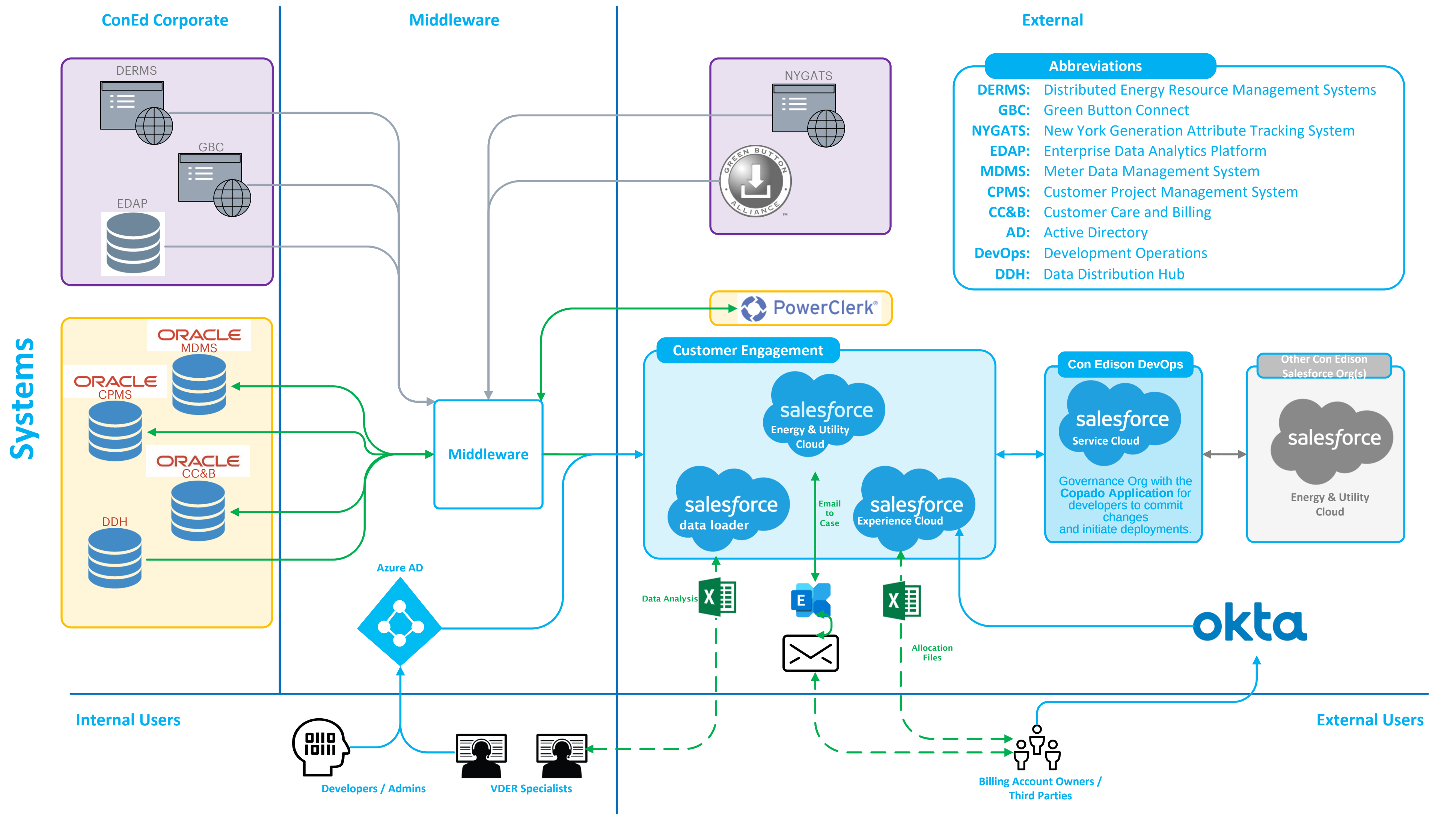


Diagram Key and User Personas

Items in **color** are being implemented or utilized:

Items in **grey** are anticipated future implementations:

Grey with a blue outline items are outside of the program:

Data or files moving through **integration or system automation**:

Data or files moving **manually**:

Orange shading and outline items are Prioritized **Near-term Roadmap** Enhancements/New Functionality:

Purple shading and outline items are Targeted **Future Roadmap** Enhancements/New Functionality:

Developers / Admins

VDER Specialists

Billing Account Owners / Third Parties

ConEd employees who will be managing the Salesforce environments.

ConEd employees who are the primary users of the implementation and will interact with internal and external stakeholders.

External stakeholders who are either account owners or third parties with authorization to act on the owners' behalf. These users only access the Experience Cloud (customer portal).

Customer Operations / Customer Assistance 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Contact Center Cloud	
Project/Program Manager: Sebastian Cacciatore	Project/Program Number (Level 1): 25524247
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2024	Estimated Date In Service: 2026
2025-2029 Funding Request (\$000) Capital: \$16,300 O&M: \$25,500	
Work Description: The Contact Center Cloud program seeks to replace on-premises contact center applications, systems, and related infrastructure with cloud-based services for a user population of more than 1,300 employees. The migration to a new contact center platform is necessary as the current platform has reached the end of its life and in 2025 will no longer be supported by the software vendor. This program will also address existing technology shortfalls around training of new hires and existing contact center employees by adopting a robust learning and training platform. The existing on-premises contact center suite of applications and systems processes more than 15 million inbound and outbound interactions annually. The following system components are the primary focus of this program and will need to be recreated in the cloud: • Speech-enabled Interactive Voice Response (IVR) system, which allows customers to perform a variety of self-service transactions across seven languages, ranging from bill payments to outage reporting, via telephone. Customers can interact with the IVR using their voice or telephone keypad. All existing integrations with other peripheral systems (e.g., Customer Care and Billing System, Outage Management Systems, Virtual Assistant) will be replaced. • Automatic Call Distribution (ACD) routing engine, which allows various types of inbound and outbound calls and email interactions to be intelligently routed throughout the contact centers, connecting customers to the next available customer service representative (CSR) with the appropriate skills. • Call and screen recording technology and infrastructure that records all customer service calls and screen content governed by policy-driven record retention logic. • Computer Telephony Integration (CTI) technology, which allows for screen-pop functionality so that CSRs are presented with caller information, including account data, authentication status, call type and purpose of call and other information to help them handle calls efficiently and with minimal repetition by the customer.	

- **Workforce Management (WFM) technology** to dynamically manage the scheduling and forecasting of contact center resources and forecasting of system utilization and work items including calls, email, chat, and other channels. Existing workforce management tools require manual processes and the use of spreadsheets to manage staffing levels.
- **Robust reporting and data analytics** that provide access to a variety of out-of-box and customized reports and near-real-time views to track the volume of interaction types (calls and email) and related service level targets, as well as to create meaningful data-driven dashboards to make sound business decisions.
- **Real-time monitoring of all inbound and outbound interactions**, such as through Time Division Multiplexing (TDM) and Session Initiation Protocol (SIP) integrations with carriers, to allow proper delivery of all voice interactions, allocation, and related routing functionality with the Public Switched Telephone Network (PSTN), and disaster preparedness levers and administrative tools to address emergency conditions that impact energy distribution systems.
- **Implementation of a learning and training platform for employees of the contact center**, which will be adopted after the contact center secures its ACD and WFM solutions to realize compatibility and maximum functionality.

The Company anticipates a two-year window from identifying the necessary contact center cloud solutions and system integrator to the transition of primary work areas to a cloud-based platform:

- Q1 2025: Vendor selection and award contract (requirements gathering and RFP process initiated in 2024)
- Q3 2025: Discovery
- Q3 2025 through Q2 2026: Design and implementation
- Q2 2026 through Q4 2026: Training, testing, and go-live of initial release

An additional 18 months will be needed to implement the next phase of the effort, which includes the learning and training components described above as well as enhancements that will not be enabled in the first release. Some activities will overlap with the last six months of actions needed for the primary work areas:

- Q3-Q4 2026: Discovery
- Q1-Q2 2027: Design and implementation
- Q3-Q4 2027: Training, testing, and go-live

In addition to these capital expenditures, the project requires O&M funding for ongoing licensing and maintenance costs, hiring of technical staff, and periodic post-go-live capacity and reliability testing of contact center cloud services and solutions.

Justification Summary:

In 2026, the Company's contact center infrastructure will reach an operational age of ten years. Additionally, the manufacturers of the contact center voice systems and infrastructure have announced that the end of life for the contact center products used by the Company will be July 2025. The Company seeks to transition to cloud-based services, which allow business areas to focus less on infrastructure build-out and systems maintenance and focus more on contact center operations and performance, development of applications, and customer needs.

On-premises contact center solutions are becoming out of date and require high availability and reliability of infrastructure. The proposed cloud solutions use a pay-as-you-go model for service subscriptions, and all the technology and infrastructure are owned and maintained by the cloud provider. A benefit of subscribing to cloud services is not having to own and maintain complex layers of infrastructure as you would with an on-premises model. For all critical applications, Con Edison's contact center uses three types of physical infrastructure environments, including development, testing, and production environments. These are all needed to support the daily operational needs of the organization and system changes initiated by business areas or regulatory mandates. Having a third-party vendor maintain and upgrade the platform will increase the Company's flexibility compared to maintaining the on-premises infrastructure.

Additionally, moving to the cloud supports the Company's ability to temporarily scale the platform during periods of high use, such as after a major storm. This will support increased availability for platform users and customer traffic during the peak usage period and allow for this scaling in a cost-efficient manner.

In addition to the features and increased flexibility associated with moving to a cloud-based platform, the transition will allow the Company to keep up with industry-leading technologies while investing in resilient, reliable, and agile solutions that align with those made for other digital investments, including the Digital Customer Experience (DCX) and Virtual Assistant, that are integrated with the IVR. Given the critical function of the contact center, it is important that cyber protections are well designed and monitored. As the platform is moved to the cloud, the Company will achieve enhanced cybersecurity capabilities due to best practices implemented by cloud providers as well as a cloud vendor's scale, which allows for workloads to be moved dynamically so we increase the application's availability during patching and thus decrease risk.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Migration of the Company's on-premises contact center infrastructure to a cloud-based software as a service platform will allow the Company to keep up with industry-leading telecommunications technologies while investing in a resilient, reliable, and agile product. This effort is aligned with the Company's long-range emphasis on strengthening core operations so that customers continue to benefit from safe, reliable, and resilient delivery of energy. Additionally, this project will continue to provide all customers, including those in disadvantaged communities, with core contact center service, through which they may learn about energy affordability programs and clean energy initiatives that will support a reduction in greenhouse gas emissions.

2. Supplemental Information

Alternatives

The alternatives to implementing a cloud platform are to either continue to invest in the Company's existing on-premises infrastructure or replace it with a new, limited on-premises solution. Continuing to invest in the existing infrastructure is a risky alternative, as the product will soon reach end of life and will no longer be supported by the vendor. Leading contact center vendors have discontinued or are in the process of discontinuing their offerings of on-premises solutions, making continuing with an on-premises solution a riskier and less viable option. Additionally, the use of an on-premises solution would severely hinder the Company's ability to adopt Generative AI technologies that must be implemented to achieve customer service goals and customer energy solutions.

Risk of No Action

Risk 1: Using an Obsolete and Unsupported Platform

The existing on-premises contact center solution will reach end-of-life during summer of 2025, so system updates, customer enhancements, and service expansion will no longer be possible. This obsolescence will create significant operational risks. Continued use of the existing on-premises voice systems and infrastructure, without support from their manufacturers, will eventually lead to an obsolete platform and unsupported environment which will severely hinder the Company's ability to service customers over the phone, including the ability to effectively manage and respond to emergency situations. Beyond any reasonable extended support by the existing vendor for the on-premises system, security, privacy, and cyber-related risks will remain at large and will likely expose the Company (and our customers) to financial, operational, and reputational harms.

Risk 2: Security, Privacy, and Cyber Risks

Keeping the Company on an older, unsupported version of on-premises system adds security, privacy, and cyber risks, as older technologies can lack protections and leave the Company's data more exposed to breaches or incidents. As the cyber landscape evolves, vulnerabilities for technology will increase, and the Company will not be able to apply fixes to newly found vulnerabilities if it remains on an unsupported platform.

Risk 3: Loss of Customer Trust

System outages resulting from obsolete platforms diminish the Company's goodwill and may cause a loss of trust with our customers and the communities we serve.

Non-Financial Benefits

- More functionality and flexibility in operating the contact center.
- Alignment with other channels throughout the Company, including further enhancement and continued development with AI and existing automation technologies offered through the IVR.
- Improved cybersecurity.
- Improved relationships with external stakeholders and customers by implementing the most reliable and current platform and keeping up with emerging industry trends.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Basis for estimate

The funding estimates provided within this paper are an informed estimate based on similar project resource needs, to be formalized following the current RFP process and vendor selection.

Project Risks and Mitigation Plan

Risk 1: More extensive front end, mid-tier, and back-end development services than anticipated.

- *Mitigation plan:* Diligent discovery to accurately define scope of work to avoid unanticipated changes that may cause delays with subsequent phases of the project.

Risk 2: Challenges with training the user community, leading to setbacks in go-live.

- *Mitigation plan:* Leverage best practices around training methods and training materials to achieve desired outcome and allow ample time for the user community's training.

Technical Evaluation / Analysis

The Company already uses cloud services, and the IT organization forecasts that cloud technology will continue to play an important role in the Company's overall IT strategy. As on-premises infrastructure and maintenance costs increase, and as cloud services become more prevalent, robust, and affordable, the transition to the cloud becomes a more obvious choice. Manufacturers of existing voice products used in the contact center are already transitioning their portfolio of products to the cloud.

Project Relationships (if applicable)

- Customer Care & Billing System Enhancements and Upgrade
- DCX
- Customer Data and Analytics
- Back Office Automation

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						\$200
Regulatory Asset						
Capital						\$0

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	\$0	\$7,100	\$7,200	\$7,200	\$4,000
Regulatory Asset					
Capital (Total)	\$1,800	\$6,000	\$4,500	\$2,000	\$2,000
Labor					
M&S					
Contract Svcs.	\$1,600	\$5,300	\$4,000	\$1,800	\$1,800
Other					
Overheads	\$200	\$700	\$500	\$200	\$200

*The test year runs from 10/1/2023 to 9/30/2024

Customer Energy Solutions 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Customer Recommendation & Analysis Tools	
Project/Program Manager: Millene Hahm	Project/Program Number (Level 1): 25508504
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: On-going	Estimated Date In Service: On-going in phases
2025-2029 Funding Request (\$000) Capital: \$65,700 O&M: \$47,519	
Work Description: The Customer Recommendation and Analysis Tools, renamed the Customer Analytics, Reporting, and Engagement program (CARE) is a portfolio of projects intended to deliver a dynamic customer experience that will both meet evolving customer and stakeholder expectations and empower customers with improved clean energy education and tools that enable informed decision-making, with the ultimate goal of accelerating their adoption of clean energy technologies. To meet New York State’s climate and renewable energy goals, the Company must expand and enhance its customer clean energy digital experience to support customer engagement in the clean energy transition. The definition of “customer” in CARE represents a broader audience than the traditional customers supported through the Customer Operations Digital Customer Experience. Customer Energy Solutions (CES) not only works with the traditional customers (e.g., residential, commercial, property managers and owners), but also with the professionals who encourage customer adoption and support installation of clean energy technologies. These professionals, or stakeholders, include contractors, electricians, solar developers, electrical vehicle charging station installers and developers, demand response aggregators, and consulting and engineering firms who provide customers with energy assessments and clean energy design solutions. The Company needs to develop tools to support the stakeholders that play a key role in facilitating customer engagement and adoption of clean energy technologies. CES uses a customer-centric approach to design and build each of the projects in the CARE program. Consistent with a “customer first” philosophy, each planning phase or increment starts with an examination of feedback from customers. Leveraging interviews, surveys, and journey mapping, CES gathers feedback and insights on stakeholder preferences, pain points, and opportunities to improve the digital experience. CARE will continue to refine the digital content and tools based on customer and stakeholder feedback, clean energy program changes, regulatory changes, and technological advances.	

In January 2023, the Company completed a Phase 0 assessment that identified three major categories of foundational investments for CARE that included the Clean Energy Web Redesign, CARE Resources and Tools, and the 360° Stakeholder View.

The Clean Energy Web Redesign will improve navigation and content of the clean energy web pages based on market research and user testing. CARE Resources and Tools include the development of a suite of tools that aid stakeholders with clean energy program participation and decision-making. The 360° Stakeholder View is a platform that will provide a comprehensive and integrated view of the Company's clean energy program information and enable the projects described below.

CARE will continue investments in the following projects:

- **Web Redesign and Maintenance Support of the Clean Energy Program Webpages**
CES is using a phased approach to redesign the clean energy program webpages. For 2026-2028 (rate period), CES will continue to conduct market research, user testing, and user feedback interviews to design new clean energy program pages and refine existing pages to improve navigation, content, and findability of relevant information. Examples of new enhancements and capabilities include, but are not limited to:
 - Web pages for new clean energy programs that launch during the rate period
 - New web templates that engage customers in an interactive experience
 - Updated graphics and visualizations to improve education and understanding of clean energy technologies and programs

- **Clean Energy Contractor Hub**
The contractors, developers, aggregators, and professionals working with customers are critical to meeting State and local clean energy goals. To support the Company's contractor network, CES built an experience that centralizes relevant program information for the contractor network.

For the rate period, the Company will expand the contractor experience to include:

- Enhanced search capabilities and tools that enable contractors to access relevant clean energy program information based on user preferences and criteria, such as program rules, project application requirements, and incentive amounts
 - Program eligibility screener tools that aid contractors in determining eligibility for Con Edison's clean energy program incentives and rebates
 - Through this hub, eligible contractors will access Company-approved customer-facing marketing materials, sales enablement tools, and updates on program incentives
 - CES will also explore expanding the Contractor Hub to connect contractors with the trade professionals and networks necessary to complete clean energy projects, such as licensed plumbers and electricians and weatherization contractors
- **Electrification Experience Hub**
The Company will invest in heating and transport electrification, building envelope upgrades, while also addressing electrical constraints to support the State's clean energy vision. To enable customer adoption, CES will develop digital tools for pre-engagement advisory that guide customers through the electrification process, while also educating customers on the various technologies and potential benefits. The customer's electrification experience will include service and system adequacy estimators for electrification. To help mitigate potential upgrades, the Company will engage with customers on potential options to expedite and/or reduce upgrades (e.g., building envelope upgrades that reduce heat pump system capacity needs).

- **Rate Products**
CES will continue design and build of rate products for customers. The Company will continue to improve the public-facing web experience to provide targeted utility rate education to customers and tools such as utility rate eligibility screeners. The Company will also develop tools that provide residential and religious customers with utility rate options based on customer-specific information, such as customer account type, historical energy usage or demand, and meter type.

For the rate period, the Company enhancements to the rate product include, but are not limited to:

- Ability for customers to explore rate options based on clean energy technologies installed (e.g., heat pumps, installing electric vehicle charging stations) and program participation (e.g., demand response)
 - Ability for customers to compare bill impacts by potential clean energy technologies (e.g., heat pumps alone versus heat pumps plus building envelope)
- **Clean Energy Customer Service Tools**
Tools are required to support Con Edison employees who directly advise customers, including Customer Service Representatives (CSR), clean energy program business development teams, and as well as external vendors who manage the Company's clean energy programs. For example, CSRs and business development managers will need tools designed to access customer information in response to customer inquiries regarding recommendations.

The proposed capital and O&M budgets are based on the following activity assumptions:

- Market research, including customer interviews, surveys, and user testing for customer feedback and insights
- Cloud hosting fees to store product code
- System integrations
- Data transformations and integrations for personalized customer and contractor insights and recommendations
- Design and build of interactive decision tools that guide customers during their digital experience
- Subscription fees to enable product modules for customers
- SaaS product enablement and licenses
- IT infrastructure, as well as labor expenses for the IT, CES, and project management resources needed to advance the Program, such as solution engineers, technical architects, and testers
- Ancillary support functions filled by contractors to conduct ongoing maintenance and support of these tools
- Full-time and contract support resources to provide day-to-day project management, manage internal and external customer feedback, and create and introduce new products and content (see Exhibit 1 for labor details)
- Full-time and contract support resources to provide ongoing maintenance and operations support, and bug fixes for products post-launch (see Exhibit 1 for labor details)

Justification Summary:

The CARE program includes a portfolio of projects that will empower customer engagement in the Company's clean energy programs and support New York State's climate and renewable energy goals. Specifically, CARE supports customers and New York State initiatives because it:

- Supports statewide clean energy goals: To achieve the State's ambitious clean energy goals, the Company must not only provide customers with a simple and seamless experience that offers customized assessment tools with recommendations, but also improve contractor engagement

by facilitating their participation in the Company's programs with easily accessible program information and sales enablement tools. While the current clean energy information and tools have expanded gradually over the years, there is need for greater integration and expansion of the capabilities.

- Improves customer experience: Customers and regulators have clearly communicated the need for an assortment of analysis and recommendation tools to facilitate the adoption of clean energy options.
- Facilitates understanding and adoption of optional rates: CARE will provide customers with insights on potential energy savings, targeted clean energy solution recommendations, and rate options/comparisons for mass market customers. As the Company expands the portfolio of rates available to mass market customers, additional tools will be needed to help customers understand and compare the available rate options in conjunction with their clean energy technology choices.

CARE will continue to help customers overcome the complexity of decision-making around clean energy investments and encourage participation in the Company's clean energy programs. Barriers to customer adoption of clean energy solutions will be reduced by providing improved technology and program educational content, along with decision-making tools, such as technology and program eligibility screeners and streamlined access to applicable incentives and rebates.

The Clean Energy Contractor Hub will improve the way the Company offers contractors the program information and tools necessary to more effectively market and engage customers. Con Edison employees will also need additional tools to advise customers and recommend tailored clean energy solutions. For example, CSRs and business development managers will need tools to access the customer inputs and analyses to respond to any customer inquiries regarding customer-specific recommendations.

Industry and societal trends, including technology advances and clean energy policy commitments, have and will continue to transform how customers use energy and interact with the Company. Supporting customers during the transition to a clean energy economy is at the core of the Company's business and this requires a dynamic customer and contractor experience that will meet evolving and enhanced regulatory expectations. The CARE program is a critical step in leading this transition.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The CARE program is a strategic project that will improve the customer and contractor experience and will help grow participation in Company programs to keep pace with the State's ambitious emissions reductions and other targets developed under the CLCPA.

2. Supplemental Information

Alternatives

Alternative #1: Developing small, one-off, home-grown tools to address the identified customer and Company needs.

This approach will result in a lack of cohesiveness and cross-functional coordination in the use of Company tools for both customers and contractors. Small one-off products may result in numerous technology solutions that do not connect and could lead to a disjointed and confusing customer experience. This approach will limit progress toward our clean energy goals.

Though some individual tools might have a lower cost, collectively they would be more costly and less efficient at meeting identified customer/contractor needs as on-going maintenance may require unique and specialized support that impede economies of scale. To create the seamless and coordinated experience customers are seeking, attempting to build and integrate a number of small, one-off technology solutions will result in technologies solution integration challenges and an inconsistent customer experience.

Alternative #2: Not proceeding with the project. This approach is rejected due to the many identified customer and Company needs that must be addressed to ramp up participation in clean energy programs.

Risk of No Action

Risk 1

Customer risk: Currently, there are few digital tools to support customer decision-making across the Company's clean energy programs. This may limit customer engagement and participation in programs.

Risk 2

Missing clean energy goal achievement: Many of the solutions needed for a successful clean energy transition are unfamiliar to contractors and/or customers. Without the support of these tools, driving customer and contractor awareness and consideration, adoption of these solutions may be limited.

Non-Financial Benefits

Enhances the customer clean energy experience while enabling achievement of the state's clean energy goals. This solution also enables cross-departmental coordination by developing a set of tools that can be used for multiple purposes and programs by those both directly and indirectly supporting the Company's clean energy efforts.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Basis for estimate

The total cost estimated costs for the CARE program during the 2026 - 2029 period are \$55M in capital and \$43.5M in O&M, the details of which are provided below.

Cost estimates are based on historical Company costs for similar digital tools and enhancements such as DCX (Digital Customer Experience) and rate pilots.

5. Conclusion

The CARE program is critical to meeting the Company's rapidly increasing energy savings goals by providing customers with the education and tools needed to adopt appropriate clean energy solutions.

Project Risks and Mitigation Plan

Risk 1: Unplanned regulatory mandates, dynamic market and program needs.

Mitigation plan:

The CARE program performs its work through an Agile framework. This means the scope is not necessarily fixed and the team can prioritize new needs into the project plan. This framework represents a strategic direction taken to manage this risk.

Technical Evaluation / Analysis
N/A

Project Relationships (if applicable)
The development of the CARE program will impact DCX.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year*</u> <u>(O&M Only)</u>	<u>Forecast</u> <u>2024</u>
O&M				1,888	3,519	3,267
Regulatory Asset						
Capital				12,015		12,000

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	4,000	7,919	10,485	12,040	13,075
Regulatory Asset					
Capital (Total)	10,600	18,505	17,082	12,594	6,919
Labor	1,044	1,181	1,070	786	653
M&S					
Contract Svcs.	8,845	13,752	12,734	9,394	4,855
Other	300	3,100	2,850	2,100	1,150
Overheads	411	472	428	314	261

*The test year runs from 10/1/2023 to 9/30/2024

Exhibit 1

CARE Capital and O&M FTE Details
(using average annual salary estimates)

Role	Count 2026	Count 2027	Count 2028	Total Cost 2026	Total Cost 2027	Total Cost 2028
Capital						
Product Owners	3	3	2	\$456,000	\$469,680	\$324,976
Business Analysts	3	2	2	\$426,000	\$292,520	\$303,596
Technical Lead	1	1	0	\$152,000	\$156,560	\$0
Solution Engineer	0.5	0.5	0.5	\$76,000	\$78,280	\$81,244
Systems Analyst	0.5	0.5	0.5	\$71,000	\$73,130	\$75,899
O&M						
Product Owners	1	1	2	\$152,000	\$156,560	\$324,976
Business Analysts	2	3	3	\$284,000	\$438,780	\$455,394
Program Managers	2	2	2	\$368,000	\$379,040	\$393,392
Project Manager	1	1	1	\$152,000	\$156,560	\$162,488
Technical Lead	0	0	1	\$0	\$0	\$162,488
Solution Engineer	0.5	0.5	0.5	\$76,000	\$78,280	\$81,244
Systems Analysts	1.5	1.5	1.5	\$213,000	\$219,390	\$227,697

Customer Operations / Strategic Applications 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☐ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Customer Care & Billing Support	
Project/Program Manager: Antoya Debarros	Project/Program Number (Level 1): N/A
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 2023	Estimated Date In Service: Ongoing
2025-2029 Funding Request (\$000) Capital: \$0 O&M: \$106,860	
Work Description: In October 2023, the Company successfully completed the installation of Oracle’s Customer Care and Billing (CC&B) system. This successful implementation of CC&B to replace an outdated, legacy system is part of the Company’s broader strategy to modernize and digitize its customer service systems and technology infrastructure. Since its implementation, the system has enhanced the Company’s ability to manage requests across the customer lifecycle – including service connections, support for Advanced Metering Infrastructure (AMI), implementation of new rates, automation of complex billing, payment processing, collections, and field work – while also streamlining business processes and supporting clean energy programs across the enterprise. Given CC&B’s central role as the Company’s billing system, ingesting data from and exporting data to multiple other systems, maintenance and enhancement of CC&B is an important Company priority. This work includes both capital and O&M spending; for instance, while updating existing rates is funded through O&M, similar work to develop CC&B’s capabilities to handle new rates is funded as capital. As such, the Company has allocated planned work across both capital and O&M as appropriate. The Company has allocated the O&M costs of ongoing CC&B support in this white paper, while discussing the capital costs for CC&B enhancements and upgrades in Exhibit (IT-5)_CC&B Enhancements and Upgrade. Here, ongoing investments are needed to operate and maintain the application and infrastructure required to support a “steady state” CC&B that will sustain the system’s resiliency and mitigate risks to business operations that rely on it. The O&M request outlined in this white paper intends to maintain the existing technology, support, and staffing infrastructure for these “steady state” operations. This support will mitigate, identify, and correct any system issues. This request includes the following funding areas:	

- **Hardware and Software:** Ongoing licensing and yearly support renewals for Oracle's CC&B and the systems required to support it.
- **Edge System Support, Implementation, and Upgrades:** Development and testing support for and other work related to and initiated by edge system defect remediation, as well as enhancement, replacement, and upgrade activities that cannot be capitalized.
- **CC&B Application Support:** The following activities are required for CC&B to continue to function properly and support business needs:
 - System maintenance
 - Defect remediation and issue resolution, including reviewing the defect and identifying the corrective action
 - Implementing fixes, changes, and rate updates, including activities such as:
 - Updating design documents
 - Changing system configurations
 - Coding solutions in test environments
 - Testing solutions so that no new defects are created by code changes
 - Moving the code to production
 - Monitoring overall system performance, batch processing times, and transactional service levels, all of which contribute to overall system health
 - Installing system patches and periodic software updates, which require an in-depth functional and technical analysis, custom code remediation, regression testing, and final installation
 - Supporting day-to-day functions, such as updating electric, gas, and steam billing rates, reviewing billing exceptions, assisting in investigating meter data management interface issues, updating account configurations, and providing overall system user support
 - Quickly correcting defects if they arise and deploying code as needed

The existing Support team consists of vendor and employee resources:

- **Contract Services:**
 - Staff augmentation to provide functional support and specialized skill sets;
 - Analysis and resolution of defects, development of technical design documentation, code fixes, and other analyses as needed;
 - IT services for edge systems that cannot be capitalized that require CC&B support; and
 - Test case preparation and execution, test data preparation, and unit, integration, and regression testing.
- **Labor:** Internal business subject matter experts and functional IT project teams who work cross-functionally to support CC&B's ongoing operation and success, as well as to direct and allocate contract resources.
 - Business Support with roles across rates and billing, business architecture, business functional, change management, testing, and business readiness.
 - IT support with roles across application development, system architecture, reporting, infrastructure, and middleware.

The team comprising approximately 150 contractor staff, 35 business FTEs, and 16 IT resources is already in place, from the scaled-down implementation team. As a result, the Company is looking to

maintain its current resources on an ongoing basis, with no new hires requested. See Exhibit_(IT-5)_C&B Support_Attachment 1_O&M Request Detail for additional details.

Justification Summary:

Hardware and Software

The licensing arrangement is a requirement of the Company's continued uninterrupted use of Oracle's CC&B platform and will continue as an ongoing O&M cost for this and other related platforms as the technology landscape continues to evolve toward software and cloud-based solutions.

Edge System Support, Implementations, and Upgrades

CC&B is an integral system within the enterprise technology ecosystem with hundreds of integrations with other Company systems. As part of routine activities, it requires support for changes and remediation to those systems through support testing activities. As those systems reach end of life or perform scheduled upgrade activities, robust testing is required from CC&B.

CC&B Application Support

As with the legacy system which CC&B replaced, a sustaining support team is required to maintain the CC&B platform and address routine system activities given its complexity and importance to the business. Failure to support the application will result in degradation of the system's ability to operate at expected levels and subject all related business operations to potentially instability and risk.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

As the enterprise system for customer and billing data, including that of customers residing in disadvantaged communities, CC&B serves as the foundational platform implementing new billing rates in a more cost-effective and efficient manner, specifically rates that promote the efficient use of energy and the grid by customers.

A robust customer billing and information system is necessary for the Company to achieve its long-range plans and the State's CLCPA goals by supporting customers' transition away from fossil fuels, and thus reductions in greenhouse gas emissions, through increased electrification of heating and transportation. To that end, CC&B enhancements are required to support and enable implementation of new billing rate structures, data gathering requirements, and customer programs.

2. Supplemental Information

Alternatives

Alternative 1: Limit the Company's ability to maintain full business continuity. Without sufficient funding for the technology, services, and staffing needed to maintain day-to-day CC&B operations, the reliability and performance of the CC&B system would be compromised. This would hold back the business, create challenges for customer service representatives, and require additional expenses for related programs to develop business processes or workarounds in the absence of a highly functioning customer service system.

Risk of No Action

Risk 1: Performance and Customer Experience Issues

Without continued support of CC&B, the system benefits realized through a multi-year implementation will be diminished. A lack of system support can impact transaction service levels, system reliability, and the Company's ability to leverage CC&B's capabilities to resolve issues and prevent negative impacts to customers and stakeholders.

Risk 2: Business Risks

Without adequate staffing of system subject matter experts, limited support will be available for system users and other areas of the business that rely on CC&B to perform their functions.

Non-Financial Benefits

- Enables the Company to meet rising customer and regulatory expectations
- Allows the Company to create new rate structures efficiently and expediently to support regulatory and customer requirements and expectations
- Improves CSR/back-office capabilities to handle customer requests, including service connection, meter reading, rating, billing, payments processing, collections, and field work
- Enhanced user interface improves CSR/back-office onboarding, accelerates training and proficiency, and aligns with employee/customer expectations of modern technology
- Improves CSR interaction quality by leveraging automated workflows, alerts, and streamlined business processes and navigation to view customer and account details
- Positions the Company to adapt more quickly and efficiently to new and evolving technology, such as process automation

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

Allows the application meet continued performance and functional baselines and avoid degradation which may then lead to impacts to critical business processes and require more costly remediation activities.

3. Basis for estimate

Now that the CC&B system is live, resources previously allocated as capital have shifted in part to O&M and a "steady state" staffing model. Estimates are based on maintenance of systems of similar size and scope, historical data on post-implementation activities, current resource levels, service contract costs, and benchmarking with vendor contacts.

See Exhibit_(IT-5)_CC&B Support_Attachment 1_O&M Request Details for more details on the funding request and inputs used to inform this estimate.

Project Risks and Mitigation Plan	
Risk	Mitigation Plan
Insufficient funding will impact the number of issues that can be addressed	Prioritize regulatorily required changes and needs and communicate next steps on deferred items, including, where applicable, identification of workarounds
Changes to in-flight parallel capital projects that could have project impacts	Establish robust process for internal alignment and cross-project collaboration
Internal IT resource availability	Engage the services of third parties, consultants, and contractors where needed
Inherent risk in changing code and touching an in-production system	Robust testing to mitigate any risks of outages and customer experience issues
Technical Evaluation/ Analysis	
N/A	
Project Relationships (if applicable)	
CC&B has a close relationship with many of the projects and programs in the Company's long-range plans, including DCX, Customer Engagement Platform (CEP), Customer Data Sharing, the Retail Access System, Solar for All, CDG, Energy Affordability Program (EAP), Billing and Payments Enhancements, Back Office Automation, and the Enterprise Data Privacy Program, in addition to the Company's core customer service business operations. For an example, while CC&B creates bills, it is also an enabler and feeder system to DCX (start and stop payments), and the CEP will be layered on CC&B and other platforms to bring multiple corporate systems under one dashboard to improve customer engagement and interactions.	

3. Funding Detail (\$000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M					\$19,719	\$21,058
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M	\$20,144	\$20,671	\$21,336	\$22,038	\$22,671
Regulatory Asset					
Capital (Total)					
Labor					
M&S					
Contract Services					
Other					
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

CC&B Support – O&M Request Detail

O&M Total (Rounded 000's)

Total	2026	2027	2028
	\$20,671	\$21,336	\$22,038

Business Labor Detail (Rounded 000's)

Team	Role	Role Description	2026	2027	2028
Business Architecture Lead	Section Manager	CC&B payment source reconciliation and system user provisioning and certification	\$170	\$170	\$170
Business Architecture Lead	Manager	CC&B payment source reconciliation and system user provisioning and certification	\$150	\$150	\$150
Business Architecture Team	Manager	CC&B payment source reconciliation and system user provisioning and certification	\$150	\$150	\$150
Business Architecture Team	Manager	CC&B payment source reconciliation and system user provisioning and certification	\$150	\$150	\$150
Business Functional Team	Section Manager	Support defect resolution and business process issues	\$170	\$170	\$170
Business Functional Team	Manager	Support defect resolution and business process issues	\$150	\$150	\$150
Business Functional Team	Manager	Support defect resolution and business process issues	\$150	\$150	\$150
Business Functional Team	Manager	Support defect resolution and business process issues	\$150	\$150	\$150
Business Functional Team	Manager	Support defect resolution and business process issues	\$150	\$150	\$150
Business Functional Team	Senior Specialist	Support defect resolution and business process issues	\$125	\$125	\$125
Business Readiness	Project Manager	Support business process automation	\$150	\$150	\$150
Business Readiness	Project Specialist	Support business process automation	\$125	\$125	\$125
Business Readiness	Project Specialist	Support business process automation	\$95	\$95	\$95
Business Readiness	Specialist	Support business process automation	\$170	\$170	\$170
Change Management	Manager	Track system changes and communicate impacts to user groups	\$150	\$150	\$150
Change Management	Senior Specialist	Track system changes and communicate impacts to user groups	\$125	\$125	\$125

Change Management	Specialist	Track system changes and communicate impacts to user groups	\$170	\$170	\$170
Rates and Billing Team	Section Manager	Update billing rates and resolve batch billing issues	\$150	\$150	\$150
Rates and Billing Team	Manager	Update billing rates and resolve batch billing issues	\$150	\$150	\$150
Testing Support Team	Senior Specialist	Support the testing process to ensure system changes work as designed	\$95	\$95	\$95
Annual Business Labor Cost Estimate			\$2,895	\$2,895	\$2,895

IT Labor Detail (Rounded 000's)

IT Resource	O&M	Cap	# O&M Hours	# Cap Hours	Total
Application Developer	30%	70%	624	1456	2080
Application Developer	30%	70%	624	1456	2080
Application Developer	30%	70%	624	1456	2080
Application Developer	30%	70%	624	1456	2080
Application Developer	30%	70%	624	1456	2080
Application Developer	30%	70%	624	1456	2080
System Architecture	30%	70%	624	1456	2080
System Architecture	30%	70%	624	1456	2080
Reporting	30%	70%	624	1456	2080
Reporting	30%	70%	624	1456	2080
Infrastructure	30%	70%	624	1456	2080
Infrastructure	30%	70%	624	1456	2080
Infrastructure	30%	70%	624	1456	2080
Middleware	30%	70%	624	1456	2080
Middleware	30%	70%	624	1456	2080
Application Developer	30%	70%	624	1456	2080
Total Annual Hours			9,984	23,296	33,280
Annual IT Labor Cost Estimate			\$840	\$1,960	\$2,800

Business and IT Labor (Rounded 000's)

Labor Totals	2026	2027	2028
CC&B Support Team Labor	\$2,895	\$2,895	\$2,895
IT Labor	\$840	\$840	\$840
Sub-Total	\$3,735	\$3,735	\$3,735
O&R Allocation	(\$271)	(\$271)	(\$271)
Total	\$3,464	\$3,464	\$3,464

Contract Services Detail (000)

Contract Service	Service Description	2026	2027	2028
CC&B Development Support	Analysis and resolution of defects, technical design documentation, perform code fixes, and to-do analysis	\$8,042	\$8,444	\$8,866
CC&B Testing Support Services	Test case preparation and execution, test data preparation, perform unit testing, integration testing, and regression testing	\$1,369	\$1,437	\$1,509
Staff Augmentees	Provide functional support or specialized skill sets	\$1,036	\$1,088	\$1,143
Contract Services Sub-Total		\$10,447	\$10,969	\$11,518
O&R Allocation		(\$757)	(\$795)	(\$835)
Total		\$9,690	\$10,174	\$10,683

Hardware and Software (Rounded 000's)

HW/SW	Description	2026	2027	2028
Jenkins	Java-based web application used to migrate code.	\$25	\$25	\$25
ExaData Licenses	Exadata is an engineered machine's combination of hardware and software to run Oracle database workloads.	\$0	\$120	\$120
UC4	The UC4 application is needed to schedule all batch data processes.	\$75	\$75	\$75
Equinix Co-Lo	Data center that hosts non-Production and disaster recovery servers.	\$600	\$600	\$720
Azure Cloud	Azure is the cloud computing platform that provides integration tools and capabilities.	\$600	\$600	\$600
ExaData Support	Exadata support provides 24/7 remote fault monitoring, software updates, patch deployments, and services to replace any faulty hardware.	\$370	\$444	\$533
AppDynamics	AppDynamics is the tool to monitor the entire application ecosystem runtime, behavior, and performance of infrastructure and application code.	\$600	\$600	\$600
Load Runner	LoadRunner is a software testing tool. It is used to test applications, measuring system behavior and performance under load.	\$35	\$35	\$35

Oracle - CC&B / OUA	Oracle Utilities Customer Care and Billing is a customer care and billing system for utility billing processes. It is designed to support one-to-many utility service types and handles the complexities associated with a utility's business processes. Oracle Utilities Analytics is a suite of analytics products and solutions for the utility industry. It includes Oracle Utilities Analytics Warehouse, a pre-built analytics platform that integrates data from CC&B and other sources to provide real-time analytics for mission-critical operations.	\$5,800	\$5,800	\$5,800
Misc.		\$0	\$0	\$0
HW/SW Sub-Total		\$8,105	\$8,299	\$8,508
O&R Allocation		(\$588)	(\$602)	(\$617)
Total		\$7,517	\$7,697	\$7,891

Customer Operations / Strategic Applications 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Customer Care & Billing Enhancements and Upgrade	
Project/Program Manager: Antoya Debarros	Project/Program Number (Level 1): 24156674
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 2023	Estimated Date In Service: Ongoing
2025-2029 Funding Request (\$000) Capital: \$256,080 O&M: \$0	
Work Description: In October 2023, the Company successfully completed the installation of Oracle's Customer Care and Billing (CC&B) system. This successful implementation of CC&B to replace an outdated, legacy system is part of the Company's broader strategy to modernize and digitize its customer service systems and technology infrastructure. Since its implementation, the system has enhanced the Company's ability to manage requests across the customer lifecycle – including service connections, support for Advanced Metering Infrastructure (AMI), implementation of new rates, automation of complex billing, payment processing, collections, and field work – while also streamlining business processes and supporting clean energy programs across the enterprise. Given CC&B's central role as the Company's billing system, ingesting data from and exporting data to multiple other systems, maintenance, and enhancement of CC&B is an important Company priority. This work includes both capital and O&M spending; for instance, while development of CC&B's capabilities to handle new rates is funded as capital, similar work to update existing rates is funded through O&M. As such, the Company has allocated planned work across both capital and O&M as appropriate. The Company has allocated the capital costs of CC&B enhancements and upgrades in this white paper, while discussing the O&M expenses for CC&B support in Exhibit_(IT-5)_Customer Care & Billing Support. Here, the requested capital funding will enable CC&B's ongoing system enhancements and upgrade roadmap, covering the following areas: 1. Ongoing Hardware and Software Enhancements 2. CC&B Integration Testing for Enterprise Migration of Middleware Platform 3. CC&B Application Upgrade Implementation	

Ongoing Hardware and Software Enhancements

Enhancing CC&B's technology infrastructure (hardware and software) and capabilities is essential to maintaining Company operations, as nearly every customer-focused business process relies on CC&B. These investments in CC&B will not only enable the performance baseline that customers expect but also maximize system performance on an ongoing basis and safeguard the CC&B system as business processes change and customer, regulatory, and business needs continue to evolve.

Activities include the following:

- Support for new regulatory initiatives and rate designs
- Updates to functional designs and management of the functional design process
- Coding of the software to align with the design specifications, as well as other application coding and development needs
- Testing of enhancements and newly designed features
- Promoting enhancements to production
- Upgrades to functions in the CC&B system, such as the retention of new data elements or new integrations with other software systems
- Regular software and service patches
- Archiving data as the database grows, while also balancing compliance requirements for records management and legal holds

CC&B Integration Testing for Enterprise Migration of Middleware Platform

Additional enhancements and integrations testing work will be required to support a middleware (BizTalk) migration planned across the Company. The Company has been using Microsoft's BizTalk integration software since 2010 as the foundational tool for creating workflows and data transformations between corporate and third-party systems. The CC&B platform currently has more than 400 integrations that use the BizTalk Middleware platform.

As detailed in Integration Technical Obsolescence white paper (IT-9), the Company is proposing to migrate its system away from the BizTalk platform for support, compatibility, and cybersecurity reasons. This migration will require every integration to be reengineered, rebuilt, and retested in the new integration technology. Therefore, each of CC&B's integrations will need significant regression and performance testing as part of the upgrade process.

To migrate the middleware technologies, CC&B will require dedicated build and test environments throughout the duration of the project. The Company will need additional hardware and software to support the integration changes and will need to increase its testing resources for System Integration Testing, User Acceptance Testing, and Performance Testing.

CC&B Application Upgrade Implementation

In 2026, the Company will undertake a Pre-Planning Project to determine an appropriate pathway to upgrade CC&B from the initial v2.8 implementation. This post go-live timeframe follows industry standard upgrade schedules and will require coordination with the vendor, as further detailed in Exhibit (IT-5)_CC&B Enhancements and Upgrade_Attachment 1_CC&B Oracle Upgrade Version Roadmap.

In-depth roadmap analysis will inform the path forward for this required upgrade, including:

- Preliminary business and technical requirements
- Analysis of cloud vs. on-premises software installation, as the Company must make a strategic decision to either:

1. Upgrade to an on-premises solution, which is less complex and will allow the Company to unlock business value while maintaining the necessary vendor support, or
2. Upgrade to the cloud, which would be a larger one-time effort to enable additional capabilities but require platform roadmap changes that could impact Company business models and processes.

The roadmap analysis will enable the Company to determine the level of effort involved with the available upgrade options, develop cost estimates, identify risks to mitigate, and weigh the benefits achieved.

Starting in 2028, the Company will implement the upgrade that results from the 2026 pre-planning project. This hardware and software upgrade will be required to avoid risking system reliability when Oracle ends support for Version 2.8 of CC&B in April 2029.

The funding request for the next three years includes sufficient funding for the pre-planning study and the first phase of the planned upgrade.

Based on a preliminary financial estimate informed by similar upgrade experiences, the Company expects the total upgrade cost for an on-premises solution to be approximately 30-40% of the original implementation cost.

If the Company determines to instead migrate CC&B to the cloud, the Company expects it will need additional funds beyond those planned for the on-premises solution, as the upfront costs for migrating to the cloud are expected to be higher than an on-premises migration, but with lower capital needs and upgrade costs moving forward.

Please see Exhibit (IT-5)_CC&B Enhancements and Upgrade_Attachment 2_Capital Request Details for a detailed breakdown of this budget request and Exhibit (IT-5)_CC&B Enhancements and Upgrade_Attachment 3_CC&B Historic Spending Model and Enhancements for a model of the historical budget which was used to inform this request.

Rate Year	Funding Requested (\$000)	Key Activities
2026	\$28,066	- Pre-planning and discovery project for CC&B to document and inform upgrade roadmap - Ongoing CC&B hardware and software enhancements
2027	\$28,176	- RFP process, vendor selection, and business planning to execute the upgrade based on discovery process and roadmap analysis results - Ongoing CC&B hardware and software enhancements - Middleware testing for CC&B integrations
2028	\$89,406	- Implement application upgrade based on discovery process decision, targeting go-live in 2029 - Ongoing CC&B hardware and software enhancements - Middleware testing for CC&B integrations

Justification Summary:

The CC&B system is trusted across the Company to conduct business operations and enable a seamless customer experience.

Without up-to-date software and hardware supporting CC&B, the system's resiliency will diminish over time. This, in turn, will create risks to all business operations that rely on it, such as the Digital Customer Experience Program (DCX), Customer Data Sharing, the Retail Access System, Solar for All, the Community Distributed Generation (CDG) Program, AMI, and more. These programs are evolving, and an out-of-support CC&B would hold back the business and create additional expenses for these related programs by requiring them to develop processes that work with outdated technologies.

Ongoing Hardware and Software Enhancements

Many changes are anticipated in the coming years to support a transition to clean energy and a continuation of a resilient grid/network. Examples include distributed energy growth (e.g., VDER, CDG, Solar for All), electric vehicle charging rates, commercial building electrification, and energy efficiency programs. CC&B and other customer systems will require enhancements to support these initiatives and enable the Company's customer service representatives (CSRs) to help customers navigate through various options. For reference, since the Company implemented CC&B in October 2023, almost 400 changes have been made and an additional 250 are on the roadmap in 2025, as detailed in **Exhibit (IT-5)_CC&B Enhancements and Upgrade_Attachment 3_CC&B Historic Spending Model and Enhancements.**

Further capital funding will allow the Company to continue enhancing the system to account for evolving business and customer needs. From a technical perspective, the Company will need to maintain a baseline of CC&B performance (user screens, nightly batch processing, APIs, etc.) through CC&B system changes, database growth, regulatory changes, and innovations in customer products and behaviors.

Software and hardware enhancements, as well as regular upgrades, are required to satisfy the demands on the CC&B system, support business and regulatory requirements, meet evolving customer expectations, and keep pace with current and future technology needs. Upgrades will further enable the Company to unlock new value in automating and improving business processes, creating greater efficiencies and improving both customer and employee experiences.

CC&B Integration Testing for Enterprise Migration of Middleware Platform

CC&B is an integral system within the enterprise technology ecosystem with hundreds of integrations with other Company systems. As those systems receive scheduled upgrades or are replaced as they reach end of life, robust testing is required from CC&B to ensure continued performance.

This need for testing is particularly acute for the Company's upcoming enterprise-wide migration of its primary middleware platform used for system integrations, Microsoft BizTalk. Microsoft BizTalk technical support will end in April 2028, and the product will reach the end of its life in 2030.

In the table below is the breakdown of the BizTalk integrations with CC&B that will be affected by that product's end of life, sorted by complexity.

Integration Testing Complexity	Total
Simple	274
Medium	76
High	87
Grand total	437

CC&B Application Upgrade Implementation

The upgrade cycle in this rate case aligns with the upgrade roadmap established by the CC&B vendor Oracle, as well as general technology industry trends:

- Oracle's Premier Support provides maintenance and support for five years from a product's general availability date, with three additional years of extended support also available. Oracle released version 2.8 of CC&B in 2021 and so will stop providing support for that version in 2029.
- A typical software product release cycle is every 18 to 36 months for major releases, with ongoing bug fixes and maintenance updates delivered in between. Companies considered to be earlier adopters will often upgrade immediately on a 3-year cycle, whereas most organizations are middle adopters on a 5-year schedule. By implementing the upgrade to CC&B in 2029, more than five years after the current system went live, the Company will fall within the range of these middle adopters. Waiting longer, however, will entail unacceptable levels of risk, as late adopters in the 6- to 8-year upgrade cycle put themselves at additional risk as they are usually forced to complete re-implementation at upgrade at far greater cost and may lose vendor support for their current systems before completing the upgrade.

This need for additional post-implementation capital spending to cover upgrades, hardware, and enhancements to maintain and unlock increasing value from the CC&B system is further detailed in Exhibit (IT-5)_CC&B Enhancements and Upgrade_Attachment 1_CC&B Oracle Upgrade Version Roadmap.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

As the enterprise system for customer and billing data, including that of customers residing in disadvantaged communities, CC&B serves as the foundational platform implementing new billing rates in a more cost-effective and efficient manner, including rates that promote the efficient use of energy and the grid by customers.

A robust customer billing and information system is necessary for the Company to achieve its long-range plans and the State's CLCPA goals by supporting customers' transition away from fossil fuels, and thus reductions in greenhouse gas emissions, through increased electrification of heating and transportation. To that end, CC&B enhancements are required to support and enable implementation of new billing rate structures, data gathering requirements, and customer programs.

2. Supplemental Information

Alternatives

Alternative 1: Risk non-compliance with the Company's software development lifecycle policy, which prohibits use of unsupported applications, especially for those critical to Company and customer operations, by continuing use of CC&B v2.8 after Oracle ceases support for that product in 2029.

Alternative 2: Acknowledge compliance risks and continue to conduct business with limited system support and functionality. Overall ability to meet new and evolving requirements will be diminished and create risks for all business operations that rely on CC&B.

Alternative 3: Incur additional future costs without obtaining any additional future benefits. Without sufficient funding to complete a timely upgrade, the Company will be left to pursue a later upgrade. As a result, in the near term, this could require a costly specialized service agreement to maintain vendor support. In the medium to long term, the Company could require a full re-implementation project, which could cost at least \$500 million based on past implementation experiences, as opposed to less than half that amount for an upgrade (estimated to be 30-40% of full implementation costs for an on-premises solution).

Risk of No Action

Risk 1: Security, Privacy, and Cyber Risks

Keeping the Company on an older, unsupported version of CC&B adds security, privacy, and cyber risks, as older technologies can lack the most up-to-date protections and leave the Company's data more exposed to breaches or other cyber incidents. As the cyber landscape evolves, vulnerabilities for technology will increase and the Company may not be able to apply fixes to newly found vulnerabilities if it uses an unsupported version of CC&B.

Risk 2: Issue Resolution

Not proceeding with an upgrade will negatively affect operations, stakeholders, and customers when the Company cannot obtain vendor assistance in the event of an issue, defect, or problem.

Risk 3: Non-Compliance and Business Risks

If the Company cannot enhance and upgrade CC&B, the system will be less reliable and the integrity of customer data may be more easily compromised. The Company also risks non-compliance with regulatory requirements, such as new rates and other PSC initiatives, including those related to the CLCPA and clean energy programs. Further, the Company will struggle to effectively support new programs and meet evolving customer needs.

Non-Financial Benefits

- Enables the Company to meet rising customer and regulatory expectations
- Allows the Company to create new rate structures efficiently and expediently to support regulatory and customer requirements and expectations
- Improves CSR/back-office capabilities to handle customer requests, including service connections, meter reading, billing, payments processing, collections, and field work
- Enhanced user interface improves CSR/back-office onboarding, accelerates training and proficiency, and aligns with employee/customer expectations of modern technology
- Improves CSR interaction quality by leveraging automated workflows, alerts, and streamlined business processes and navigation to view customer and account details
- Positions the Company to adapt more quickly and efficiently to new and evolving technology, such as process automation

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

Benefits are realized for enhancements through reduced error potential as systemic activities are leveraged in lieu of manual processes. System upgrades allow the application to keep pace with evolving requirements without the need for costly custom enhancements and activities.

3. Basis for estimate

The cost estimate includes anticipated hardware costs and the cost to develop, code, test, and deploy enhancements to CC&B. It also covers the necessary staff to support and manage the enhancement and upgrade process.

The estimate is derived from projects of similar effort, current resourcing actuals, service contract costs, benchmarking with vendor contacts, and inflation assumptions. For this rate period, costs are also included for discovery activities related to the next application upgrade along with the first year of costs for upgrade activities. The specific upgrade path and approach will be defined as part of the discovery process.

See [Exhibit \(IT-5\) CC&B Enhancements and Upgrade Attachment 3 CC&B Historic Spending Model and Enhancements](#) for the historic budget model which shows how costs align with the funding requests for the Rate Period.

Project Risks and Mitigation Plan

Risk	Mitigation Plan
Changes to in-flight parallel capital projects that could have project impacts	Establish robust process for internal alignment and cross-project collaboration
Internal IT resource availability	Identify resourcing needs early in the project and confirm resourcing availability. Engage the services of third parties, consultants, and contractors where needed and within budget.
Inherent risk in changing code and touching an in-production system	More than 30% of the upgrade estimate is for testing to mitigate any risks of outages and customer experience issues
Ongoing enhancements to the user experience and interfaces will require CSRs/back-office employees to keep pace with system updates	Implement robust CSR/back-office training plan to navigate system updates and changes

Technical Evaluation / Analysis

Individual discovery is done as phase 0 of enhancement design and is unique to each enhancement. As a part of this request funding is being requested to perform formal discovery on the future application upgrade, and the output will be a complete technical evaluation. See [Exhibit \(IT-5\) CC&B Enhancements and Upgrade Attachment 3 CC&B Historic Spending Model and Enhancements](#) for the historic budget model which shows how costs align with the funding requests for the Rate Period.

Project Relationships (if applicable)

CC&B has a close relationship with many of the projects and programs in the Company's long-range plans, including DCX, Customer Engagement Platform (CEP), Customer Data Sharing, the Retail Access System, Solar for All, CDG, Energy Affordability Program (EAP), Billing and Payments Enhancements, Back Office Automation, and the Enterprise Data Privacy Program, in addition to our core customer service business operations. For an example of this interconnectivity, while CC&B is the engine that creates bills, it is also an enabler and feeder system to DCX (start and stop payments), and

the CEP will be layered on CC&B and other platforms to bring multiple corporate systems under one dashboard to improve customer engagement and interactions.

Outside of Customer Operations, CC&B is foundational in supporting Distributed Energy Distribution, AMI, and Distributed Resource Integration (DRI).

The middleware integrations testing component of this white paper is dependent on investments made through the Integration Technical Obsolescence project (Exhibit_IT-9).

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						\$28,000

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	\$21,790	\$28,066	\$28,176	\$89,406	\$88,642
Labor	\$3,379	\$3,713	\$3,713	\$3,713	\$3,713
M&S	\$2,195	\$2,430	\$928	\$928	\$928
Contract Services	\$14,898	\$20,475	\$22,087	\$83,317	\$82,553
Other	\$0	\$0	\$0	\$0	\$0
Overheads	\$1,318	\$1,448	\$1,448	\$1,448	\$1,448

*The test year runs from 10/1/2023 to 9/30/2024

ORACLE

The Path Forward for Con Edison

Option Comparison and Consideration

May 7, 2024

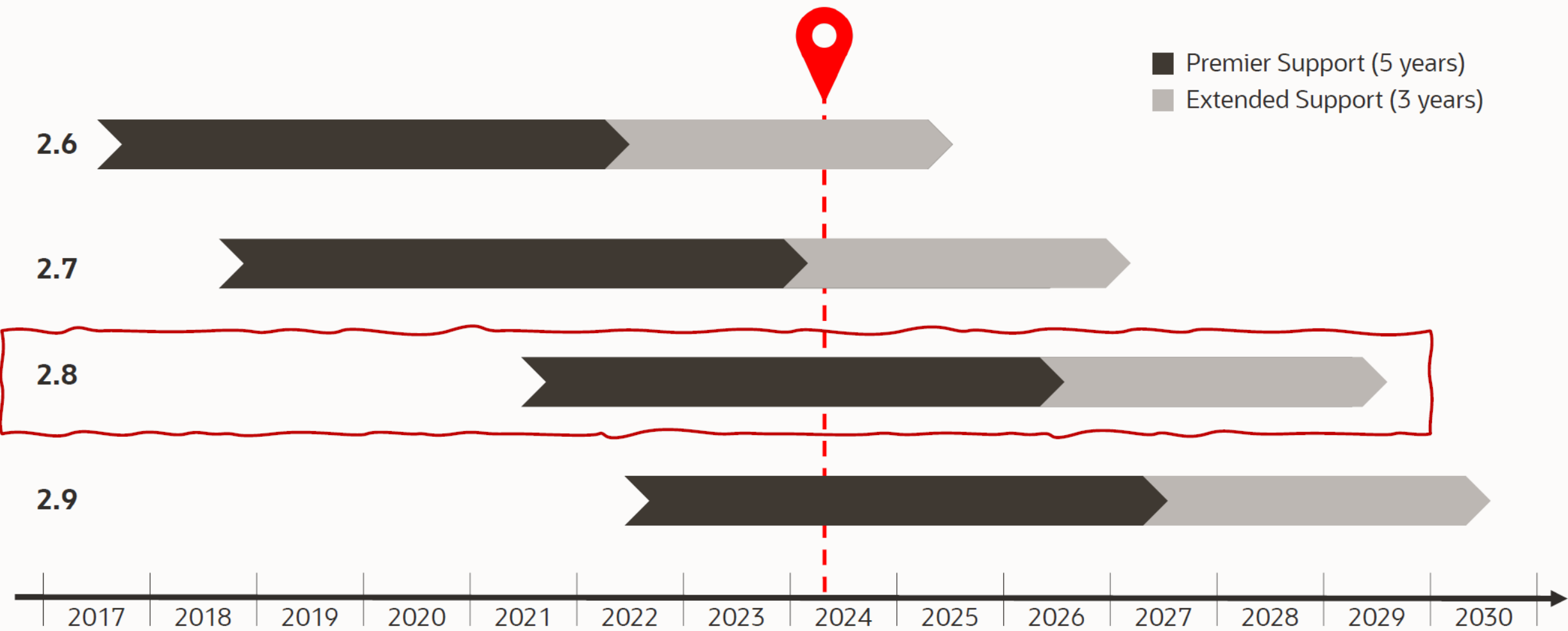


Document Overview

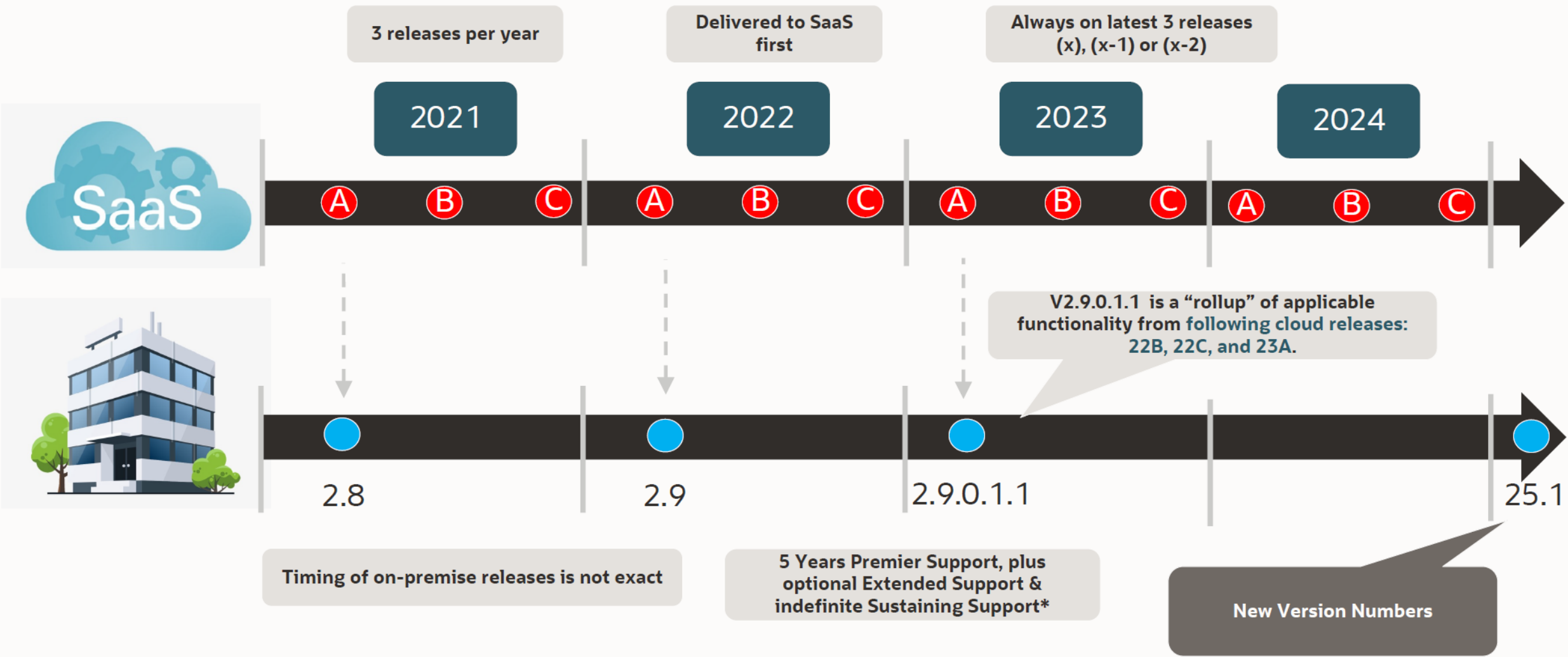
The following information was provided by Oracle with respect to its upgrade version roadmap for CC&B (on premise) and CCS (cloud version).

As CC&B is a commercial software platform, the process going forward for planning the platform roadmap will involve working with and coordinating with our vendor. The schedule of these upgrades is dictated by the vendor, as outlined in the following slides.

Current On-Premise Versions



Oracle Energy and Water CIS Release Timeline



Product Release Cycle

SaaS Solution with Iterative Enhancements

Big Bang with
Incremental Upgrades

2-3 YEARLY RELEASES



BEFORE

- On-premises applications
- Large initial project with lighter journey improvements since
- Technical upgrades
- Long requirements lag

NOW

- Cloud application
- Service pack updates replace major upgrades
- New features and patches rolled out incrementally, with utility control of activation
- Immediate feedback loop



CC&B Enhancements and Upgrade – Capital Request Detail

Capital Total (Rounded 000's)

Total	2026(RY1)	2027(RY2)	2028(RY3)
	\$28,066	\$28,176	\$89,406

Business Labor Detail (Rounded \$000's)

Team	Role	Role Description	2026	2027	2028
Business Architecture	Sr Specialist	Assist in the development of CC&B enhancements.	\$130	\$130	\$130
Business Architecture	Sr Specialist	Assist in the development of CC&B enhancements.	\$130	\$130	\$130
Business Functional	Sr Specialist	Assist in the development of CC&B enhancements.	\$130	\$130	\$130
Business Functional	Sr Specialist	Assist in the development of CC&B enhancements.	\$130	\$130	\$130
Business Functional	Sr Specialist	Assist in the development of CC&B enhancements.	\$130	\$130	\$130
OUA	Specialist	Enhancements to existing reports and development of new reports	\$89	\$89	\$89
OUA	Manager	Enhancements to existing reports and development of new reports.	\$132	\$132	\$132
Program Lead	Department Manager	Assist in the development of CC&B enhancements.	\$236	\$236	\$236
Project Management	Analyst	Management of the department's capital activities.	\$99	\$99	\$99
Project Management	Sr Specialist	Management of the department's capital activities.	\$130	\$130	\$130
Project Management	Section Manager	Management of the department's capital activities	\$178	\$178	\$178
Rates and Billing	Manager	Assist in the development of CC&B enhancements.	\$132	\$132	\$132
Rates and Billing	Systems Specialist	Assist in the development of CC&B enhancements.	\$139	\$139	\$139
Testing	Sr Specialist	Oversee the testing of system enhancements.	\$130	\$130	\$130
Testing	Manager	Oversee the testing of system enhancements.	\$132	\$132	\$132
Annual Business Labor Cost Estimate			\$2,044	\$2,044	\$2,044

IT Labor Detail (Rounded \$000's)

IT Labor	O&M	Cap	# O&M Hours	# Cap Hours	Total
Application Developer	30%	70%	624	1456	2080
Application Developer	30%	70%	624	1456	2080
Application Developer	30%	70%	624	1456	2080
Application Developer	30%	70%	624	1456	2080
Application Developer	30%	70%	624	1456	2080
Application Developer	30%	70%	624	1456	2080
System Architecture	30%	70%	624	1456	2080
System Architecture	30%	70%	624	1456	2080
Reporting	30%	70%	624	1456	2080
Reporting	30%	70%	624	1456	2080
Infrastructure	30%	70%	624	1456	2080
Infrastructure	30%	70%	624	1456	2080
Infrastructure	30%	70%	624	1456	2080
Middleware	30%	70%	624	1456	2080
Middleware	30%	70%	624	1456	2080
Application Developer	30%	70%	624	1456	2080
Total Annual Hours			9,984	23,296	33,280
Annual IT Labor Cost Estimate			\$840 (O&M)	\$1,960 (Capital)	\$2,800 (Total)

Business and IT Labor (Rounded \$000's)

Labor Totals	2026	2027	2028
Business Labor	\$2,044	\$2,044	\$2,044
IT Labor	\$1,960	\$1,960	\$1,960
Sub-Total	\$4,004	\$4,004	\$4,004
Allocation to O&R	(\$290)	(\$290)	(\$290)
Total	\$3,713	\$3,713	\$3,713

Labor Overheads (Rounded \$000's)

Overheads Totals	2026	2027	2028
Business Overheads	\$797	\$797	\$797
IT Overheads	\$764	\$764	\$764
Overhead Sub-Total	\$1,561	\$1,561	\$1,561
Allocation to O&R	(\$113)	(\$113)	(\$113)
Total	\$1,448	\$1,448	\$1,448

Contract Services Detail (Rounded \$000's)

Contract Service	Service Description	2026	2027	2028
CC&B Application Development	Development of CC&B Enhancements	\$12,832	\$12,838	\$17,297
Testing Services	Test case preparation and execution, test data preparation, unit testing, integration testing, and regression testing	\$2,106	\$2,107	\$2,838
Staff Augmentees	Provide functional support or specialized skill sets	\$1,137	\$1,138	\$1,533
CC&B Upgrade	CC&B upgrade Implementation	\$0	\$0	\$66,000
Middleware Upgrade	Middleware application development and testing	\$0	\$7,732	\$2,161
Scoping Study	Study to develop CC&B upgrade roadmap	\$6,000	\$0	\$0
Sub-Total Contract Services		\$22,075	\$23,814	\$89,830
Allocation to O&R		(\$1,600)	(\$1,726)	(\$6,513)
Total (Accounts Payable)		\$20,475	\$22,087	\$83,317

Hardware and Software (Rounded 000's)

HW/SW	Description	2026	2027	2028
ExaData	New CC&B server upgrades	\$1,120	\$0	\$0
Archiving	Additional storage capacity for archiving CC&B records	\$1,000	\$1,000	\$1,000
Non-ExaData Servers		\$500	\$0	\$0
HW/SW Sub-Total		\$2,620	\$1,000	\$1,000
Allocation to O&R		(\$190)	(\$73)	(\$73)
Total		\$2,430	\$928	\$928

Table 1: 2024 Con Ed Business Labor Breakdown

Position	FTE Count	Capital Labor	O&M Labor	Total
Analyst	1	\$98	\$0	\$98
Department Manager	1	\$234	\$0	\$234
Manager	11	\$392	\$1,059	\$1,451
Project Specialist	2	\$0	\$261	\$261
Section Manager	5	\$177	\$706	\$883
Specialist	3	\$87	\$177	\$265
Sr Specialist	10	\$902	\$387	\$1,289
Systems Specialist	2	\$138	\$138	\$275
Sub-Total	35	\$2,028	\$2,728	\$4,756
Allocation to O&R		(\$147)	(\$198)	(\$345)
Total		\$1,881	\$2,530	\$4,411

*Costs are based on a labor model and assume full staffing for the year

Table 2: 2024 Con Ed IT Labor Breakdown

Position	FTE Count	Capital Labor	O&M Labor	Total
IT Domain Solutions Eng	2	\$297	\$127	\$425
System Specialist	5	\$554	\$238	\$792
Department Manager	1	\$148	\$63	\$211
Systems Manager	3	\$433	\$186	\$619
IT Architect	1	\$125	\$54	\$179
Sr Specialist	1	\$89	\$38	\$127
Middleware	2	\$224	\$96	\$320
Director	1	\$205	\$88	\$293
Sub-Total	16	\$2,076	\$890	\$2,966
Allocation to O&R		(\$151)	(\$65)	(\$215)
Total		\$1,926	\$825	\$2,751

*Costs are based on a labor model and assume full staffing for the year

Table 3: 2024 Con Ed Contract Services Breakdown

Area of Support	Support Category	Contractor Count	Capital Cost	O&M Costs	Total
Business	Application Support	54	\$4,938	\$2,116	\$7,054
Business	Testing Services	14	\$3,402	\$1,458	\$4,861
IT	Application Support	97	\$7,371	\$3,159	\$10,530
IT	Infrastructure Support	12	\$1,174	\$503	\$1,677
Sub-Total			\$16,885	\$7,236	\$24,121
Allocation to O&R			(\$1,224)	(\$525)	(\$1,749)
Total		177	\$15,661	\$6,712	\$22,373

Table 4: CC&B Capital Enhancements

Enhancement Category	2024 Completed Enhancements	2025 Planned Enhancements
CC&B Functionality Enhancements	73	75
Report Development and Enhancements	234	32
Field Work and Payment Processing Enhancements	10	23
Various	31	4
Data Provisioning	10	34
AMI/Billing Process Enhancements	20	34
Customer Program Support	14	14
Gas Operations Enhancements	7	7
Total	399	223

Customer Operations / Strategic Applications 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Customer Data Sharing	
Project/Program Manager: Vinny Lou	Project/Program Number (Level 1): 25524305
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: January 2023	Estimated Date In Service: Multiple (Agile)
2025-2029 Funding Request (\$000) Capital: \$10,800 O&M: \$8,421	
Work Description: Customer Data Sharing has been a key program for the Company since 2018. The program supports the New York State Public Service Commission's (PSC) data-sharing objectives and the clean energy goals of New York State and New York City. Since the program's launch, the Company has developed and maintained various data-sharing platforms that serve third parties, including distributed energy resource suppliers (DERS), energy service companies (ESCOs), demand response aggregators, rate consultants, building management firms, and large customers. These platforms provide access to a broad range of energy usage and account data. The primary focus areas of the Customer Data Sharing program include: - Share My Data - Large Customer API - ESCO API - My Account Data Presentment In 2024, the Company developed a new data sharing platform, which has been certified by the Green Button Alliance. The legacy platform will remain supported through 2025, and the Company will continue migrating users from the legacy platform to the new platform. For further information on the genesis of these platforms, please refer to the Company's testimony in Cases 16-E-0060, 16-G-0061, 19-E-0065, 19-G-0066, 22-E-0064, and 22-G-0065; the AMI Customer Engagement Plan filed on July 29, 2026 in Case 16-E-0060; and Distributed System Implementation Plan (DSIP) 2016, 2018, 2020, and 2023 filed in Case 16-M-0411. The Company is seeking additional funding for 2026-2028 to enable the continued growth and enhancement of its platforms due to increased usage by customers and third parties. The proposed funding will support the following focus areas: 1. Authorization and Authentication Enhancements: Improve authorization processes by preventing partial authorizations, automatically updating expired statuses, and aligning with	

North American Energy Standards Board (NAESB) standards. Merge various authorization scopes into a single table for efficiency.

2. **Optimized Data Handling and Queries:** Enhance data handling by optimizing queries, filtering specific interval readings, and implementing solutions to manage high volumes of batch requests from third parties.
3. **Advanced Reporting and Dashboard Features:** Redesign the monthly usage report mechanism, develop dashboards to make it easier to identify and fix system issues, and redesign batch job alerts to provide more robust reporting.
4. **Improved Batch Processing and API Capabilities:** Implement equitable processing of batch requests, introduce a Batch Status API, and switch from sending notifications via email to notifying a specific endpoint for improved automation and user experience.
5. **Enhanced Data Standardization and Compliance:** Support compliance with new NAESB standards, standardize exception response codes, and provide comprehensive wiki-style documentation for API use to meet industry standards.

Refer to [Exhibit \(IT-5\)_ Customer Data Sharing_Attachment 1_Focus Areas](#) for examples of planned work items. This list will evolve based on feedback from customers, third parties, and regulators. The requested capital will enable the continued development and expansion of these program offerings.

The requested operations and maintenance (O&M) funding will also fund the expansion of the team of technical and business experts responsible for managing system performance, maintaining system availability, and working with external partners to fine-tune onboarding and troubleshoot technical issues. This additional staffing is critical to addressing the evolving needs of customers and third parties using the My Account Data Presentment and Third-Party Access to My Account services. The Company strategically deploys these resources across various offerings due to the overlap in required technical expertise.

Additional information regarding this request is provided in [Exhibit \(IT-5\)_ Customer Data Sharing_Attachment 2_O&M Request Detail](#) and [Exhibit \(IT-5\)_ Customer Data Sharing_Attachment 3_Capital Request Detail](#).

Justification Summary:

The proposed funding for the Customer Data Sharing program is intended to meet regulatory obligations stemming from PSC orders and New York State laws, including the Climate Leadership and Community Protection Act (CLCPA). Furthermore, as directed by the PSC in its February 11, 2021, *Order Implementing an Integrated Energy Data Resource* (IEDR Order), the Company is obliged to uphold support for its pre-existing data sharing channels until such time as the IEDR can adequately supplant the functionality offered by some of the Company's platforms:

The Commission highlights that several initiatives pertaining to accessing and utilizing energy customer and energy system data have been launched. The directives of this Order outline the subsequent steps to significantly augment access to useful energy-related data via the IEDR, without prematurely transitioning away from data access tools and resources already in operation. Given the time required to implement all IEDR capabilities, it is necessary and justifiable for utilities to sustain existing data access resources and to persist with developing currently planned enhancements and additions, in a bid to provide stakeholders with earlier access to more data. (IEDR Order, p. 10)

To continue meeting customer expectations and support the State's policy goals, the Company must maintain and enhance customer data-sharing platforms, such as Large Customer APIs and Third-Party

Access to My Account, whose functionalities will not be superseded by the IEDR, even after its implementation.

The Customer Data Sharing program further drives value in the following areas:

- **Increasing customer satisfaction:** Large customers will continue to have multiple options to access their own data and share it with third parties. This allows customers to develop insights into their energy use and adopt new energy management techniques and technologies that can lower their costs and carbon footprint. In addition, robust data-sharing platforms facilitate third-party value-added service offerings for customers, such as solar installations.
- **Supporting statewide clean energy goals:** Enabling customers to securely access and share data with third parties is key to unleashing the clean energy solutions New York State needs to achieve its CLCPA goals. For example, solar, energy efficiency, and demand response providers use these platforms to analyze customer energy use and other information. This information is critical for these service providers to offer value-added services that help customers save energy, a key objective of the CLCPA.
- **Facilitating understanding and adoption of optional rates:** Customers will be able to use interval and/or aggregated data in consultation with the Company and third parties that can help them select the optimal rate for their energy needs.

To adequately support the use of data-sharing platforms by third parties and customers, the Company needs to further invest in these resources. The resource plan for 2026-2028 includes augmenting technical resources to facilitate onboarding and offer timely resolution of technical issues. With the anticipated growth of platform use, the Company also predicts a corresponding increase in the need to address data issues for platform users. The proposed O&M funding will empower the Company to establish a standardized framework for issue tracking and resolution, thereby enhancing user experience and data availability.

The Customer Data Sharing service is currently used by 45 third parties, authorizing the Company to share data for approximately 66,000 customer authorizations, a number that is growing daily. Additionally, the program has onboarded a municipal agency with a large volume of accounts to the Large Customer APIs, encompassing around 8,000 accounts. In parallel, one ESCO has onboarded the ESCO APIs. On average, across all three data sharing API platforms, there are more than 335,000 API calls daily. These third parties use the data for the following business objectives, which support customers and CLCPA goals:

- **Sustainability and Smart Building Solutions:**
 - Enhance energy efficiency in large buildings, reducing energy costs and ensuring compliance with benchmarking regulations.
 - Implement data-driven solutions like smart thermostats and energy waste reduction sensors.
- **Energy Management Expertise:**
 - Deliver comprehensive reporting, analytics, and insights for energy decisions, focusing on energy efficiency and sustainable practices.
 - Participate in Demand Response programs to provide financial rewards for reduced or shifted energy use.
- **Comprehensive Energy Management Solutions:**
 - Increase energy efficiency, reduce costs, achieve carbon neutrality, and manage budget risks through tailored energy management solutions that adapt to business needs.

- **Integrated Energy Solutions:**
 - Provide cost-saving and energy-efficient solutions, including equipment upgrades and full system revamps.
- **Real-Time Data and Smart Meter Technology:**
 - Smart meters that provide real-time data enable prompt identification of issues and facilitate rapid response to minimize waste.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The Customer Data Sharing program aligns with the CLCPA, and other objectives outlined in the Company's strategic plans. The platforms facilitated by this program empower all customers, including those in disadvantaged communities, to securely share their data with third parties, thereby fostering engagement in an array of energy-related initiatives, many of which contribute to reduced greenhouse gas emissions, including community solar, demand response, electric vehicle programs, and time-variant rates. Moreover, as highlighted above, the PSC has determined that the Company's ongoing investment in utility data-sharing platforms is both "necessary and reasonable" while IEDR implementation is underway.

2. Supplemental Information

Alternatives

There are currently no alternatives for the ongoing operation of the platforms mentioned above until the statewide IEDR is implemented and can support all use cases under the existing platforms.

As noted in the Justification Summary, these programs are mandated by the PSC and needed by third parties to efficiently obtain data from the Company so they can effectively engage with customers.

Risk of No Action

If the requested funding is not secured, the Company's data-sharing platforms will lack the necessary support for effective customer and third-party use. The Company also would be unable to address the existing backlog of data enrichment and API enhancement requests. Subsequently, this would impede the capacity of third parties to efficiently access data from the Company, potentially undermining strategic energy initiatives that the State is counting on to meet its emissions-reduction targets. Non-action would also cause the Company to fall out of compliance with the PSC's directive in the IEDR Order to continue its support of and investment in existing data-sharing platforms.

The absence of continued O&M funding could jeopardize the Company's ability to meet the expectations of parties interested in participating in programs. As previously noted, the Company foresees an increase in data issues for platform users in line with the continued growth of platform use. This growth would surpass the capacity of current resources to support the platforms, deteriorating the user experience. Without the proposed O&M funding, the Company will be unable to establish a formal framework for issue tracking and resolution, which is crucial to improving the user experience and data availability.

Non-Financial Benefits

The non-financial benefits of this initiative include enhancing the customer experience, maintaining regulatory compliance, and fostering market development for clean energy programs.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Basis for estimate

The estimates used in the forecast incorporate existing operating and maintenance costs. Additionally, the forecast is informed by historical data and insights from comparable projects.

Project Risks and Mitigation Plan

Risk 1 – The funding here will address ongoing customer and regulatory objectives to achieve improved data-sharing options for customers in support of Company and State initiatives and clean energy goals. The risks to the ongoing development of these programs are sudden shifts in customer and/or regulatory direction, new data-sharing requirements, and third-party emerging needs.

Mitigation plan – To mitigate the risk of an evolving regulatory environment or user needs, the work planned will be managed through an agile methodology. This will enable the Company to be flexible to address customer and regulatory needs as they evolve. This agile methodology has been proven in other programs, such as the Digital Customer Experience program, to deliver customer value and allow the team to adjust to meet emerging needs. This also enables the team to prioritize and manage work within funding allocations.

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

The following ongoing project or programs have various dependencies or associations with the Customer Data Sharing program:

- Digital Customer Experience (DCX) Program
- AMI Program
- Customer Care & Billing (CC&B) Enhancements and Upgrade
- Enterprise Data and Analytics Platform (EDAP) Program
- IEDR Program
- Data Access Framework implementation activities

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year*</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M	\$0	\$0	\$0	\$513	\$828	\$1,200
Regulatory Asset	\$0	\$0	\$0	\$0	\$0	\$0
Capital	\$0	\$0	\$0	\$687	\$0	\$2,500

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	\$1,100	\$1,766	\$1,808	\$1,851	\$1,896
Regulatory Asset	\$0	\$0	\$0	\$0	\$0
Capital (Total)	\$800	\$2,500	\$2,500	\$2,500	\$2,500
Labor	\$110	\$430	\$430	\$430	\$430
M&S	\$0	\$0	\$0	\$0	\$0
Contract Svcs.	\$585	\$1,570	\$1,570	\$1,570	\$1,570
Other	\$50	\$280	\$280	\$280	\$280
Overheads	\$55	\$220	\$220	\$220	\$220

*The test year runs from 10/1/2023 to 9/30/2024

Customer Data Sharing Focus Areas

1. Authorization and Authentication

- Prevent partial authorizations during authorization process
- Automatically update expired authorizations to nonactive status
- Automatically terminate authorizations when an account is removed from the OKTA profile
- Update the value for infinite authorization status to be in line with North American Energy Standards Board (NAESB) standards
- Replace approach for updating authorization on every token request
- Merge the authorization, subscriptions, and authorization scopes into the same table

2. Data Handling and Queries

- Use intersects operator when querying Enterprise Data Architecture Platform
- Filter out "Need Validation and Edit" interval readings when the Head End System status is not active
- Optimize Enterprise Data Architecture Platform queries for better performance
- Implement solution to manage high numbers of incoming batch requests from third parties

3. Reporting and Dashboards

- Monthly usage report redesign
- App insight dashboards
- Batch job alert redesign

4. NYISO/Demand Response Data Sets

- NYISO/Demand Response Data Sets | Network ID
- NYISO/Demand Response Data Sets | Load Zone

5. Batch Processing and APIs

- Batch API change from email to call back
- Implement equitable processing of batch requests
- Prevent duplicate requests for batch jobs
- Introduce a "Batch Status" API

6. Data Standardization and Compliance

- Conform to NAESB 4.0
- Exception response code standardization

7. Customer Data and Profiles

- Return data up until the date the account was closed
- Reconcile active/final accounts within the large customer profile
- Optimization of large customer profiles with many accounts that take a long time to load

8. Energy Metering and Classification

- Forward and reverse electricity metering
- Demand electricity metering
- TOU classification

9. Solar and Gas Usage

- Update SBLI codes 9000 to 9599 to identify solar accounts
- Include both CCF and therms as part of gas usage

10. Documentation Improvements

- Wiki style level of documentation for API use

**Customer Data Sharing O&M Request Detail
(for RY1)***

AREA	RESOURCE	ROLE	# OF RESOURCE	ALLOCATION	O&M REQUEST
Product Owner	Internal	Data Access PO/MGR - Customer Handling across all programs and decision-making on program level	1	100%	\$125,000
IT Analyst	Internal	Assesses business requirements and use of data to recommend technology to improve efficiency and address organizational challenges	1	100%	\$125,000
Product Analyst	Internal	Refines backlog prioritization across programs and interfaces with business	1	100%	\$115,000
Project Manager	Onshore Contractor	Triages data issues and organizes priorities through PO for ongoing efforts across all data access platforms; coordinates with offshore and provides program reporting	1	100%	\$302,500
Technical Architect	Onshore Contractor	Designs and oversees the implementation of information technology systems and solutions to align with organizational goals and improve efficiency, scalability, and security	1	50%	\$250,000
Sr. Developer	Onshore Contractor	Supports onboarding and minor enhancements	1	100%	\$315,000
Developer	Onshore Contractor	Supports onboarding and minor enhancements	2	100%	\$275,000
Tester	Onshore Contractor	Evaluates software to confirm it meets design specifications and functional requirements by identifying defects and verifying performance and usability	1.5	100%	\$187,500
Green Button					\$20,000

Alliance Membership					
Misc.					\$51,000
Annual Cost					<u>\$1,766,000</u>

*For RY2 and RY3, the Company anticipates maintaining consistent resources with a 3% year-over-year increase for contract services

**Customer Data Sharing Capital Request Detail
(for each of RY1-RY3)**

AREA	RESOURCE	ROLE	# OF RESOURCE	ALLOCATION	CAPITAL REQUEST
Product Owner	Internal	Data Access PO/MGR - Customer Handling across all programs and decision-making on program level.	1	75%	\$93,750
IT Analyst	Internal	Assesses business requirements and use of data to recommend technology to improve efficiency and address organizational challenges.	2	100%	\$250,000
Product Analyst	Internal	Refines backlog prioritization across programs and interfaces with business	1	75%	\$86,250
Project Manager	Onshore Contractor	Triaging data issues and organizing priorities through PO for ongoing efforts across all Data Access Platforms; coordinates with offshore and provides program reporting.	1	100%	\$302,500
Sr. Developer/ Technical Lead	Offshore Contractor	Designs and oversees the implementation of information technology systems and solutions to align with organizational goals and improve efficiency, scalability, and security.	1	100%	\$185,000
Developer	Offshore Contractor	Software programmer and contribute to projects.	2	100%	\$300,000
Developer	Onshore Contractor	Software programmer and contribute to projects.	2	100%	\$200,000
Performance Tester	Offshore Contractor	Specialist who evaluates the speed, responsiveness, and stability of a software application or system under a specific workload.	1	100%	\$120,000
Tester	Offshore Contractor	Evaluates software to confirm it meets design specifications and functional requirements by identifying defects and verifying performance and usability.	2	100%	\$280,000
QA Tester	Onshore Contractor	Evaluates software to confirm it meets design specifications and functional requirements by identifying defects and verifying performance and usability.	1	100%	\$120,000
Documentation Specialist	Offshore Contractor	Creates, updates, and maintains accurate and clear documentation that reflects the latest features, changes, and processes of software or systems.	1	50%	\$62,500
Green Button Alliance					\$30,000

Employee Labor & Overheads					\$220,000
Contingenc y					\$250,000
<u>Annual Capital*</u>					<u>\$2,500,000</u>

Customer Operations / Strategic Applications 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Customer Engagement Platform	
Project/Program Manager: Kerry Lay	Project/Program Number (Level 1): 27708293
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 01/26	Estimated Date In Service:
2025-2029 Funding Request (\$000) Capital: \$52,747 O&M: \$9,194	
Work Description: The Customer Engagement Platform (CEP) program will become the foundational customer service tool to process customer transactions, provide insights and recommendations on energy-saving products and other customer actions, and manage customer communications and preferences. The CEP, which functions as a customer relationship management (CRM) tool, is an established technology used by both utilities and non-utility companies to better serve their customers. Over time, the Company has strategically invested in IT systems to support both operations and the customer experience. These systems include Advanced Metering Infrastructure (AMI), Oracle's Customer Care and Billing (CC&B) system, the Customer Project Management System (CPMS), the Meter Data Management System (MDMS), and other internal technologies. While these systems provide value to the Company and to our customers on their own, the next step in unlocking their full value is to integrate them through a CEP that creates a single interface for employees to view and manage customer accounts and interactions. The CEP will integrate these technology systems to better enable customer-facing employees to handle increasingly complex customer transactions by bringing together in one interface customer critical information to respond to customer inquiries and offer energy efficiency solutions. The technical architecture of the system integration will allow the Company to improve current workflows and develop new features to streamline repetitive tasks and eliminate the need to access multiple systems while serving customers. From 2026 to 2028, the Company plans to build two solution components that work in conjunction with one another: Customer Interaction Dashboard The Customer Information Dashboard is an advanced platform that organizes customer, meter, and clean energy program information into unified customer profiles, streamlined transactions, and employee workflows to enhance service efficiency. The platform's dashboard will show a comprehensive view of customer information, usage data, and program eligibility through an intuitive	

interface, allowing Customer Service Representatives (CSRs) and other customer-facing employees to efficiently fulfill customer requests. By accessing relevant customer information across multiple systems in one place, CSRs will be able to reduce the time they spend searching through multiple systems while working with customers.

Correspondence Center

The Correspondence Center capitalizes on data integration across Con Edison to facilitate communications between the Company and its customers. Employees will be able to manage and track customer interactions in one system, improving their ability to provide consistent and proactive support for clean energy products and services. In addition, customers will receive clear, relevant, and coordinated communications, enhancing their overall experience with Con Edison.

See [Exhibit_\(IT-5\)_CEP_Attachment 1_Customer Engagement Platform Component and Features List](#). The Company proposes a three-phase release over 36 months of development ([Exhibit_\(IT-5\)_CEP_Attachment 2_CEP Roadmap Timeline](#)) to deliver 14 features in the Interaction Dashboard and 7 features in the Correspondence Center. The capabilities built in the Correspondence Center will support the functionality of the Interaction Dashboard. As each phase of the CEP program is implemented, employees will be trained on and complete complex customer transactions directly through the CEP instead of needing to log into and interact with multiple IT systems.

Release 1:

- Interaction Dashboard:
 - Interaction View
 - Case Management
 - Outage Contacts
 - General Inquiries
 - Start/Stop/Transfer Service
 - Payment Inquiries
- Correspondence Center:
 - Interaction History
 - Outbound Communication Orchestration
 - Customer Preference Integration

Release 2:

- Interaction Dashboard:
 - Outbound Communications
 - Key Account Management
 - Embedded Knowledge Management
 - Payment Arrangements
 - Appointment Scheduling
 - High Bill Inquiries
- Correspondence Center:
 - Two-Way Customer Interactions
 - Business Rule Triggers
 - Ad-Hoc Correspondence

Release 3:

- Interaction Dashboard:
 - Embedded Next Best Action
 - Advanced Live Chat
- Correspondence Center:

○ Context-Based Correspondence Logic

Capital costs required to support the CEP program include internal labor, vendor expenses, and software and hardware costs associated with the implementation of the two CEP components described above (Exhibit_(IT-5)_CEP_Attachment 3_Capital Request Detail). The Company also proposes O&M for the CEP program to maintain the foundational IT infrastructure, manage software-related fees from technology vendors, cover ongoing costs for technology solutions, and provide required labor support (Exhibit_(IT-5)_CEP_Attachment 4_O&M Request Detail).

Justification Summary:

Implementing the CEP program is essential for the Company to keep pace with expectations around technological capabilities while creating seamless interactions with customers across multiple channels and delivering personalized services with tailored recommendations on products and programs that optimize energy savings. The Company sees the impact of this program in two primary ways:

- 1) CEP as a Foundational Technology Investment
- 2) CEP as an Enabler of Efficiency and Productivity

CEP as a Foundational Technology Investment

The complexity of modern utility operations has necessitated the deployment of multiple, large-scale IT systems. These systems have distinct benefits for individual customer transactions but are not always integrated with each other or have user interfaces that are designed for occasional users. Development of a CEP insulates customer-facing employees from the complexities of these modern utility systems and promotes efficiencies by tailoring Company-specific processes into user friendly workflows. This becomes a key component to the Customer Operations technology stack and creates greater flexibility for IT system investments as customer-facing employees begin to use the CEP for more customer transactions.

Moreover, industry benchmarking has shown that having a CEP layered on top of a utility's customer information system like CC&B is a leading industry practice followed by most large utilities.

As the CEP is developed and use of the platform grows, the program expects to stitch critical customer, meter, and work management information together into streamlined workflows to impact the customer and employee experience in the following ways:

- Enhancing collaboration and communication by enabling teams to access and share customer information, coordinate activities, and align goals and strategies.
- Improving the customer experience by providing personalized and consistent transactions across different channels and touchpoints.
- Increasing efficiency by alleviating data fragmentation and duplication and integrating with other business applications and platforms.
- Aligning clean energy programs and payment assistance to more effectively serve customers who need ways to optimize their energy usage and achieve savings, especially our customers in disadvantaged communities.
- Supporting innovation and growth by leveraging customer data and analytics to identify trends, patterns, and opportunities and to create and test new products, services, and strategies.

CEP as an Enabler of Efficiency and Productivity

To serve our customers in an efficient, productive, and satisfying way, we need every aspect of the customers' engagement with the Company on one interface. Today, our CSRs and other customer-

facing teams navigate a complex network of IT systems to complete key and complicated transactions that require information from outside of the CC&B billing system.

For example, when customers contact us with billing questions, the inquiry initiates an investigation across CC&B to review billing and meter details, the Meter Asset Management System (MAMS) to confirm meter presence, Profield for un-synced field reports, CPMS for active energy service cases, and PEGA to schedule a meter appointment.

Employees who interact with these systems need comprehensive and ongoing training. Each one of these systems requires upgrades on varying cycles dictated by their vendors. As the Company continues to invest in technology, adding new systems and developing enhancements, more of these upgrades will be necessary, resulting in new user interfaces, workflows, and access controls that will require additional training and change management for end users. To address this challenge today, the Company can limit the number of employees that have access to these additional systems. This will reduce training time and costs but increase the time to resolve customer issues, as fewer employees can complete certain complex tasks requiring knowledge of multiple systems. But a CEP solution that integrates these systems to a single interface will provide a consistent experience for employees across system upgrades and will reduce the significant change management and training impacts for our customer-facing employees.

Having users access a single platform and complete transactions in other systems via APIs also represents a stronger cybersecurity posture compared to having all employees with access to every single meter management, customer interaction management, and work management system.

With the CEP as the foundational customer service tool for employees in both customer-facing and internal roles, existing customer service transactions, such as Start Stop Service, will be re-designed in the CEP to streamline workflows and reduce the number of clicks a CSR needs to take to complete a transaction. This integration will alleviate the need to customize the underlying billing system (CC&B) for requirements and regulations specific to Con Edison's service territory.

We continue to use data to support the Company's overall goal of improving the customer experience by offering personalized services with tailored recommendations on products and programs that optimize energy usage. A larger number of integrations will only improve that guidance and recommendations. The combined data sources enable features like Next Best Action, which enables CSRs to provide customers with individualized guidance and recommendations.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Customer data is available across the enterprise, but it is not integrated to enable seamless data flow and fully enable Company employees to act as trusted energy advisors for our customers. To address core customer service business operations, the CEP program will integrate data from more than 15 systems (Exhibit_(IT-5)_CEP_Attachment 5_CEP System Architecture) and partner with projects and programs in the Company's long-range plans. This integration will create a flexible platform that can expand beyond Customer Operations' use cases and enable broader access to customer information for customer-facing employees across the Company. Ultimately, better access to customer data will streamline processes and enable employees to proactively provide tailored product and service recommendations to customers, including those in disadvantaged communities, to drive adoption of clean energy solutions and reduce greenhouse gas emissions.

2. Supplemental Information

Alternatives

As an alternative to implementing a comprehensive CEP solution, the Company could update each existing individual platform and application to maximize its distinct capability. However, this approach would incur more time, costs, and resources than the proposed CEP solution and would not realize the full benefits that the CEP solution could provide.

Risk of No Action

Overall, not pursuing the CEP solution means that the Company may fall short on high-level goals and objectives to help customers alleviate energy costs; to provide comprehensive support to residential, small commercial, and corporate customers; and to promote clean energy program adoption. The current state of siloed information systems offers incomplete views of customer interactions, challenging CSRs who struggle to access necessary information across multiple platforms. The current non-integrated system restricts the ability of employees to effectively promote integrated solutions that align the right programs, services, tools, and rates with customers' energy needs and inhibits informed customer decision making.

If Con Edison does not proceed with the proposed program, it will miss the opportunity to empower its CSRs to use enhanced data-driven insights to increase customer satisfaction by improving the support services necessary to decrease call handling times and optimize the customer experience.

Non-Financial Benefits

The implementation of a CEP solution enables the following non-financial benefits:

- Integrated service capabilities, which will enable employees to provide more holistic solutions, including bundling programs, services, rates, and tools to help customers meet their individual energy goals.
- Increased program adoption as a result of customer-facing employees leveraging contextual information to provide guidance on relevant clean energy, payment, and assistance programs.
- Improved corporate customer support through the buildout of critical functionality. Large corporate customers will receive integrated support for their individual energy needs and sustainability goals, helping to further drive energy efficiency program adoption.
- Enhanced customer satisfaction as a result customer-facing employees having relevant, up-to-date information about beneficial programs through personalized customer relationship management. The time, energy, and resources that customers need to engage with the Company should decrease, further enhancing the overall customer experience.
- Empowered employees who will be able to handle transactions more efficiently, leaving them with more time to serve as trusted energy advisors who can guide customers toward beneficial clean energy programs. Enhanced, user-friendly customer support tools will create a more positive employee experience, increasing retention and reducing training requirements.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

The proposed CEP uses cases support strategic priorities for the Company. The qualitative financial benefits associated with the CEP solution could include improved front office efficiencies in the contact center and increased clean energy program adoption.

3. Basis for estimate

The Company's estimated implementation costs are derived from a comprehensive resource plan (See CEP Resources in (Exhibit (IT-5)_CEP_Attachment 3_Capital Request Detail and Exhibit (IT-5)_CEP_Attachment 4_O&M Request Detail) for the three-year implementation roadmap. The implementation team is anticipated to include internal Con Edison employees, System Integration Partner employees, and CEP Technology Partner employees, covering roles from project leadership to agile development. The implementation cost is based on a prospective team structure that models standard project governance and best practices, including design and change management expertise.

To arrive at estimated run costs, the team developed a resource plan for an ongoing support team and estimated anticipated technology licensing fees based on available industry benchmarks. The run team is a smaller support team that will be available post-go-live to resolve defects and implement enhancements.

Project Risks and Mitigation Plan

Risk	Planned Mitigation
Challenges and constraints related to integrating with key legacy systems	The proposed implementation resourcing plan includes an Integration Lead and dedicated integration developers to support the accurate and effective integration of critical data into the CEP. In addition, the project plan calls for close collaboration with the Customer Data & Analytics team to verify that the Company follows best practices for data modeling and integration and avoids duplicative integration work.
Vendor product roadmap updates during implementation	The final CEP implementation plan will include phased releases that closely align with vendor product roadmaps. Where possible, Con Edison will also rely on the selected System Integration Partner to influence vendor product roadmaps to minimize potential implementation obstacles.

Technical Evaluation / Analysis

The Company partnered with an external consultant to comprehensively assess customer engagement tools, resulting in key findings for the most critical CEP use cases, implementation plans, costs, and benefits.

The team has also held peer-to-peer discussions with two other major utilities that have recently or are in the process of implementing new CEP systems to understand their pain points, implementation plans, and realized benefits.

As a part of due diligence, the team compared both project cost and duration to similar CEP implementation projects across North American utilities. All-in cost ranges from \$25 million to \$55 million, depending on scale and scope of the solution, with the duration of the projects ranging from 18 months to three years. Most of Con Edison's peers have invested in similar CEP implementations in the last five to 15 years to improve customer and employee experiences.

Project Relationships (if applicable)

The CEP is essential for integrating existing initiatives, avoiding duplication, and ensuring project success. It benefits projects like the Digital Customer Experience (DCX), Customer Data & Analytics (EDAP), Customer Care and Billing (CC&B), and Privacy (OneTrust).

For instance, the Customer Data & Analytics Program needs data modeling for high-priority analytics. Coordination with this team is crucial to align dependencies and avoid redundant efforts in the CEP.

Similarly, the Enterprise Data Privacy Program's OneTrust solution manages customer consent and compliance. To that end, the CEP can use OneTrust to access consent and preference records to manage outbound communications.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M					\$0	
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	\$-	\$155	\$2,490	\$3,292	\$3,257
Regulatory Asset					
Capital (Total)	\$-	\$9,141.6	\$23,958.6	\$11,613.3	\$8,034.1
Labor	\$-	\$1,493.5	\$4,640	\$2,196.5	\$875
M&S	\$-	\$200	\$1,159.4	\$153.1	\$0
Contract Svcs.	\$-	\$6,716.3	\$14,438.9	\$7,687.4	\$6,017.6
Other	\$-	\$0	\$1,446.8	\$500	\$712.7
Overheads	\$-	\$731.8	\$2,273.6	\$1,076.3	\$428.8

*The test year runs from 10/1/2023 to 9/30/2024

Customer Engagement Platform: Interaction Dashboard Features

ID	Feature	Description	Select Use Cases
1	Interaction View	Employees will be able to see in one place all communications and interactions between the customer and the Company across the Correspondence Center, DCX, Call Center, etc.	- Performing initial triage for general inquiries - Receiving critical interaction banners and alerts for recent communications such as outage notifications
2	Outbound Communications	Employees will be able to send outbound communications directly from the User Interface.	- Sending communications through a centralized tool - Embedding customizable templates for common communications
3	High Bill Inquiries	The User Interface will guide employees through a standardized process for handling high-bill inquiries based on historical and contextual account information.	- Explaining valid high-bill reasons to customers, such as increased usage or possible rate changes - Identifying and correcting billing errors - Making clean energy program recommendations to lower bills
4	Appointment Scheduling	The User Interface will guide employees through a standard process for scheduling appointments and gathering required details based on contextual customer and account information.	- Recording premise or meter access information - Allowing for customer self-service once a CSR has confirmed that an appointment is required - Allowing customers to confirm or reschedule appointments
5	Outage Contacts	The User Interface will guide employees through a standardized process for handling customer outage reports based on different scenarios.	- Accurately identifying outage reports as emergencies or planned outages and triggering required actions - Providing current outage status and estimated time of restoration (ETR)
6	General Inquiries	The User Interface will guide employees through a standardized process for handling general customer inquiries based on different scenarios.	- Answering general bill questions - Providing customers with educational information or referrals to relevant product and program offerings - Assisting with traditional program enrollments (e.g., e-bill)

			• Providing support related to My Account, such as account unlocks
7	Start / Stop / Transfer Service	The User Interface will guide employees through a standardized process for starting, stopping, and transferring service.	• Starting, stopping, and transferring service
8	Payment Inquiries	The User Interface will guide employees through a standard process for handling payment inquiries based on different scenarios.	• Viewing and confirming payment history and status of payments • Making payments on the customer's behalf • Allowing customers to customize their autopay date • Viewing history and quantity of payment-related bill messages
9	Key Account Management	The User Interface will have advanced functionality for key commercial and industrial (C&I) account management and complex billing.	• Understanding customer interactions with Energy Services • Orchestrating communications between large customers and assigned representatives through a secure system that all team members can access to provide continuity of service • Store and view documentation related to customers and their service, such as turn on documentation or tax ID information
10	Embedded Knowledge Management	The User Interface will surface relevant and contextual knowledge articles to the user based on the business process being performed.	• Finding useful knowledge articles for each contextual situation without challenges such as keyword limitations • Embedding validations, reminders, and click-through business processes
11	Payment Arrangements	The User Interface will assist representatives in setting consistent payment arrangements with consolidated and efficient process steps.	• Offering standardized payment arrangements based on business rules • Suggesting optimal arrangements based on propensity data • Connecting customers to relevant resources to manage future usage
12	Case Management	The User Interface will provide clear routing and documentation of actions required to address a customer's request.	• Handling customer complaints (either internally or through the PSC) • Enabling and coordinating interaction workflows for rate consultants, energy service companies (ESCOs), data aggregators, and other third parties

13	Embedded Next Best Action	The User Interface will guide users to promote relevant and prioritized offerings, including basic account maintenance.	• Prompting regular updates of customer contact information • Offering programs and products for which the customer is likely eligible based on customer data and enterprise priorities
14	Agent-Assisted Live Chat	The User Interface will enable representatives to handle chat inquiries efficiently through streamlined communication tools and contextual response options.	• Assisting agents with recommended answers and knowledge resources during live chat conversations

Customer Engagement Platform: Correspondence Center Features

ID	Feature	Description	Select Use Cases
15	Outbound Correspondence Orchestration	The Correspondence Center will coordinate outbound communications at near-real-time or at a specified time of day through existing integrations, such as those with Message Broadcast or Broadridge.	• Sending collections notices to past-due customers • Sending bill-ready or payment due notifications
16	Interaction History	The Correspondence Center will connect and track historic interactions between the Company and its customers.	• Viewing what bill messages have been sent to customers • Viewing historical work order details and all associated notes • Viewing information that customers have sent the Company
17	Two-Way Customer Interactions	The Correspondence Center will allow the customer to respond to certain Company communications via their preferred channel.	• Enabling customers to confirm outage or restoration status • Allowing customers to confirm or modify appointment details • Allowing customers to request more information about their bill or programs
18	Context-Based Correspondence Logic	The Correspondence Center will use previous interactions and customer information to inform business rules for outbound communications.	• Restricting optional communications (e.g., marketing or outreach communications) if the customer was recently sent a shutoff notice • Restricting optional communications if the customer has recently received more than a specified number of communications • Restricting repeat communications to the same customer

19	Business Rule Triggers	The Correspondence Center will leverage business rules categorize, generate, and send transaction-based communications.	• Tailoring Credit and Collections communications and program recommendations to customer segments based on past behavior, credit rating, etc. • Sending seasonal safety communications (e.g., gas safety) • Automating semi-annual “Building Contact” confirmation of responsible party and associated contact information for emergency after-hours access • Sending e-bill enrollment recommendation to customers with active online profiles
20	Customer Preference Integration	The Correspondence Center will reference customer contact information, consent, and preferences (stored in OneTrust) when sending communications.	• Sending communications to the customer’s preferred channel (e.g., email or SMS)
21	Ad Hoc Correspondence	The Correspondence Center will enable template-based ad hoc individual or mass correspondence based on customer data retrieved from more than one system or database.	• Sending individual and/or mass outbound correspondence for scenarios that are emergent or not routine (e.g., construction notice) • Sending communications to customers in a specific area (e.g., by zip code)

CEP Roadmap

The CEP is comprised of 3 releases which will deliver 14 features in the Interaction Dashboard and 7 features in the Correspondence Center.

Release 1

Interaction Dashboard	Correspondence Center
- Interaction View - Case Management - Outage Contacts - General Inquiries - Start / Stop / Transfer Service - Payment Inquiries	- Interaction History - Outbound Communication Orchestration - Customer Preference Integration

Release 2

Interaction Dashboard	Correspondence Center
- Outbound Communications - Key Account Management - Embedded Knowledge Management - Payment Arrangements - Appointment Scheduling - High Bill Inquiries	- Two-Way Customer Interactions - Business Rule Triggers - Ad-Hoc Correspondence

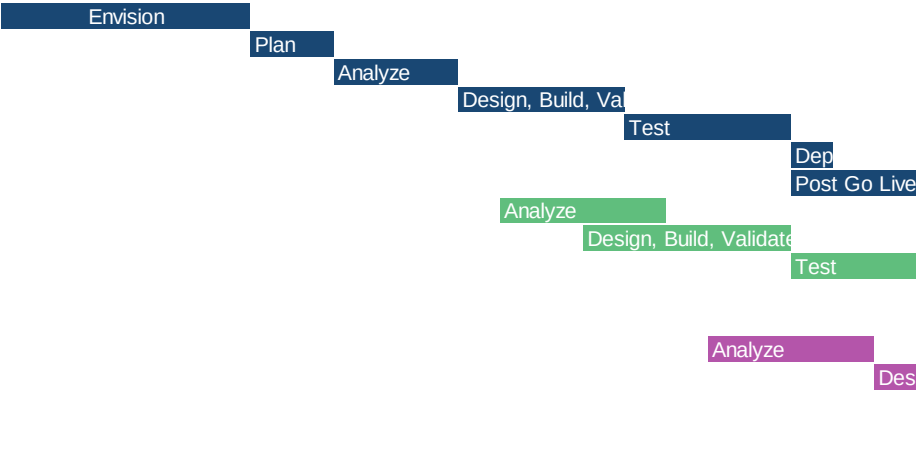
Release 3

Interaction Dashboard	Correspondence Center
- Embedded Next Best Action - Advanced Live Chat	Context-Based Correspondence Logic

Timeline View: Monthly

Day of Week:	1/1/2026	2/1/2026	3/1/2026	4/1/2026	5/1/2026	6/1/2026	7/1/2026	8/1/2026	9/1/2026	10/1/2026	11/1/2026	12/1/2026	1/1/2027	2/1/2027	3/1/2027	4/1/2027	5/1/2027	6/1/2027	7/1/2027	8/1/2027	9/1/2027	10/1/2027	11/1/2027	12/1/2027	1/1/2028	2/1/2028	3/1/2028	4/1/2028	5/1/2028	6/1/2028	7/1/2028	8/1/2028	9/1/2028	10/1/2028	11/1/2028	12/1/2028
Week #:	1	5	9	14	18	23	27	31	36	40	44	49	53	5	9	13	17	22	26	30	35	39	44	48	52	5	9	13	18	22	26	31	35	39	44	48

Release	Phase	Start	End	Business Days
1	Envision	1/1/2026	7/1/2026	130
1	Plan	7/1/2026	8/31/2026	44
1	Analyze	9/1/2026	11/30/2026	65
1	Design, Build, Validate	12/1/2026	3/31/2027	87
1	Test	4/1/2027	7/31/2027	87
1	Deploy	8/1/2027	8/31/2027	22
1	Post Go Live Support	8/1/2027	10/31/2027	65
2	Analyze	1/1/2027	4/30/2027	86
2	Design, Build, Validate	3/1/2027	7/31/2027	110
2	Test	8/1/2027	10/31/2027	65
2	Deploy	11/1/2027	11/30/2027	22
2	Post Go Live Support	11/1/2027	1/30/2028	65
3	Analyze	6/1/2027	9/30/2027	88
3	Design, Build, Validate	10/1/2027	2/28/2028	107
3	Test	3/1/2028	5/31/2028	66
3	Deploy	4/1/2028	7/30/2028	85
3	Post Go Live Support	7/1/2028	9/30/2028	65



	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M	\$155	\$2,490	\$3,292	\$3,257
Capital	\$9,141.6	\$23,958.6	\$11,613.3	\$8,034.1

Customer Engagement Platform Capital Resource Plan

Table 1: Implementation Cost Summary, Capital Request Detail

	2026 (RY1)	2027(RY2)	2028(RY3)
Labor	\$1,493,500	\$4,640,000	\$2,196,500
Overheads	\$731,815	\$2,273,600	\$1,076,285
Contracts	\$6,716,280	\$14,438,860	\$7,687,420
Licensing	\$200,000	\$1,159,375	\$153,125
Other	\$0	\$1,446,761	\$500,000
Total	\$9,141,595	\$23,958,596	\$11,613,330

Table 2: Labor Cost Breakdown

Resource Group	Component	Category	Title	2026 Costs	2027 Costs	2028 Costs
Con Edison	Shared	Executive Sponsor	Executive Sponsor	-	-	-
Con Edison	Shared	Program Manager	Program Lead	\$ 160,000	\$ 160,000	-
Con Edison	Interaction Dashboard	Product Management	Manager of Software Engineering	\$ 144,000	\$ 160,000	\$ 160,000
Con Edison	Interaction Dashboard	Product Management	Business Project Lead	\$ 160,000	\$ 160,000	\$ 160,000
Con Edison	Shared	Architecture/Technical Leadership	Solution Architect	\$ 104,000	\$ 130,000	\$ 65,000
Con Edison	Interaction Dashboard	Architecture/Technical Leadership	CRM Tech Lead	\$ 130,000	\$ 130,000	\$ 130,000
Con Edison	Correspondence Center	Correspondence Center	Business Analyst 1	\$ 76,500	\$ 100,000	\$ 100,000
Con Edison	Interaction Dashboard	Release Team 1	Business Analyst 1	\$ 80,000	\$ 100,000	-
Con Edison	Correspondence Center	Correspondence Center	CC&B Developer 1	\$ 50,000	\$ 100,000	\$ 100,000
Con Edison	Interaction Dashboard	Release Team 1	CRM Developer 1	\$ 50,000	\$ 100,000	-
Con Edison	Interaction Dashboard	Release Team 2	Business Analyst 2	\$ -	\$ 100,000	\$ 5,000
Con Edison	Interaction Dashboard	Release Team 2	CRM Developer 2	\$ -	\$ 100,000	\$ 5,000
Con Edison	Interaction Dashboard	Release Team 3	Business Analyst 3	\$ -	\$ 100,000	\$ 100,000
Con Edison	Interaction Dashboard	Release Team 3	CRM Developer 3	\$ -	\$ 100,000	\$ 100,000
Con Edison	Shared	Change Management	Change Management Sponsor	\$ 13,000	\$ 130,000	\$ 130,000
Con Edison	Shared	UAT	UAT Test Lead	\$ -	\$ 130,000	\$ 130,000
Con Edison	Interaction Dashboard	UAT	UAT Tester	\$ -	\$ 100,000	\$ 100,000
Con Edison	Interaction Dashboard	UAT	UAT Tester	\$ -	\$ 100,000	-
Con Edison	Interaction Dashboard	UAT	UAT Tester	\$ -	\$ 100,000	-
Con Edison	Interaction Dashboard	Architecture/Technical Leadership	Release Manager	\$ 65,000	\$ 130,000	\$ 130,000

Con Edison	Interaction Dashboard	Experience Design	Experience Lead	\$ 104,000	\$ 130,000	\$ 130,000
Con Edison	Interaction Dashboard	Experience Design	Experience Designer	\$ -	\$ 130,000	\$ 65,000
Con Edison	Interaction Dashboard	Experience Design	Customer Research	\$ 10,000	\$ 10,000	\$ 10,000
Con Edison	Correspondence Center	Correspondence Center	CC&B Developer 2	\$ -	\$ 100,000	\$ 100,000
Con Edison	Interaction Dashboard	Release Team 1	MuleSoft API Dev 1	\$ 50,000	\$ 100,000	\$ -
Con Edison	Interaction Dashboard	Release Team 2	Mulesoft API Dev 2	\$ -	\$ 100,000	\$ 5,000
Con Edison	Interaction Dashboard	Release Team 2	Mulesoft API Dev 3	\$ -	\$ 100,000	\$ 5,000
Con Edison	Interaction Dashboard	Release Team 2	Product Owner 2	\$ -	\$ 130,000	\$ 6,500
Con Edison	Interaction Dashboard	Release Team 3	Mulesoft API Dev 2	\$ -	\$ 100,000	\$ 100,000
Con Edison	Interaction Dashboard	Release Team 3	Product Owner 3	\$ -	\$ 130,000	\$ 130,000
Con Edison	Correspondence Center	Correspondence Center	MuleSoft API Dev 1	\$ 25,000	\$ 100,000	\$ 100,000
Con Edison	Interaction Dashboard	Release Team 1	MuleSoft API Dev 1	\$ 25,000	\$ 100,000	\$ -
Con Edison	Correspondence Center	Correspondence Center	Product Owner 1	\$ 117,000	\$ 130,000	\$ 130,000
Con Edison	Interaction Dashboard	Release Team 1	Product Owner 1	\$ 130,000	\$ 130,000	\$ -
Con Edison	Shared	Architecture/Technical Leadership	Reporting Analyst	\$ -	\$ 100,000	\$ -
Con Edison	Interaction Dashboard	UAT Tester 4	UAT Tester	\$ -	\$ 100,000	\$ -
Con Edison	Interaction Dashboard	UAT Tester 5	UAT Tester	\$ -	\$ 100,000	\$ -
Con Edison	Correspondence Center	Correspondence Center	CC&B Developer 4	\$ -	\$ 130,000	\$ -
Con Edison	Correspondence Center	Correspondence Center	CC&B Developer 5	\$ -	\$ 130,000	\$ -
Con Edison	Correspondence Center	Correspondence Center	CC&B Developer 6	\$ -	\$ 100,000	\$ -
Con Edison	Interaction Dashboard	Business Readiness	Tester	\$ -	\$ 130,000	\$ -
Con Edison	Correspondence Center	Business Readiness	Tester	\$ -	\$ 130,000	\$ -
CET Provider	Interaction Dashboard	Executive Sponsor	CRM Leadership	\$ 90,000	\$ 90,000	\$ 90,000
CET Provider	Interaction Dashboard	Architecture/Technical Leadership	Solution Architect	\$ 900,000	\$ 900,000	\$ 514,080
CET Provider	Interaction Dashboard	Architecture/Technical Leadership	Technical Architect	\$ 810,000	\$ 900,000	\$ 900,000
System Integrator	Correspondence Center	Correspondence Center	Solution Architect	\$ 589,000	\$ 380,000	\$ 304,000
System Integrator	Correspondence Center	Correspondence Center	Business Analyst 1	\$ 270,000	\$ 180,000	\$ 144,000
System Integrator	Interaction Dashboard	Release Team 1	Business Analyst 1	\$ 126,000	\$ 180,000	\$ -
System Integrator	Correspondence Center	Correspondence Center	DCX Developer	\$ 36,000	\$ 45,000	\$ 44,100
System Integrator	Interaction Dashboard	Release Team 1	CC&B Developer	\$ 31,500	\$ 45,000	\$ -
System Integrator	Interaction Dashboard	Release Team 2	Business Analyst 2	\$ -	\$ 180,000	\$ 18,000

System Integrator	Interaction Dashboard	Release Team 2	CC&B Developer	\$ -	\$ 90,000	\$ 4,500
System Integrator	Interaction Dashboard	Release Team 3	Business Analyst 3	\$ -	\$ 360,000	\$ 357,120
System Integrator	Interaction Dashboard	Release Team 3	CC&B Developer	\$ -	\$ 90,000	\$ 89,280
System Integrator	Shared	Program Management	Engagement Lead	\$ 193,680	\$ 900,000	\$ 194,400
System Integrator	Shared	Program Management	Delivery Lead	\$ 760,000	\$ 760,000	\$ 820,800
System Integrator	Shared	Advisory Board	Value Realization Office SME	\$ -	\$ 97,200	\$ 97,200
System Integrator	Interaction Dashboard	Advisory Board	Utilities SME	\$ -	\$ 97,200	\$ 97,200
System Integrator	Interaction Dashboard	Advisory Board	CC&B SME	\$ -	\$ 97,200	\$ 97,200
System Integrator	Shared	Architecture/Technical Leadership	Integration Lead	\$ 489,600	\$ 600,000	\$ 321,600
System Integrator	Correspondence Center	Correspondence Center	Developer 1	\$ 36,000	\$ 45,000	\$ 36,000
System Integrator	Interaction Dashboard	Release Team 1	Developer 1	\$ 31,500	\$ 45,000	\$ -
System Integrator	Correspondence Center	Correspondence Center	Developer 2	\$ 36,000	\$ 45,000	\$ 36,000
System Integrator	Interaction Dashboard	Release Team 1	Developer 2	\$ 31,500	\$ 45,000	\$ -
System Integrator	Correspondence Center	Correspondence Center	Developer 3	\$ 36,000	\$ 45,000	\$ 36,000
System Integrator	Interaction Dashboard	Release Team 1	Developer 3	\$ 31,500	\$ 45,000	\$ -
System Integrator	Correspondence Center	Correspondence Center	Development Lead	\$ 70,000	\$ 70,000	\$ 56,000
System Integrator	Interaction Dashboard	Release Team 1	Development Lead	\$ 49,000	\$ 70,000	\$ -
System Integrator	Correspondence Center	Correspondence Center	Component Lead	\$ 240,000	\$ 300,000	\$ 266,400
System Integrator	Correspondence Center	Correspondence Center	Functional Lead	\$ 270,000	\$ 180,000	\$ 159,840
System Integrator	Interaction Dashboard	Release Team 1	Functional Lead	\$ 126,000	\$ 180,000	\$ -
System Integrator	Correspondence Center	Correspondence Center	Mulesoft API Dev 1	\$ 48,000	\$ 60,000	\$ 53,280
System Integrator	Interaction Dashboard	Release Team 1	Mulesoft API Dev 1	\$ 42,000	\$ 60,000	\$ -
System Integrator	Interaction Dashboard	Release Team 2	Developer 1	\$ -	\$ 45,000	\$ 4,500
System Integrator	Interaction Dashboard	Release Team 2	Developer 2	\$ -	\$ 45,000	\$ 4,500
System Integrator	Interaction Dashboard	Release Team 2	Developer 3	\$ -	\$ 45,000	\$ 4,500
System Integrator	Interaction Dashboard	Release Team 2	Development Lead	\$ -	\$ 70,000	\$ 7,000
System Integrator	Interaction Dashboard	Release Team 2	Functional Lead	\$ -	\$ 224,640	\$ 18,000
System Integrator	Interaction Dashboard	Release Team 2	Mulesoft API Dev 2	\$ -	\$ 64,080	\$ 6,000
System Integrator	Interaction Dashboard	Release Team 2	Oracle PL/SQL Developer	\$ -	\$ 48,060	\$ 4,500
System Integrator	Interaction Dashboard	Release Team 2	Scrum Master	\$ -	\$ 74,760	\$ 7,000

System Integrator	Interaction Dashboard	Release Team 3	Developer 1	\$ -	\$ 90,000	\$ 89,280
System Integrator	Interaction Dashboard	Release Team 3	Developer 2	\$ -	\$ 90,000	\$ 89,280
System Integrator	Interaction Dashboard	Release Team 3	Developer 3	\$ -	\$ 90,000	\$ 89,280
System Integrator	Interaction Dashboard	Release Team 3	Development Lead	\$ -	\$ 140,000	\$ 138,880
System Integrator	Interaction Dashboard	Release Team 3	Functional Lead	\$ -	\$ 360,000	\$ 357,120
System Integrator	Interaction Dashboard	Release Team 3	Mulesoft API Dev 1	\$ -	\$ 120,000	\$ 108,960
System Integrator	Interaction Dashboard	Release Team 3	Oracle PL/SQL Developer	\$ -	\$ 90,000	\$ 89,280
System Integrator	Interaction Dashboard	Release Team 3	Scrum Master	\$ -	\$ 140,000	\$ 138,880
System Integrator	Interaction Dashboard	Release Team 3	Test Lead	\$ -	\$ 140,000	\$ 138,880
System Integrator	Shared	Change Management	Change Lead	\$ 75,000	\$ 600,000	\$ 300,000
System Integrator	Shared	Change Management	Change Lead	\$ 75,000	\$ 600,000	\$ 300,000
System Integrator	Interaction Dashboard	Change Management	Change Consultant	\$ 126,000	\$ 360,000	\$ 180,000
System Integrator	Interaction Dashboard	Change Management	Change/Value Realization Analyst	\$ -	\$ 360,000	\$ 388,800
System Integrator	Correspondence Center	Correspondence Center	Oracle PL/SQL Developer	\$ 36,000	\$ 45,000	\$ 44,100
System Integrator	Interaction Dashboard	Release Team 1	Oracle PL/SQL Developer	\$ 31,500	\$ 45,000	\$ -
System Integrator	Correspondence Center	Correspondence Center	Test Lead	\$ 56,000	\$ 70,000	\$ 68,600
System Integrator	Interaction Dashboard	Release Team 1	Test Lead	\$ 49,000	\$ 70,000	\$ -
System Integrator	Correspondence Center	Correspondence Center	Tester 1	\$ 36,000	\$ 45,000	\$ 44,100
System Integrator	Interaction Dashboard	Release Team 1	Tester 1	\$ 31,500	\$ 45,000	\$ -
System Integrator	Interaction Dashboard	Release Team 2	Test Lead	\$ -	\$ 87,360	\$ 7,000
System Integrator	Correspondence Center	Correspondence Center	Tester 2	\$ 36,000	\$ 45,000	\$ 44,100
System Integrator	Interaction Dashboard	Release Team 1	Tester 2	\$ 31,500	\$ 45,000	\$ -
System Integrator	Correspondence Center	Correspondence Center	Tester 3	\$ 36,000	\$ 45,000	\$ 44,100
System Integrator	Interaction Dashboard	Release Team 1	Tester 3	\$ 31,500	\$ 45,000	\$ -
System Integrator	Interaction Dashboard	Release Team 2	Tester 1	\$ -	\$ 56,160	\$ 4,500
System Integrator	Interaction Dashboard	Release Team 2	Tester 2	\$ -	\$ 56,160	\$ 4,500
System Integrator	Interaction Dashboard	Release Team 3	Tester 1	\$ -	\$ 90,000	\$ 89,280
System Integrator	Interaction Dashboard	Release Team 3	Tester 2	\$ -	\$ 90,000	\$ 89,280
System Integrator	Correspondence Center	Correspondence Center	UI/UX Developer	\$ 48,000	\$ 60,000	\$ 58,800

System Integrator	Interaction Dashboard	Release Team 1	UI/UX Developer	\$ 42,000	\$ 60,000	\$ -
System Integrator	Interaction Dashboard	Release Team 2	Tester 3	\$ -	\$ 56,160	\$ 4,500
System Integrator	Interaction Dashboard	Release Team 2	UI/UX Developer	\$ -	\$ 74,880	\$ 6,000
System Integrator	Interaction Dashboard	Release Team 3	Tester 3	\$ -	\$ 90,000	\$ 89,280
System Integrator	Interaction Dashboard	Release Team 3	UI/UX Developer	\$ -	\$ 120,000	\$ 119,040
System Integrator	Interaction Dashboard	Experience Design	Experience Lead	\$ 266,000	\$ -	\$ -
System Integrator	Interaction Dashboard	Experience Design	Experience Designer	\$ 210,000	\$ -	\$ -
System Integrator	Interaction Dashboard	Experience Design	Experience Researcher	\$ 126,000	\$ -	\$ -
System Integrator	Correspondence Center	Correspondence Center	Scrum Master	\$ 56,000	\$ 70,000	\$ 68,600
System Integrator	Interaction Dashboard	Release Team 1	Scrum Master	\$ 49,000	\$ 70,000	\$ -
System Integrator	Interaction Dashboard	Architecture/Technical Leadership	Reporting Analyst	\$ -	\$ 600,000	\$ -
System Integrator	Correspondence Center	Architecture/Technical Leadership	Reporting Analyst	\$ -	\$ 600,000	\$ -
System Integrator	Interaction Dashboard	Release Team 2	Business Analyst 3	\$ -	\$ 600,000	\$ -
System Integrator	Correspondence Center	Correspondence Center	Business Analyst 4	\$ -	\$ 600,000	\$ -
System Integrator	Interaction Dashboard	Release Team 2	Developer 4	\$ -	\$ 90,000	\$ -
System Integrator	Correspondence Center	Release Team 2	Developer 4	\$ -	\$ 90,000	\$ -

Customer Engagement Platform O&M Resource Plan

Table 1: Implementation Cost Summary, O&M Request Detail

	2026(RY1)	2027(RY2)	2028(RY3)
Labor	\$155,000	\$585,000	\$1,030,000
Contract	\$-	\$360,000	\$720,000
Other IT	\$-	\$250,000	\$250,000
Licensing	\$-	\$1,200,000	\$1,200,000
Other	\$-	\$95,000	\$91,955
Total	\$155,000	\$2,490,000	\$3,291,955

Table 2: Labor Cost Breakdown

Resource Group	Component	Category	Title	FTEs	Labor Rate	Start Date
Con Edison	Shared	Program Management	Program Lead	1	\$ 160,000	2027
Con Edison	Shared	Change Management	Change Management Sponsor	1	\$ 130,000	2027
Con Edison	Correspondence Center	Correspondence Center	Business Analyst 1	1	\$ 130,000	2028
Con Edison	Interaction Dashboard	Release Team 1	CRM Developer 1	1	\$ 100,000	2028
Con Edison	Correspondence Center	Correspondence Center	CC&B Developer 1	1	\$ 100,000	2028
Con Edison	Shared	Program Management	IT Solution Architect	1	\$ 180,000	2026
Con Edison	Shared	UAT	IT Tester	1	\$ 100,000	2027
Con Edison	Shared	Architecture/Technical Leadership	IT System Specialist	1	\$ 130,000	2027
System Integrator	Interaction Dashboard	Change Management	Change Consultant	N/A	\$ 360,000	2028
System Integrator	Shared	Run and Maintain	Developer 1	N/A	\$ 360,000	2027

CEP Roadmap: Prospective Future System Architecture

	Customer Engagement Platform (CEP)				
Methods of Interaction	 In person	 Web	 Mobile	 Email	 Telephone
Systems of Engagement The Interaction Dashboard will be a new system of engagement that integrates with existing systems and the new Correspondence Center.	1 Customer Interaction Dashboard	My Account	Mobile App	3rd Party Portals	
	Other relevant engagement systems				
Systems of Record The Correspondence Center will become a new system of record. The Correspondence Center and the Customer Interaction Dashboard will both pull data from existing systems.	2 Correspondence Center	MDMS	PEGA	CATS	
	CC&B	MAMS	Xstream	EDAP	
	Genesys I3	Azure DevOps	CPMS	Itron FCS	
	Service Link	Knowledge Advance	NMS	Questline	
	Fiserv Payments	Message Broadcast	Broadridge		
System of Trust OneTrust will house all customer preferences and consent.	OneTrust				

*System list is not all inclusive and is likely to grow during program development planning with System Integrator.

Customer Operations / Strategic Applications 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Digital Customer Experience	
Project/Program Manager: Alex Hardie	Project/Program Number (Level 1): PR.23242021 & PR.21088410
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: January 2015	Estimated Date In Service: Multiple (Agile)
2025-2029 Funding Request (\$000) Capital: \$73,520 O&M: \$54,919	
Work Description: The Digital Customer Experience (DCX) program is an integral part of the Company's efforts to continually meet rising expectations of customers and stakeholders. This program supports an evolving and modern digital footprint and positions the Company for the clean energy transition, enhancing our digital teams' agility to meet New York State's clean energy goals. Since its inception in 2016, the DCX program has refined the Company's core digital platforms, leading to a surge in the adoption of digital self-service across a broad range of key customer transactions. The DCX program uses a customer-centric, Agile project management approach that adapts project scopes based on customer feedback, analytics, and regulatory priorities. Looking ahead to 2025-2029, the program will focus on: - Technology Upgrades and Enhancements - Personalization and Control - Mobile App Enhancement - Virtual Assistant Enhancement - Leveraging Industry Trends and Emerging Technology <u>Technology Upgrades and Enhancements</u> Maintaining the reliability of the Company's digital platform requires constant monitoring and evaluating digital assets for potential upgrades. To that end, the Company will periodically review and update the infrastructure that enables our digital footprint to ensure the customer experience is safe and modern. <u>Personalization and Control</u> Strong and innovative personalized products drive top-rated digital customer experiences, as proven both inside and outside the utility industry. The DCX program continues to plan and build personalized experiences for our users to keep in line with customer expectations. For example, the Company is refining for launch in 2025 tailored energy usage and outage messaging for residential customers and personalized financial assistance tools.	

These and future enhancements will provide our customers with more knowledge and control over their energy consumption. By using customer data, analytics, and emerging technologies, DCX is identifying target areas for further personalization of its digital platforms.

Mobile App Enhancement

Top-rated digital customer experiences also require a strong mobile app presence. Advances in software technology have significantly shaped the mobile app landscape over the past decade, and our customers' increasing desire to interact with the Company through such apps. The Company's mobile app has more than 1.2 million users, a number which has steadily increased since its launch in 2018. The DCX program is focused on growing and refining the mobile experience through new transactional offerings, content optimization, and accessibility/security upgrades. These upgrades are also required to comply with Google Play and Apple store requirements. DCX is also committed to keeping the mobile applications up to date and in synch with the web enhancements as native application technology advances.

Virtual Assistant Enhancements

The DCX program now includes the Company's Virtual Assistant (VA) program, which was initiated in 2020. The VA program developed and launched "Watt," a virtual assistant to facilitate and simplify digital customer transactions. Watt provides a conversational experience to customers as an alternative digital channel, expanding our reach across digital platforms.

Looking forward, the Company will focus on two main areas within VA: expanding self-service capabilities and promoting clean energy. Expansion of self-service options will be possible through enhancements in Watt's capabilities and include customer journeys such as e-bill and Level Payment Plan enrollment, outage reporting, and account reactivations. In the longer term, the Company expects Watt to be a powerful ally in the Company's clean energy mission by providing customers with clean energy resources. Additionally, the Company will integrate AMI and energy audit data into Watt, giving customers a comprehensive view of their energy usage and positioning the assistant to be a personal energy usage advisor.

Leveraging Industry Trends and Emerging Technology

The Company continuously monitors industry trends and emerging technologies for ways to improve customer interactions across our digital platforms. These advancements allow us to build and support various clean energy features, such as smart homes, solar, and electric vehicles. Emerging technologies like artificial intelligence (AI) and machine learning make identifying and prioritizing new industry trends easier. For instance, machine learning is being used to identify and target specific customer segments that could benefit from personalized financial programs. The Company is committed to integrating this powerful technology into various components on the web, mobile, and VA channels. We expect the adoption of AI to improve the customer experience and empower employees to make informed decisions more quickly and confidently.

To maintain and further build the Company's digital presence, it requires a digital-focused team to expand the DCX platform. The Agile methodology allows the team to remain flexible in identifying and prioritizing work. The Company files quarterly updates on DCX in the Strategic CX Report in Cases 22-E-00064 and 22-G-0065, which replaced the quarterly Next Generation Customer Experience reports filed in earlier proceedings.

Capital costs required to support the DCX program include internal labor, vendor, software, and hardware costs. The Company is also proposing increased O&M spending for the DCX program for IT infrastructure maintenance, software-related fees charged by technology vendors, and ongoing costs

for technology solutions deployed by the DCX program. This increase will enable the Company to meet growing technology licensing and labor costs over time.

Additional funding details can be found in [Exhibit \(IT-5\)_DCX_Attachment 1_DCX Capital Request Detail](#) and [Exhibit \(IT-5\)_DCX_Attachment 2_DCX O&M Request Detail](#).

Justification Summary:

Since its launch in 2016, the DCX program has significantly improved the customer experience, and further investment is necessary to maintain high customer satisfaction. The program's agile implementation and constant feedback loop have resulted in higher customer satisfaction (e.g., a Net Promotor Score of 40) and reduced effort scores of 4.3/5, indicating that interactions with the Company have become more seamless. These are strong scores by industry standards, indicating that customers have come to rely on a high-quality, low-effort experience that meets their expectations.

Furthermore, the DCX program has driven the adoption of digital channels and improved customer friction points. For example, the percentage of customers completing key transactions online (e.g., Start Service) instead of using the call center increased from about 20% to nearly 50%. Other successes include doubling the adoption rate of digital offerings for payment agreements since 2019. Since 2022, the year-over-year digital growth of page views is approximately 4% on web and 13% on mobile, demonstrating continued growth in platform use and engagement. Finally, the Company also maintains best-in-class app ratings of about 4.8 out of 5.0 in both the iOS and Android stores.

Technology Upgrades and Enhancements

The Company must execute platform upgrades to the code base, including updating and refining the system's code, to serve customers without disruption and adapt to evolving requirements. These code base upgrades keep the Company up to date with industry standard security patches, vulnerability resolutions, and software updates.

Given the importance of data security, the Company is committed to developing and implementing necessary security protocols and features. This involves regularly scrutinizing and amplifying security measures to shield against potential threats and protect customer and platform data. Cybersecurity is extremely important to the Company, and the DCX program requires resources to keep our digital platforms safe, modern, and innovative.

Personalization and Control

Customer expectations of digital platforms rise as technology advances and becomes more mainstream. Part of those expanding expectations is a desire for control and personalization within digital products. Customers are trending toward owning more of their customer experience through increased interaction with their data, more desire for understanding how the products they use affect them, and an increased need to self-serve transactions at any time, from anywhere.

To meet these needs, the DCX program has positioned the Company toward developing new and useful tools within our digital platforms that empower our customers and employees to understand more about their daily interaction with energy. From personalized consumption data to customized outage messaging, DCX is working on programs to put more power into our customers' hands. Along with personalized functionality, customers also expect quick solutions to their problems. To achieve this, DCX operates in Agile methodology, an industry standard management philosophy that allows organizations to adapt, react, and deliver products quickly. This operating methodology is crucial to the DCX program and the Company's digital platforms.

Mobile App Enhancement

Mobile application development is a fast-growing, dynamic sector and is quickly becoming the normal interaction method between companies and customers. This trend will continue to grow as younger populations, who are more inclined to mobile usage, enter the Company's target audience. Top-rated mobile experiences are seamless when developed correctly, but require constant maintenance, with some applications receiving multiple updates per week.

The platform that mobile applications are built on is designed to be quick and efficient, and it is becoming more powerful as technology advances. To take full advantage of this market sector, the DCX program needs to continue its development and refinement of the mobile application. Increased functionality and user-friendly design are all part of the Company's roadmap to remain a top-tier digital experience and advance digital adoption efforts.

Virtual Assistant Enhancements

While virtual assistants have been in service for many years, this technology sector is still finding its footing in mainstream customer interactions. Over the last few years, however, technological advancements have opened new doors for virtual assistants to be more powerful than ever. With those new technologies, virtual assistants have the potential to immediately address customer needs. To date, many virtual assistants have been informational only, meaning customers could only ask questions and receive replies. Now, virtual assistants are able to complete transactions, have in-depth conversations, and provide guidance to customers.

The DCX program initiated the VA program in 2020 and has positioned it to grow with emerging technologies. The Company's goal is to have the virtual assistant reduce the load on customer service representatives (CSRs) by performing low-level transactions, providing account specific information to customers, and using the Watt tool as a first step in interacting with our customers. Looking ahead to future technological advancements, the virtual assistant has the potential to be audibly conversational, meaning customers could call the virtual assistant on the phone and speak to it they would a person. This presents many opportunities for the program, and DCX is committed to laying the foundation to advance this new technology.

Leveraging Industry Trends and Emerging Technology

Artificial intelligence has been in use for over a decade but only took to the mainstream in the last few years. Advancements in AI and Machine Learning (ML) capabilities since 2022 have been exponential compared to where the technology started, and this trend is only continuing. This technology can be powerful in many applications but requires considerable attention and monitoring to ensure it is used properly. The Company is already using AI and ML on several fronts, mainly behind the scenes to improve business processes, automate tasks, and understand large data sets. It also helps with identifying trends and quickly generating content for human refinement.

As the Company continues to integrate this technology into operations, its true potential is becoming apparent. The DCX program is an important partner to this initiative and has many use cases that will benefit the customer experience as well as business operations. Smarter, faster, and more useful customer transactional tools are possible with the support of AI, and DCX is committed to building the groundwork for this effort.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The DCX program is closely linked to many projects and programs in the Company's long-range plans, in addition to our core customer service operations. As the primary digital gateway for customers to access usage data and to discover additional opportunities as digital adoption grows, DCX is a strategic enabler for many initiatives, including energy efficiency, solar, and electric vehicle charging

programs. DCX will continue to provide customers with convenient, seamless, on-demand means of interacting with the Company that enhance the customer experience and increase engagement with clean energy programs, contributing to reduced greenhouse gas emissions. Additionally, the Company's digital offerings are available to all customers visiting the Company website or using its mobile app, including those in disadvantaged communities and needing additional languages. This includes access to services like Energy Affordability Program enrollment and payment assistance.

2. Supplemental Information

Alternatives

Since the DCX program is well established and supports the primary digital experience for the Company's customers, the only alternative to the investments proposed here is limiting capital investment to necessary platform upgrades and maintaining O&M for platform licensing, while performing required maintenance work. In that case, the Company would not be able to provide a continuously improving customer experience that meets evolving expectations, making customers less likely to use digital self-service options or participate in clean energy programs. Not investing in DCX would also make it harder to evolve customer journeys needed to enhance the adoption of new rates and clean energy tools that require thoughtful digital interactions.

If support for the Virtual Assistant program were discontinued, the Company would likely need to increase the number of CSRs to manage the call volume that Watt would have otherwise handled. Choosing to simply maintain the VA program without further investment would result in the Company failing to scale up or add more use cases, leading to a subpar customer experience. Moreover, Watt would be limited in terms of the number of transactions it could process. Over time, not investing in the program could lead to instability and reduced performance of the product, eventually requiring it to be decommissioned.

Risk of No Action

There are several key risks associated with no action:

- Diminished smartphone user experiences due to lack of long-term optimization planning and execution;
- Declining customer satisfaction as users become increasingly frustrated with an aged experience and technology;
- Platform instability and declining performance;
- Inability to adapt to evolving customer and regulatory requirements;
- Failure to support and leverage new customer engagement opportunities and emerging clean energy initiatives;
- Failure to mitigate or provide functionality that can result in cost avoidance or increased operating costs; and
- Failure to attract new customers to self-service options.

As a result, more customers would be driven to the Company's call centers rather than using self-service applications, increasing costs and wait times. Customer satisfaction over time would decrease, as digital-first customers unable to resolve their inquiry via self-service channels would instead speak with CSR to complete a transaction. As customer expectations rise, the need to speak with a CSR (and any associated wait time) will frustrate these digital-first customers.

Non-Financial Benefits

The DCX program will result in several non-financial benefits, including:

- Improved customer satisfaction through a comprehensive, simple, and intuitive web and app experience;
- Improved community relationships through a more engaging and informative website;
- Improved customer engagement through proactive communications and additional choice, control, and customer tools;
- Improved accessibility for special needs customers through content that meets regulations for hearing and visually impaired customers;
- Improved agility with a more robust technology suite, which allows for flexibility and iterative development of new content to better meet customer needs, outage communications, and regulatory initiatives;
- Improved resiliency related to storms, public safety, and other vital communications; and
- Improved speed of delivery of customer, regulatory needs, and related self-service options.

Summary of Financial Benefits and Costs (attach backup)**1. Cost-benefit analysis (if required)**

A cost benefit analysis and projected savings were provided as part of the Phase 0 analysis completed at the beginning of the DCX program (see Customer Operations Panel Testimony in Cases 16-E-0060 and 16-G-0061).

2. Major financial benefits

At this time, the program is not anticipating any cost savings.

3. Basis for estimate

The basis of the estimate is the ongoing historical cost for the program that has been well established.

Project Risks and Mitigation PlanRisk 1**Unplanned Regulatory Mandate or Customer Necessity**

DCX performs its work through an agile framework. This means the scope is not necessarily fixed and the team can prioritize new needs. This framework represents a strategic direction taken to manage this risk.

Risk 2**Information Technology and Business Resourcing**

DCX has procured multiple contracts, including a staff augmentation partner to allow for flexible teams that can scale to address capacity needs to mitigate this risk.

Risk 3**Technology Obsolescence**

The digital field has a landscape of ever-changing technology, new frameworks, and tools that may be released while the Company is working on its existing technology stack. By selecting the best-in-class technology solutions and Platform as a Service offerings, the Company anticipates that any advances in the field will be made available through its technology partners.

Technical Evaluation / Analysis

A comprehensive technical evaluation of the DCX program was completed during the Phase 0 analysis noted above. The Company used this analysis as the basis for scope, staffing, and cost estimates for the

program. In addition, the Company conducted continuous customer research to inform the program in the years since its inception. This research has confirmed customer expectations for robust digital channels and a simple, engaging experience. Please refer to the Company's rate filings in Cases 16-E-0060, 16-G-0061, 19-E-0065, 19-G-0066, 22-E-0064 and 22-G-0065 for further information.

In addition, the Company continues to evaluate investments to meet customer expectations in future years. This evaluation included reviewing customer needs and trends and the strategies and technology to address these areas. DCX also leverages strategic partners for benchmarking and market and industry trends. Additionally, the program actively cultivates data around the voice of the customer to inform decisions and understand customer needs. This research has identified the continued development of an omni-channel experience as a cross-industry best practice, and continued investment in the DCX program is the cornerstone of the Company's broader omni-channel approach.

The Company's approach to the Virtual Assistant program was based on a study carried out with a leading consultant in the customer experience space. Please refer to Customer Operations Panel Testimony in Cases 19-E-0065 and 19-G-0066 for further information.

Project Relationships (if applicable)

The DCX platform links with various programs across the Company. This includes support of the many clean energy projects with digital components, the Customer Care and Billing (CC&B) system, other customer applications in the Company's IT portfolio, and the Advanced Metering Infrastructure system.

The DCX platforms are the flagship and initial gateway to digital experiences being built out by the Customer Analytics, Reporting, and Engagement (CARE) program. The DCX efforts have multiple dependencies with these efforts that drive the clean energy initiatives from infrastructure, design standards, and technology. These efforts' success, security, and integration with the flagship web and mobile platforms are essential to their adoption and success.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024**</u>
O&M	\$6,456	\$5,454	\$6,035	\$8,049	\$8,114	\$8,007
Regulatory Asset						
Capital	\$12,621	\$9,650	\$10,738	\$4,538		\$13,007

2025-2029 Request:

Total Request by Year:

	<u>2025**</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	\$9,321	\$10,988	\$11,257	\$11,534	\$11,819
Regulatory Asset	\$0	\$0	\$0	\$0	\$0
Capital (Total)	\$10,000	\$15,880	\$15,880	\$15,880	\$15,880
Labor	\$1,371	\$1,838	\$1,838	\$1,838	\$1,838

M&S					
Contract Svcs.	\$7,818	\$13,215	\$13,215	\$13,215	\$13,215
Other	\$186				
Overheads	\$625	\$827	\$827	\$827	\$827

*The test year runs from 10/1/2023 to 9/30/2024 and is inclusive of Virtual Assistant

****2024 and 2025 includes Virtual Assistant**

DCX Capital Request Detail

Table 1: Capital Total

Total * (Rounded 000's)	2026	2027	2028
Labor	\$1,838	\$1,838	\$1,838
Contract Services	\$13,215	\$13,215	\$13,215
Overhead	\$827	\$827	\$827
Total	\$15,880	\$15,880	\$15,880

*No escalation applied to capital costs other than labor which is not represented below

Table 2: Labor Breakdown

Department	FTE Labor Role	Role Description	Allocation	2026	2027	2028
Corporate Affairs	Design	Design approvals and vetting of digital experiences.	100%	\$135,000	\$135,000	\$135,000
Corporate Affairs	Product Owner	Prioritization of work, business requirements, and planning.	100%	\$135,000	\$135,000	\$135,000
Corporate Affairs	U/X Designer	U/X design and approvals collaborating with Design Agency	100%	\$125,000	\$125,000	\$125,000
Customer Operations	Product Owner	Prioritization of work, business requirements, and planning.	100%	\$135,000	\$135,000	\$135,000
Customer Operations	Product Owner	Prioritization of work, business requirements, and planning.	100%	\$135,000	\$135,000	\$135,000
Customer Operations	Product Owner	Prioritization of work, business requirements, and planning.	50%	\$67,500	\$67,500	\$67,500
Customer Operations	Product Analyst	Support of program needs in coordination and documentation related to website and mobile products.	100%	\$115,000	\$115,000	\$115,000
Customer Operations	Product Analyst	Support of program needs in coordination and documentation related to website and mobile products.	100%	\$115,000	\$115,000	\$115,000
Customer Operations	Product Analyst	Support of program needs in coordination and documentation related to website and mobile products.	100%	\$115,000	\$115,000	\$115,000
Information Technology	Architect	Defining the overall technical strategy and framework	50%	\$95,000	\$95,000	\$95,000
Information Technology	Program Manager	Oversight of technology resources and planning	50%	\$87,500	\$87,500	\$87,500
Information Technology	Product Owner	Prioritization of work, business requirements, and planning.	50%	\$67,500	\$67,500	\$67,500

Information Technology	Developer	Designing, building, and maintaining the digital content architecture	50%	\$62,500	\$62,500	\$62,500
Information Technology	Product Owner	Prioritization of work, business requirements, and planning	50%	\$67,500	\$67,500	\$67,500
Information Technology	System Reliability Engineer	Optimization of digital infrastructure	50%	\$62,500	\$62,500	\$62,500
Information Technology	System Reliability Engineer	Optimization of digital infrastructure	50%	\$62,500	\$62,500	\$62,500
Information Technology	System Reliability Engineer	Optimization of digital infrastructure	50%	\$62,500	\$62,500	\$62,500
Virtual Assistant (Customer Operations)	Product Owner	Prioritization of work, business requirements, and planning	50%	\$67,500	\$67,500	\$67,500
Virtual Assistant (Information Technology)	Systems Specialist	Support of program needs in coordination and documentation for the Virtual Assistant program	50%	\$67,500	\$67,500	\$67,500
Virtual Assistant (Information Technology)	Product Analyst	Support of program needs in coordination and documentation related to website and mobile products	50%	\$57,500	\$57,500	\$57,500
Total*				\$1,837,500	\$1,837,500	\$1,837,500

Table 3: Contract Services, Overheads, & Other

Programs/Suppliers (Names Redacted)	Description of Service	2026	2027	2028
VENDOR 1	Staff Augmentation for IT development and consulting related to ongoing capital work (e.g., IT Architect, developers, and QA)	\$3,730,000	\$3,730,000	\$3,730,000
VENDOR 2	Resources to augment analytics work related to capital efforts	\$408,556	\$408,556	\$408,556
VENDOR 3	Resources to support middleware layer for web services.	\$116,111	\$116,111	\$116,111
VENDOR 4	Vendor developer FTEs	\$550,000	\$550,000	\$550,000
EMPLOYEES LABOR OVERHEADS	Labor overhead	\$850,000	\$850,000	\$850,000
MISCELLANEOUS	U/X and usability testing related to capital work.	\$208,000	\$208,000	\$208,000
VENDOR 5	Testing and QA resources	\$1,493,898	\$1,493,898	\$1,493,898
VENDOR 6	Design Agency and System Integrator, providing capacity for support capital ruled work	\$5,825,601	\$5,825,601	\$5,825,601
VENDOR 7	Developers to support Virtual Assistant effort	\$300,000	\$300,000	\$300,000
VENDOR 8	Developers to support Virtual Assistant effort	\$300,000	\$300,000	\$300,000
VENDOR 9	Scrum master for Virtual Assistant product	\$260,000	\$260,000	\$260,000
Total	Contract Services and Overhead	\$14,042,166	\$14,042,166	\$14,042,166

DCX O&M Request Detail**Table 1: O&M Total**

Total * (Rounded 000's)	2026	2027	2028
Labor	\$2,368	\$2,368	\$2,368
Contract Services	\$8,620	\$8,889	\$9,166
Total	\$10,988	\$11,257	\$11,534

*Costs remain flat 3 years other than 3% escalation applied to contract services.

*Normal escalation to be applied to labor not represented in the table below.

Table 2: Labor Breakdown

Department	FTE Labor Role	Role Description	Allocation	2026	2027	2028
Corporate Affairs	Program Manager	Oversight of the program and strategic design direction in regard to brand and voice	100%	\$175,000	\$175,000	\$175,000
Corporate Affairs	Copy Writer	Writing content for digital	100%	\$125,000	\$125,000	\$125,000
Corporate Affairs	Webteam	Ongoing day to day intake and web content delivery	100%	\$135,000	\$135,000	\$135,000
Corporate Affairs	Webteam	Ongoing day to day intake and web content delivery	100%	\$125,000	\$125,000	\$125,000
Customer Operations	Dept. Manager	Oversight of the program and strategic direction.	100%	\$180,000	\$180,000	\$180,000
Customer Operations	Product Owner	Prioritization of work, business requirements, and planning	200%	\$270,000	\$270,000	\$270,000
Customer Operations	Product Analyst	Support of program needs in coordination and documentation related to website and mobile products.	100%	\$115,000	\$115,000	\$115,000
Customer Operations	Specialist	Budget and vendor management	100%	\$135,000	\$135,000	\$135,000
Customer Operations	Program Owner	Overall strategy and framework, managing business staff	100%	\$175,000	\$175,000	\$175,000
Information Technology	Developer	Designing, building, and maintaining the digital content architecture	50%	\$125,000	\$125,000	\$125,000
Information Technology	IT Architect	Defining the overall technical strategy and framework	50%	\$115,000	\$115,000	\$115,000
Information Technology	Program Owner	Defining the overall technical strategy and framework	50%	\$62,500	\$62,500	\$62,500
Supply Chain	Sr Procurement Specialist	Supply Chain	100%	\$95,000	\$95,000	\$95,000
Information Technology	Jr. SRE	Information Technology	100%	\$87,500	\$87,500	\$87,500
Information Technology	Product Owner	Prioritization of work, business requirements, and planning	100%	\$135,000	\$135,000	\$135,000
Information Technology	Systems Reliability Engineer	Maintaining the uptime, performance, and reliability of the platform.	50%	\$62,500	\$62,500	\$62,500
Information Technology	Systems Reliability Engineer	Maintaining the uptime, performance, and reliability of the platform	50%	\$62,500	\$62,500	\$62,500

Information Technology	Systems Reliability Engineer	Maintaining the uptime, performance, and reliability of the platform.	50%	\$62,500	\$62,500	\$62,500
Information Technology	Systems Specialist (Virtual Assistant)	Support of program needs in coordination and documentation for the Virtual Assistant program.	50%	\$67,500	\$67,500	\$67,500
Information Technology	Product Analyst	Support of program needs in coordination and documentation related to website and mobile products.	50%	\$57,500	\$57,500	\$57,500
Total				\$2,367,500	\$2,367,500	\$2,367,500

Table 3: Contract Services & Other

Programs/Suppliers	Description of Service	2026	2027	2028
Vendor 1	Survey capability for Voice of the Customer insights.	\$193,355	\$199,156	\$205,130
Vendor 2	Quality Assurance and Testing Services.	\$307,397	\$316,619	\$326,117
Vendor 3	Design Agency and System Integrator, providing capacity for support of established platforms.	\$1,825,000	\$1,879,750	\$1,936,143
Vendor 4	Support for infrastructure maintenance.	\$125,681	\$129,451	\$133,335
Vendor 5	Staffing company providing augmented staffing needs for business (e.g., analysts)	\$463,621	\$477,530	\$491,856
Vendor 6	Staff Augmentation for IT development and consulting related to ongoing maintenance. (e.g., IT Architect, developers, and QA)	\$612,597	\$630,975	\$649,904
Vendor 7	Support middleware layer for web services.	\$146,398	\$150,790	\$155,314
Vendor 8	Software licensing - online calculators for time of use	\$67,674	\$69,704	\$71,795
Vendor 9	Software licensing - search capability for website.	\$27,594	\$28,422	\$29,274
Vendor 10	Software licensing - compliance software for preference and consent management.	\$193,355	\$199,156	\$205,130
Vendor 11	Software licensing - chat technology	\$135,349	\$139,409	\$143,592
Vendor 12	Hosting fees	\$844,631	\$869,970	\$896,069
Vendor 13	Software licensing - machine translation services	\$12,568	\$12,945	\$13,333
Vendor 14	Software licensing - translation services	\$77,342	\$79,662	\$82,052
Vendor 15	Accessibility and compliance guidance and audits	\$58,007	\$59,747	\$61,540
Vendor 16	Software licensing - identity access management software	\$2,500,000	\$2,575,000	\$2,652,250
Vendor 17	Platform and hosting fees for data analytics platform used by digital platform	\$96,678	\$99,578	\$102,566

Vendor 18	Software support for content management system that hosts website	\$265,863	\$273,839	\$282,054
Vendor 19	Benchmarking	\$19,336	\$19,916	\$20,514
Vendor 20	Developers to support Virtual Assistant product	\$217,980	\$224,519	\$231,255
Vendor 21	Developers to support Virtual Assistant product	\$197,098	\$203,011	\$209,101
Vendor 22	IT support for Virtual Assistant product	\$171,638	\$176,787	\$182,091
Vendor 23	Software licensing - platform that helps teams build, launch, and scale AI agents for voice and chat experiences	\$18,773	\$19,336	\$19,916
Other	Employee expenses, janitorial services, and hardware	\$42,537	\$54,227	\$65,809
Total		\$8,620,472	\$8,889,499	\$9,166,140

Customer Operations / Strategic Applications 2025-2029

1. Project / Program Summary	
Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Emergency Outage Communications Program	
Project/Program Manager: Edineria Soares	Project/Program Number (Level 1): 27202573
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 01/2026	Estimated Date In Service: Ongoing
2025-2029 Funding Request (\$000) Capital: \$10,598 O&M: \$8,510	
Work Description: The increased frequency and severity of climate events have elevated the importance of improving the speed and efficiency of communicating with large groups of customers to relay vital information before and during outages. As the Company works to reinforce every aspect of its ability to respond to these potentially larger and more catastrophic weather-related events, it must also upgrade its customer communications systems. To support the Company's Emergency Response Plan, the Company plans to enhance its emergency communications program to be able to message its entire customer base of 3.7 million account holders more quickly than its current technology allows. For that, the Company proposes capital and expense initiatives to acquire the telecom bandwidth necessary to reach large numbers of customers quickly and reduce the time required to transmit files from the Company to the vendor and from the vendor to the carriers. Capital funds will be used to purchase and build new technology that will enable the integrations needed for high-performance message delivery and to improve internal coordination and execution of outage event responses. Specifically, the Company will work with its messaging provider to build a new infrastructure that will include, among other items: 1. The acquisition and maintenance of dedicated ports for contracted throughput/bandwidth through Tier 1 telecom providers to ensure high message deliverability. (To clarify, Tier 1 telecom providers own or control their own portion of data transmission networks, while Tier 2 and 3 providers lease bandwidth from them.) 2. The use of load balancers to evenly distribute incoming and outgoing data traffic across hundreds of servers. 3. Auto-scaling, ensuring that the infrastructure scales up automatically when the traffic surges and scales down when it recedes.	

4. High-throughput application programming interfaces (“APIs”), which are designed to handle large batches of messages.
5. Real-time monitoring and alerts for any anomalies such as failures, delays, or bottlenecks on messaging traffic.
6. AI-powered text-to-speech (“TTS”) technology: For voice messages that are pre-recorded, the new TTS technology will allow the AI generation of raw audio waveforms, resulting in more natural-sounding voices than traditional TTS systems and eliminating the time-consuming voice recording process for emergency messages.

This project will complement the work that already started with funding provided by the previous rate case to expand the Company’s Outage Communications Program, see Exhibit_(IT-5)_Outage Communications Program, which includes:

- Creation of a new Outage Communications section under Customer Operations’ Strategic Applications, with expanded and dedicated staff, and
- Development of a more robust unified platform for planned and unplanned outages and no-notice, no-script emergency communications.

The result of this combined effort will be a highly efficient outage and emergency communications program that will allow the Company to reach out to its customers at scale with urgent and import messages via text, voice calls, and e-mails at the fastest speed available technology allows.

Life Support Equipment (“LSE”) customers that have registered with the Company will also receive these notices. This program, however, will not change the Company’s existing LSE notification process where customer service representatives reach out via telephone calls to check on the status of these customers.

For a more detailed breakdown on capital and O&M needs for this project, please refer to Exhibit_(IT-5)_Emergency Outage Communications Program_Attachment 1_ Capital and O&M Request Detail.

Justification Summary:

The customer communication capacity available to the Company via current contracted services is limited in its ability to reach the entire customer base quickly, since data and message transmission is done via shared bandwidth and shared throughput with telecom carriers. The current contracted services serve the Company well when the emergency communications target regionalized batches of customers on smaller and localized events. But when the message needs to reach the customer base at scale at once – i.e., when an event impacts all or most of the Company’s entire service territory – messaging can be delayed in reaching customers.

The Company’s Climate Vulnerability Study, published in 2019 in partnership with Columbia University’s Earth Institute and updated in September 2023, lists a variety of extreme and multi-hazard events that will occur more frequently in Con Edison’s territory due to the effects of climate change. These events, including extreme temperatures, flooding from precipitation, sea level rise, coastal storms, and extreme hurricanes and nor’easters, could cause catastrophic damage and widespread outages.

Since climate events usually hit many areas of the country simultaneously, relying on shared bandwidth and shared throughput communications services means that message delivery will be slowed down, because many other companies will be trying to use the same networks to message their own customers.

In other words, without dedicated bandwidth in a high-throughput platform, the Company is at the mercy of potentially slow and inefficient messaging services when its customers need support the most.

Apart from the clear benefit to customers, investment in the communications platform upgrade and dedicated telecom services will also result in cost efficiencies for the Company. High volumes of calls to the call centers represent one of the highest cost impacts of weather-related events to Customer Operations. Quicker and more efficient emergency communications will reduce the traffic to the call centers from customers looking for help with their services and restoration information.

In some cases, these more efficient communications will also help the Company prevent potential rolling outages and blackouts. For example, when energy loads are reaching their peaks during extreme temperature events, a messaging campaign asking customers to reduce usage could help balance the load and prevent “next-worst scenarios” that would require emergency power shutoffs or cause blackouts, which would result in much less stress for customers and large savings for the Company.

Dedicated capacity with carriers will allow the Company to overcome the challenges of network congestion to disseminate urgent messages at massive scale quickly and without creating any issues for other messaging services from city or state agencies. Through carrier partnerships and by employing prioritized routing, random distribution, and call throttling, the Company’s messaging vendor will ensure that vital alerts are prioritized without overburdening local exchange carriers.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

- This project will have a direct and beneficial impact to disadvantaged communities by providing quick and efficient means for the Company to reach out to customers in these communities with vital emergency and safety messaging in a speedier manner, before or during events that could present treacherous conditions and require fast action.
- By investing in modern technology that will allow the Company to send communications in massive scale quickly, this project will help the Company achieve the Emergency Response goals in its Climate Change Implementation Plan (Case Nos. 19-E-0065 and 19-G-0066), mainly by providing fast channels to broadcast crucial safety information to customers when climate change-driven events such as extreme temperatures, flooding, and precipitation are projected to impact the Company’s territory.
- The project also supports the Company on its risk mitigation activities by reducing the possibility of customers missing emergency communications or receiving them at a time that is too late to provide them adequate support.

2. Supplemental Information

Alternatives

The only alternative available would be continuing with the current contracted services for emergency customer communications with shared bandwidth and shared throughput.

Although the current services have served the Company well on past weather-related outage events, continuing with the status quo would hinder the Company’s ability to provide adequate messaging to its entire customer base before and during large, climate change-driven events with widespread and catastrophic impact in our territory, which are projected to increase in size and frequency in the near future.

Risk of No Action

Risk 1

The first risk of not having means to communicate with the Company's entire customer base quickly and at once is not achieving the required load reduction to prevent rolling outages in situations in which extreme temperatures lead to high stress on Company's transmission and delivery systems. On benchmarking with other utilities that have already moved to high-throughput Service Level Agreements with telecom carriers, there is clear evidence that fast messaging to customers results in energy usage reductions that prevent larger damage to the grid.

Risk 2

Another risk is the possibility that urgent and important alerts will reach portions of our customers too late, resulting in potential safety hazards. For example, while not directly related to Con Edison's services, 13 lives were lost in New York City during Hurricane Ida in 2021 because families did not receive in time the crucial information they needed to evacuate basement apartments in the path of rushing floodwaters. A lack of timely messaging to affected customers will also increase calls to the Company's call centers, resulting in increased costs and phone congestion.

Non-Financial Benefits

- Quick and reliable updates during extreme weather events enhance customer preparedness, safety and response
- Increase in customer satisfaction as a reflection of more timely communications
- Increase in message delivery rates and reduction of message latency
- Increase in equity of services, with all regions of the Company receiving the same messaging in a short window of time, compared to today, when messages are staggered by region, going from the region with the smallest customer count to the largest, in a process that could take several hours to complete
- Expanded ability to comply with regulatory mandates for customer communications during emergencies
- Improved customer engagement rates through data-driven campaign optimization
- Positioning of the Company as an innovative communications leader, increasing brand reputation

Summary of Financial Benefits and Costs

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Basis for estimate

The basis for this estimate is from a proposal from the vendor responsible for installing and managing the system.

Project Risks and Mitigation Plan

Risk 1

Technology could evolve faster than the Company's ability to deliver the project, which could mean the Company would end up with an expensive and outdated solution.

Mitigation plan

Plan and develop a flexible design that could seamlessly adapt to tech upgrades.

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

The upgrade in technology described in this white paper is directly related to Customer Operations' Outage Communications Program, which has a separate funding request to develop new initiatives and maintain existing services that provide communications to customers during outages and other emergencies. For more detail, please see [Exhibit_\(IT-5\)_Outage Communications Program](#).

This project will also support or interact directly with:

- Electric and Gas Operations' reliability efforts, specifically when Calls to Action to a broader base of customers are needed to help manage load and system capacity
- Customer Assistance's initiatives to manage or reduce the volume of customer calls to the call centers
- Emergency Preparedness efforts to coordinate communications about large emergencies with City and State emergency response organizations

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		\$2,210	\$2,100	\$2,100	\$2,100
Regulatory Asset					
Capital (Total)		\$2,097	\$3,202	\$3,202	\$2,097
Labor		\$233	\$232	\$233	\$116
M&S		\$1,139	\$2,102	\$2,102	\$1,555
Contract Svcs.		\$538	\$538	\$538	\$269

Other		\$124	\$233	\$233	\$94
Overheads		\$63	\$96	\$96	\$63

Emergency Outage Communications Capital and O&M Request Detail

Table 1: Emergency Outage Communications Capital Breakdown Summary

	2026	2027	2028
Labor	\$232,500	\$232,500	\$232,500
Overheads	\$62,910	\$96,060	\$96,060
Contracts	\$538,288	\$538,288	\$538,288
Licensing & Fees	\$1,138,537	\$2,102,477	\$2,102,477
Other	\$124,765	\$232,675	\$232,675
Total	\$2,097,000	\$3,202,000	\$3,202,000

Table 2: Emergency Outage Communications O&M Summary

	2026	2027	2028
Labor	\$-	\$-	\$-
Contracts	\$269,144	\$269,144	\$269,144
Licensing, Fees, Other IT	\$1,830,856	\$1,830,856	\$1,830,856
Messaging Cost	\$-	\$-	\$-
Other	\$110,000	\$-	\$-
Total	\$2,210,000	\$2,100,000	\$2,100,000

Table 3: Emergency Outage Communications Labor Breakdown (RY1-RY3)

Full Time Employee Role	Labor Rate	Allocation
Program Manager	\$160,000	50%
Product Owner	\$125,000	50%
Senior Specialist	\$109,000	50%
Technical BA	\$71,000	50%
Contractor Role		
Technical PM	\$200,288	100%
Solution Architect	\$218,000	100%
Testing Engineer	\$120,000	100%

Customer Operations / Regulatory & Compliance 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Enterprise Data Privacy Program	
Project/Program Manager: Michelle Dresner	Project/Program Number (Level 1): 25524259
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 2023	Estimated Date in Service: Ongoing
2025-2029 Funding Request (\$000) Capital: \$51,720 O&M: \$26,219	
Work Description: The Enterprise Data Privacy Program is a comprehensive initiative designed to enhance the Company's privacy practices to effectively manage and address mission-critical privacy risk, security, compliance, and governance imperatives. It aims to meet growing customer expectations regarding their data privacy while helping the Company comply with existing and evolving legal obligations related to personal information (PI) and personally identifiable information (PII). After standing up a privacy operations function and privacy technology platform during the 2023-2025 period, the next evolution of the Enterprise Data Privacy Program will focus on: 1. “Steady State” Privacy Operations: Stabilizing the Enterprise Data Privacy Program to effectively manage and scale the systems, processes, tools, and controls deployed through 2025. 2. Implementing Privacy Program Enhancements: Expanding the program’s capabilities to align with leading data privacy practices. <u>“Steady State” Privacy Operations</u> The Enterprise Data Privacy Program is building a robust operational function with the tools, systems, and processes required to support successful, efficient, and mature privacy management. The privacy technology infrastructure was established by implementing OneTrust as an enterprise-wide privacy management software platform that provides visibility into what personal data the Company has, where it is, and how it is connected across assets, vendors, and business processing activities. Ongoing O&M funding is needed to maintain “steady state” privacy operations and effectively deploy OneTrust, requiring work across privacy business and IT teams. These core workstreams and priorities are informed by recommendations from annual third-party assessments that review how the Company protects personal data, including the strength and maturity of its privacy program. These assessments are required under the Commission’s Order Directing the Creation of an	

Implementation Plan, issued August 19, 2013, in Case 13-M-0178, *In the Matter of a Comprehensive Review of Security for the Protection of Personally Identifiable Customer Information*.

- **Privacy Management:**
 - Manage privacy reviews and assessments to enable appropriate use and documentation around the data collected and stored in all Company technology projects, processes, or systems.
 - Maintain a privacy management inventory of systems containing PI/PII, with mapping of what types of personal data each system contains.
 - PI/PII issue identification, escalation, and resolution with Privacy Compliance.
 - Manage a systematic approach to responding to privacy requests and honoring privacy rights, including the ability to access, correct, and delete stored data as applicable.
- **Data Discovery and Governance:**
 - Leverage scans of databases and systems to locate, catalog, classify, and tag PI/PII in Company data sources.
 - Support privacy operations and the enforcement of data policies by maintaining an organized, searchable, and centralized catalog of data assets containing PI across the Company.
 - Support Company data governance priorities and IT's data governance program through integration with the enterprise data catalog, MS Purview.
 - Maintain the OneTrust software platform production environment.
- **Consent and Preferences:**
 - Build and maintain a universal preference center that centralizes how consent is obtained, managed, and stored across all data collection points (e.g., online, paper, phone) and manages customer preferences, including opt-ins and opt-outs.
 - Conduct ongoing scans and categorization of website cookies, which are small files that all websites use to collect information about how users interact with the sites to manage and track the experience of the user.
 - Implement banners for desktop and mobile versions of the Company website to create user visibility and personalization options.

Implementing Privacy Program Enhancements

The following capital initiatives are needed to continue the program's progress to date, enhance the privacy portfolio, further the Company's privacy maturity, and improve customer confidence that the Company is handling personal data consistently, with the right controls and protections in place.

- **Establishing a Data Sharing Governance Platform.** To fill current knowledge gaps around enterprise-wide data sharing practices, the Enterprise Data Privacy Program seeks to engage in Company-wide discovery, RFP development, and implementation to establish a centralized, comprehensive inventory of:
 - all third parties with whom the Company shares personal information (including vendors, distributed energy resources (DERs), energy service companies (ESCOs), and regulatory agencies),
 - the specific information being shared,
 - the uses of it by the third party, and
 - the controls to manage the relationships, whether it be from self-attestations or service contracts.

Key actions and outcomes of this workstream include:

- Implementing technology to create and maintain a comprehensive inventory of all third parties with whom the Company shares PI/PII; what data is shared; data access

mechanisms; terms of use; data retention periods, controls and risks; and certification of data deletion to create an enterprise platform for all data sharing.

- Integrating with existing platforms that govern or manage third parties and/or data sharing (including KY3P, Green Button Connect, and Retail Access) to develop workflows and business processes for more efficient, centralized methods for monitoring the consistency of practices and controls.
- Enhancing mechanisms for ongoing and new vendor privacy risk management and data sharing governance.
- Leveraging the integration between OneTrust and the enterprise risk register (Archer) to extend risk management around PI/PII to third-party data sharing.
- Collaborating with IT, Data Governance, and Data Stewards to leverage this PI/PII data-sharing platform to enhance the OneTrust data catalog.

- **Modernizing Records Retention and Data Disposition Capabilities.** When managed effectively and with high levels of confidence, modernized records retention and data disposition programs for PI/PII can:
 - Reduce the extent and impact of the risk from a cyber event by minimizing the retention of unnecessary data and limiting possible legal exposure in breaches.
 - Dictate the efficiency and nature (automated vs. manual) with which consumer data deletion requests can be fulfilled.
 - Reduce direct costs of data storage and management.
 - Support legal hold management and discovery efforts.
 - Enable enterprise-wide data minimization and efficiency efforts.

This initiative will modernize and automate records identification and management processes to drive timely, consistent destruction of records for systems containing PI/PII across the Company. Key actions that would be undertaken in a new workstream include:

- Centralizing and modernizing an enterprise-wide record inventory, including by leveraging the existing OneTrust data platform and other reliable source systems like Iron Mountain as a starting point.
- Enabling seamless retrieval of PI/PII data in an accurate, secure, and timely manner to satisfy business needs or for regulatory/legal review.
- Improving PI/PII record management efficiency and reducing manual effort for copying, indexing, or retrieving data.
- Operationalizing identifying records PI/PII data identification and records classifications, streamlining categorization where possible.
- Integrating PI/PII records retention practices into the data lifecycle across business processes and corporate infrastructure.
- Finding efficiencies and establishing a framework that IT teams can leverage to broaden to other type(s) of sensitive data beyond PI/PII in the future.

This initiative will be conducted in collaboration with Customer Data and Analytics, Privacy Compliance, Legal and Records Management, and IT.

- **Implementing AI Governance Tools and Processes.** In partnership with IT's Data Governance Office ([Exhibit \(IT-9\)_Data and AI Governance Program](#)), the Enterprise Data Privacy Program will help the Company align its privacy controls across AI policies, tools, and processes. Privacy Operations and Data Governance tools will need to evolve and coordinate to support AI governance.
- **Expanding OneTrust Platform Functionality:** To further enhance the Company's implementation of the OneTrust platform and keep pace with legislative and business updates, ongoing capital work will also be required, such as:

- Supporting identity verification. Fulfilling consumer data requests requires validating the identity of the requester to confirm that the data request is not erroneous or fraudulent. Even when we do not fulfill the request, providing an appropriate response can require identity verification. The Company can significantly improve current manual identity verification processes by using a third-party service to perform automated identity verification using an established vendor like Experian. Such a service can be connected directly into OneTrust's request form and would not require the Company to store the collected PII.
- Enhancements to the universal preference center through new systems integrations (estimated at six per year) and collaboration with aligned Company initiatives that touch consumer communications and consent collection (e.g., Customer Engagement Platform (CEP), Customer Data Sharing, Outage Communications).
- Integration between OneTrust and the enterprise risk register (Archer) to operationalize the Company's approach to risk management around PI/PII, in collaboration with Data Governance and Privacy Compliance.

See Exhibit_(IT-5)_Enterprise Data Privacy Program_Attachment 1_Privacy Request Details for a detailed breakdown of this funding request.

Justification Summary:

The Company takes seriously its responsibility to collect, use, process, share, and protect customer and employee PI and PII. It is the Company's position that these are the rights and expectations of the customers we serve, regardless of the statutory or regulatory framework in the states where they receive our services.

Resourcing a privacy program increases customer trust, mitigates risk, enables privacy compliance, shifts Company culture around how PI/PII is managed and protected, and strengthens the Company's ability to evolve through the clean energy transition.

"Steady State" Privacy Operations

The Enterprise Data Privacy Program will continue the Company's investment in foundational technology that is essential to responsibly use and protect our customers' personal data – actions which in turn reinforce customer trust. The program empowers customers to make clean energy choices by providing them with greater access and decision-making around how their data is used and shared.

The program workstreams outlined above – Privacy Management, Data Discovery and Governance, and Consent and Preferences – are all informed by current regulations as well as data on customer, risk management, and compliance drivers of this program, as outlined below.

- Recommendations from the Company's PSC-mandated annual PII Assessment Plan to address gaps and align the Company with leading practices for customer privacy. Through these assessments, the Company has received recommendations for "steady state" activities around automating PIA processes, developing a PII inventory and active directory for PII systems, mapping PII data flows, and supporting compliance surrounding data sharing and opt-out procedures.
- Ongoing compliance with current state and federal laws and regulations that have been used for actions against companies for harms to consumers related to personal data. Relevant statutes include:
 - New York State (NYS) General Business Law (GBL) § 899-AA, amended and expanded under the 2019 SHIELD Act, requires disclosure of breaches affecting personal data of NYS residents, as well as the breach notification laws of other states where Company

customers have established primary residence and whose personal information that the Company holds.

- NYS GBL § 899-BB requires protection of the security, confidentiality, and integrity of the personal information of residents of New York.
- NYS GBL § 349 and Section 5 of the Federal Trade Commission (FTC) Act both protect consumers from deceptive acts and practices in how they are reasonably led to believe their personal data will be used and secured.
- The federal Controlling the Assault of Non-Solicited Pornography and Marketing (CAN-SPAM) Act provides rights to consumers regarding commercial emails.
- The federal Telephone Consumer Protection Act (TCPA) restricts the use of phone numbers for unnecessary or unwanted calls or text messages.

The NYS Office of the Attorney General (OAG), under NYS GBL §§ 899-AA, 899-BB, and 349, and the FTC, under Section 5 of the FTC Act, have aggressively pursued enforcement actions against companies that fail to protect consumers from harm when their personal data is exposed in breaches or other data loss incidents. Settlements and agreements from these enforcement actions often include costly remediation and upgrade work and significant fines. Federal regulators have also expanded their focus to how consumers' personal information is used for communications under the CAN-SPAM Act and TCPA. With the rise in digital communications, including by Con Edison, consumers have become increasingly savvy about their rights, and violations of these regulations can result in sizeable fines.

- Rising customer expectations regarding the handling of personal data. More than half of U.S. adults have received notices that their personal data has been compromised. Protection of personal data is imperative as hackers become more sophisticated, instances of data breaches and stolen data increase, and new and evolving cybersecurity risks emerge. Customers' engagement with the Company about their personal data and privacy rights has continued to be on the rise, with 249 data privacy inquiries received in 2024 compared with 97 in 2023. Even in the absence of a comprehensive New York State privacy law requiring fulfillment of these requests, the privacy operations team still has an obligation to respond to customer inquiries accurately and in a timely manner.
- Growing Company risks surrounding current, new, or modified rules and regulations, as well as new and emerging cybersecurity and incident reporting requirements. For example, automating privacy workflows with a robust data mapping program indirectly supports a strong cyber incident response, reducing overall costs associated with incident management and enabling faster customer and regulator notifications when required. Continuing and enhancing the Enterprise Data Privacy Program is central to the Company's strategy to mitigate and improve its privacy risk posture.
- Evolving legal obligations. Legal scrutiny around the use of PI/PII is intensifying, along with the financial and reputational repercussions for non-compliance with requirements to protect consumers' data. More than a dozen states (including Connecticut and New Jersey) have enacted comprehensive privacy laws in recent years, and the New York Privacy Act was reintroduced in the State Senate in January 2025. Similar legislation was also introduced at the federal level with the bipartisan American Privacy Rights Act introduced in April 2024. Once implemented at the state and/or federal levels, these bills will have wide-ranging implications for how the Company collects, uses, and protects personal data.

See [Exhibit_\(IT-5\)_Enterprise Data Privacy Program_Attachment 2_Privacy Program Drivers](#) for additional information on these program drivers.

Implementing Privacy Program Enhancements

The proposed enhancements are similarly driven by the overarching needs of the privacy program and would enable the Company to meet PII Assessment Plan recommendations beyond the current privacy scope, such as by implementing workstreams that address data minimization, retention, and destruction practices and support PII risk register integration.

- **Establishing a Data Sharing Governance Platform:** A centralized platform will support the Company's data-sharing obligations beyond its current regulatory obligations. It will also facilitate transactional purposes, such as managing our Retail Access or Value of Distributed Energy Resources programs and reporting or research initiatives with governmental, regulatory, and other agencies or organizations (e.g., NYISO, NYPA, etc.). Through this initiative, the Company will extend its current privacy and governance-related controls and activities (currently operationalized through the OneTrust platform) to cover its enterprise-wide third-party data-sharing practices. This initiative will support risk mitigation as it relates to third-party data sharing and provide increased visibility into the Company's potential exposure to third-party breaches and associated data loss.
- **Modernizing Records Retention and Data Disposition Capabilities:** Effective records retention, assessment of the ongoing risks of data storage, and timely disposal of that data are the keys to a successful privacy program. They are also required for the Company under GBL § 899-BB.
- **Implementing AI Governance Tools and Processes:** The understanding of and visibility into the Company's personal data landscape gained through the Enterprise Data Privacy Program is a critical input for the Company to make informed decisions around its current and future use of artificial intelligence (AI).
- **Expanding OneTrust Platform Functionality:** Ongoing platform enhancements are an essential component of maintaining and continuously improving modern technology. As business and regulatory requirements, and customer expectations evolve, the Enterprise Data Privacy Program must be prepared to adapt the OneTrust platform to keep pace and meet these needs. Expanding functionality will further enable the Company to unlock new value in automating and improving privacy processes, creating greater efficiencies, and improving both customer and employee experiences around data privacy.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The activities proposed in this program support the Company's long-range objective of enabling safe, reliable, and resilient delivery of energy by strengthening the Company's privacy posture and increasing customer confidence and trust around the protection of their data, including that of customers in disadvantaged communities. The development and deployment of centralized privacy solutions further support the CLCPA's goals by enabling third-party data sharing that will unleash clean energy solutions that reduce greenhouse gas emissions.

As discussed in this exhibit, the Enterprise Data Privacy Program also addresses recommendations and implementation plans related to the Company's annual PII Assessment Plan, as required by the Commission.

Further, the staffing, processes, and technologies included in this program will bolster the effectiveness of aligned programs across Privacy Compliance, IT, Customer Operations, and Legal and Records Retention by supporting a Company-wide effort to build a more mature, healthier data ecosystem with adequate visibility and controls and instill a data-driven culture across the Company.

2. Supplemental Information

Alternatives

Alternative 1:

Risk non-compliance with existing statutes (e.g., TCPA, CAN-SPAM, NYS GBL) due to not being able to maintain the tools and processes under the Enterprise Data Privacy Program or keep the platform and integrations up to date as groups across the Company add new systems and processes that collect, use, and share PI and PII. Further, the Company will not be positioned to meet new/evolving requirements if the privacy operations function and OneTrust privacy technology infrastructure are not adequately resourced, which could reduce the Company's ability to implement the PSC-mandated PII Audit recommendations, respond to privacy rights requests, or conduct Privacy Impact Assessments, among other core privacy activities.

Risk of No Action

The Enterprise Data Privacy Program is a strategic initiative designed to address identified and closely monitored privacy risks. Key actions being monitored by Company leadership that this program enables or supports include:

- Maturing data privacy office and program
- Centralized data scanning and inventory of PII systems
- Automated Privacy Impact Assessments

There are several key risks associated with no action:

- Increased corporate risk around privacy
- Non-compliance with legislative mandates, including associated financial penalties
- Increased regulatory scrutiny
- Loss of goodwill and/or negative public image
- Declining customer satisfaction as users become increasingly frustrated with not having control over their data
- Inability to adapt to evolving customer and regulatory requirements
- Negative customer experiences due to disconnected processes and systems for honoring communications and data sharing consent and preferences
- Erosion of progress and capabilities built in the past five years to implement OneTrust and stand up a Privacy Operations function

Non-Financial Benefits

Non-financial benefits to the Company and its customers include:

Customers:

- Improved customer satisfaction, achieved through increased transparency and additional security of personal data
- Enhanced customer empowerment by developing tools that help our customers take control and make choices over their consent and preferences
- Improved customer trust that we take their privacy seriously
- Streamlined customer experiences to exercise privacy rights and have them honored consistently across the Company

The Company:

- Improved enterprise positioning for risk mitigation and compliance audits
- Reduced risk of brand loss or reputational damage

- Improved privacy technology solutions and business processes to manage and protect PI/PII and protect the Company's operations against both internal and external threats
- Enhanced capabilities to respond to data breaches or PI/PII incidents quickly and with confidence
- Reduced risks of sharing PI/PII as the Company increases its engagement with DERs and other third parties through the IEDR to facilitate the clean energy transition
- Creation of an evergreen, connected privacy inventory that adapts in real time to maintain compliance and manage privacy risks effectively
- Achievement of data minimization to reduce inefficiencies and lower risk by improving enterprise-wide data collection, sharing, and retention/deletion practices
- Embedding privacy protections and controls seamlessly into Company programs from the earliest stages of project planning, rather than later when privacy pitfalls can have greater dependencies and implications
- Continue the Company's investment in foundational technology that is essential to accelerating the clean energy transition
- Meet and exceed the data privacy commitments outlined in our Privacy Policy

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A.

2. Major financial benefits

Cost avoidance from penalties. For example, both the NYS Office of the Attorney General and the FTC have taken action against companies for harms to consumers related to personal data, resulting in millions of dollars in financial impact for companies that have failed to protect consumer privacy. Further, possible penalties for violations of the CAN-SPAM Act are up to \$51,744 per email, while TCPA violations can result in fines starting at \$500 to \$1,500 per call or message, plus potential treble damages.

This program can also mitigate the additional labor, legal, and financial costs in responding to customer/user data loss or data breaches related to personal information.

3. Basis for estimate

The estimates are based on projects of similar effort, current resourcing actuals, service contract costs, benchmarking, and analysis from experienced consultants. To maintain existing operations and anticipate scale once legislation is passed, some resources currently allocated as capital will move to O&M, in addition to several new hires also classified as O&M.

Capital and O&M costs include resourcing, hardware, and software for the Privacy Operations team, IT and contractor resources, and work to be performed by adjacent groups. Capital costs required to execute this work cover internal labor, vendor costs, and software and hardware costs. Additional non-labor expenses include software-related fees charged by vendor support and ongoing costs for technology. Daily privacy operations work (e.g., data rights request fulfillment) is subject to change based on evolving federal and state legislation, with data subject requests and fulfillment requirements expected to exponentially increase once legislation is passed. This necessitates a phased approach for ramping up Company privacy capacity to align with industry standards and meet both current and anticipated operational demand.

See Exhibit_(IT-5)_Enterprise Data Privacy Program_Attachment 1_Privacy Request Details for additional information.

Project Risks and Mitigation Plan

Risk	Mitigation Plan
Changes to other in-flight capital projects that could have privacy impacts	Establish robust privacy management governance process for internal alignment and cross-project collaboration
Internal IT resource availability	Engage the services of third parties, consultants, and contractors where needed
Legislators and regulators provide short timeline to implement project	Work closely with regulators to monitor and understand requirements while proactively building operational capacity

Technical Evaluation / Analysis

A comprehensive technical evaluation of the Enterprise Data Privacy Program was completed during 2020 Phase 0 analysis by a third-party vendor. This analysis was used as the basis for scope, staffing, and cost estimates for the program. The Phase 0 effort included a gap analysis, system inventory, and an enterprise technology roadmap to position the Company to comply with the expected changes in privacy laws.

Future estimates build on this technical analysis by factoring in operational actuals from 2023-2024 alongside expert consultant recommendations.

Project Relationships (if applicable)

The Enterprise Data Privacy Program is related to the Customer Data Sharing program, Digital Customer Experience (DCX) program, Customer Engagement Platform (CEP), Customer Data and Analytics program, Outage Communications Program. It is connected to the Arrears Management Program and Contact Center Staffing and Training Program, particularly with respect to protecting privacy in the midst of increased collections outreach, in addition to the Company's Privacy Compliance, Cyber, Data Governance, and Legal and Records Management programs.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M					\$450**	\$465
Regulatory Asset						
Capital				\$4,461		

***Note that historic O&M spend is not reflective of ongoing O&M costs because almost all work performed in 2023 and 2024 is capital build work, which will begin shifting to a mix of O&M to support original build work that has been deployed with capital to complete some workstreams. O&M will then increase in following years as further capital project work under the Enterprise Data Privacy Program is completed and to fund license renewals.*

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	\$1,102	\$6,814	\$4,847	\$5,008	\$8,448
Regulatory Asset					
Capital (Total)	\$3,000	\$15,600	\$16,800	\$9,360	\$6,960
Labor	\$529	\$2,462	\$3,031	\$1,577	\$1,577
M&S		\$1,300	\$850	\$500	\$500
Contract Svcs.	\$2,265	\$10,490	\$11,320	\$6,440	\$4,040
Other		\$390	\$420	\$230	\$230
Overheads	\$206	\$958	\$1,179	\$613	\$613

*The test year runs from 10/1/2023 to 9/30/2024

Enterprise Data Privacy Program – 2026-2028 Rate Case Request

OVERALL REQUEST SUMMARY				
Capital (\$000)	2026	2027	2028	
Internal Labor and Overheads (Business and IT)	\$3,420	\$4,210	\$2,190	
Staff Augmentees	\$2,490	\$2,850	\$1,490	
System Development Integration Costs	\$6,050	\$5,070	\$3,450	
Consulting and Professional Services	\$1,950	\$3,400	\$1,500	
New Software Licensing, Hardware, Infrastructure	\$1,300	\$850	\$500	
Miscellaneous (<i>Contingency & Incidentals</i>)	\$390	\$420	\$230	
Total	\$15,600	\$16,800	\$9,360	\$41,760

O&M (\$000)	2026	2027	2028	
Internal Labor (Business and IT)	\$3,063	\$3,416	\$3,416	
Ongoing Software Licensing and Fees	\$2,200	\$550	\$550	
Managed Services Support and Staff Augmentation	\$1,500	\$830	\$990	
Incidentals, Training & Development	\$51	\$51	\$52	
Total	\$6,814	\$4,847	\$5,008	\$16,669

CAPITAL DETAILED SUMMARY (\$000s)	2026	2027	2028
Privacy Platform Enhancements and Ongoing Integrations with New Systems <i>Integrations and upgrades to support targeted data discovery, consent and preference management, risk registry, automated identify verification, and AI governance</i>	\$10,830	\$8,430	\$5,600
Business Privacy Team – Project Mgrs., Product Owners, Business Analysts	\$1,185	\$972	\$427
IT Privacy Team – Arch, Sys Mgrs., Sys Spec., Analysts	\$965	\$758	\$574
Staff Augmentees	\$1,330	\$1,430	\$800
System Development Integration Costs	\$5,300	\$3,570	\$2,700
Consulting and Professional Services	\$1,200	\$1,200	\$600
New Software Licensing, Hardware, Infrastructure	\$850	\$500	\$500
3rd Party Data Sharing Governance Platform	\$3,660	\$6,710	\$1,400
Business Privacy Team – Project Mgrs., Product Owners, Business Analysts	\$550	\$1,105	\$185
IT Privacy Team – Arch, Sys Mgrs., Sys Spec., Analysts	\$470	\$875	\$205
Staff Augmentees	\$840	\$1,080	\$460
System Development Integration Costs	\$750	\$1,500	\$250
Consulting and Professional Services	\$600	\$2,000	\$300
New Software Licensing, Hardware, Infrastructure	\$450	\$150	\$-
Records Retention and Data Disposition	\$720	\$1,240	\$2,130
Business Privacy Team – Project Mgrs., Product Owners, Business Analysts	\$100	\$200	\$400
IT Privacy Team – Arch, Sys Mgrs., Sys Spec., Analysts	\$150	\$300	\$400

Staff Augmentees	\$320	\$340	\$230	
System Development Integration Costs	\$-	\$-	\$500	
Consulting and Professional Services	\$150	\$200	\$600	
New Software Licensing, Hardware, Infrastructure	\$-	\$200	\$-	
Miscellaneous	\$390	\$420	\$230	
Contingency & Incidentals	\$390	\$420	\$230	
Total	\$15,600	\$16,800	\$9,360	\$41,760

O&M FTE CHANGE FORM REQUEST SUMMARY			
Job Title	FTEs	Labor Rate (\$000s)	Start Date
Manager (2H) - Business	1	\$ 142	Q1 2026
Project Specialist - Business	1	\$ 140	Q3 2026
Sr Specialist - Business	1	\$ 130	Q1 2026
Sr Specialist - Business	1	\$ 130	Q3 2026
System/Product Analyst - Business	2	\$ 115	Q2 2026
System/Product Analyst - Business	1	\$ 115	Q3 2026
Analyst - IT	1	\$ 104	Q1 2026
Systems Specialist - IT	1	\$ 146	Q1 2026
Sr System Analyst - IT	1	\$ 128	Q1 2026

Enterprise Data Privacy Program Drivers

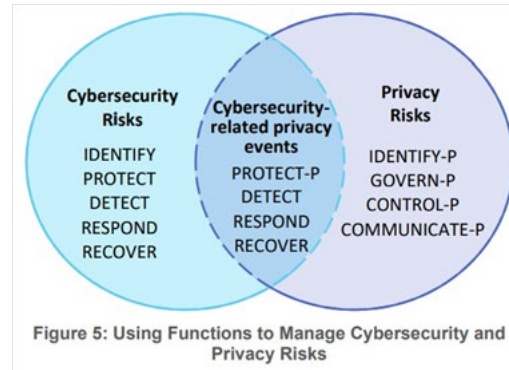
Current Legislative Requirements Impacting Privacy Programs

- Federal Controlling the Assault of Non-Solicited Pornography and Marketing (CAN-SPAM) Act:
 - Enacted in 2003 to protect customers from unwanted emails
 - Opt-outs must be honored promptly within 10 business days, and it must be clear and specific from what individuals are unsubscribing
 - Non-compliance can result in penalties of up to \$51,744 per email
- Federal Telephone Consumer Protection Act (TCPA):
 - Originally enacted in 1991 to protect customers from unwanted telemarketing calls, and later, texts
 - Expanded to address escalating consumer threats caused by scam robocalls and robotexts
- Section 5(a) of the FTC Act (Federal Trade Commission) provides that “unfair or deceptive acts or practices in or affecting commerce . . . are . . . declared unlawful.” The FTC continues to take action against companies that have not demonstrated adequate protection of consumers’ personal data, where penalties often carry significant reputational and financial fines. This requires effective and transparent enforcement of a Company’s privacy policy.
- The New York State (NYS) General Business Laws (GBL) has been used for actions against companies for harm to consumers related to personal data. For example, the grocery store chain Wegmans paid \$400,000 under a settlement with the NYS Attorney General’s Office for inadequate data security practices following a data breach. Specific provisions of this law that may apply to data privacy include:
 - NYS GBL § 899-AA requires disclosure of data breaches affecting personal data of NYS residents, amended and expanded under the 2019 SHIELD Act, as well as the breach notification laws of all other states where Company customers have established primary residence and whose personal information was included in the data loss
 - NYS GBL § 899-BB requires protections of the security, confidentiality, and integrity of the private information of residents of New York
 - NYS GBL § 349 protects consumers from deceptive acts and practices in how they are reasonably led to believe their personal data will be used and secured
- New York State Senate Bill 2025-S3044, entitled “An act to amend the general business law, in relation to the management and oversight of personal data,” was introduced in January 2025 to enact the New York Privacy Act with the purpose of “requir[ing] companies to disclose their methods of de-identifying personal information, to place special safeguards around data sharing and to allow consumers to obtain the names of all entities with whom their information is shared.”
- The NYS Attorney General’s Office has issued the following guidance regarding privacy protections and controls, which includes recommendations for implementing cookie consent:
 - *“New York has yet to enact a comprehensive privacy law that specifically regulates when and how New York consumers can be tracked online. However, businesses’ privacy-related practices and*

statements are subject to New York's consumer protection laws. These laws, which prohibit businesses from engaging in deceptive acts and practices, effectively require that websites' representations concerning consumer privacy be truthful and not misleading. This means that statements about when and how website visitors are tracked should be accurate, and privacy controls should work as described."

Privacy Leading Practices and Program Benchmarks

- On average, companies with between \$9 billion and \$19.9 billion in revenue have experienced a 100% increase in privacy operations staffing capacity (~11 in 2021 to ~23 in 2023). The International Association of Privacy Professionals (IAPP) and EY 2023 privacy governance study further found that:
 - 63% of organizations feel a limited availability of privacy resources impacts their ability to deliver on privacy goals
 - Only 2 out of 10 organizations feel totally confident in their privacy law compliance
 - 57% of respondents said their company's privacy function has acquired additional responsibility for AI governance
- The 2024 Cisco Data Privacy Benchmark Study of more than 2,600 security professionals in 12 countries around the world found that:
 - 95% of organizations feel the benefits of privacy investments exceed the costs
 - 96% of organizations view privacy as a business imperative, not just a compliance burden
 - Organizations realize an average 1.6x return on privacy investments
 - Privacy maturity is correlated with customer loyalty and trust
- The National Institute of Standards and Technology (NIST) has the gold standard of cyber frameworks, as well as a privacy framework that shows the relationship between privacy and cybersecurity. For example, automated privacy workflows and robust data mapping programs support a strong cyber incident response, reducing the costs of incident management and enabling faster customer and regulator notifications. The framework notes in section 1.2.1 (Cybersecurity and Privacy Risk Management):
 - *"While managing cybersecurity risk contributes to managing privacy risk, it is not sufficient, as privacy risks can also arise by means unrelated to cybersecurity incidents.... Having a general understanding of the different origins of cybersecurity and privacy risks is important for determining the most effective solutions to address the risks."*



- In a May 2023 study, “How Americans View Data Privacy,” the Pew Research Center found:
 - 81% of U.S. adults are concerned about how companies use the data they collect about them
 - 67% of U.S. adults have little to no understanding about what companies do with the data they collect about them
 - About 4 in 10 Americans are very worried about their information being sold or stolen
 - 72% of U.S. adults say there should be more government regulation of what companies can do with their customers’ personal information
- Comparable benchmarks within the New York utility space are not available, as Con Edison is leading our peer organizations in establishing privacy programs. National Grid, as it is headquartered in Europe and therefore subject to the European Union’s General Data Protection Requirement (GDPR), is a model for privacy for some New York residents. For comparison purposes, Pacific Gas and Electric Company (PG&E) in California fielded 937 data subject access rights requests (know, correct, delete), taking an average of 32 days to fulfil in 2023.

Privacy Program Metrics

Privacy Rights Requests

Customer Data Privacy Emails Received by Year					
2020	2021	2022	2023	2024	5-Year Total
27	43	113	97	249	529

Privacy Impact Assessments

Privacy Impact Assessments Submitted, by Year					
2020	2021	2022	2023	2024	5-Year Total
13	8	19	12	34	86

Sources

- FTC Business Guidance:
 - https://www.ftc.gov/system/files/ftc_gov/pdf/2024.03.21-PrivacyandDataSecurityUpdate-508.pdf
- NYS GBL and State Documentation:
 - <https://ag.ny.gov/press-release/2022/attorney-general-james-secures-400000-wegmans-after-data-breach-exposed-consumers>
 - <https://www.nysenate.gov/legislation/laws/GBS/899-AA>
 - <https://ag.ny.gov/resources/organizations/data-breach-reporting/shield-act>
 - <https://www.nysenate.gov/legislation/laws/GBS/899-BB>
 - <https://www.nysenate.gov/legislation/laws/GBS/349>
 - <https://ag.ny.gov/resources/organizations/business-guidance/website-privacy-controls>
- The IAPP-EY Annual Privacy Governance Report has been conducted since 2014. Benchmarking figures referenced in this white paper took the average of 2021-2023 staffing estimates for benchmarking purposes. Study links are available at <https://iapp.org/resources/article/privacy-governance-report>
- Cisco 2024 Data Privacy Benchmark Study: The annual Cisco Data Privacy Benchmark Study is a double-blind study based on a survey of over 2,600 security professionals in 12 countries around the world. More information is available at: <https://www.cisco.com/c/en/us/about/trust-center/data-privacy-benchmark-study.html>
- NIST Privacy Framework: A Tool for Improving Privacy through Enterprise Risk Management, Version 1.0: <https://nvlpubs.nist.gov/nistpubs/CSWP/NIST.CSWP.01162020.pdf>
- Pew Research Center, “How Americans View Data Privacy,” May 2023, <https://www.pewresearch.org/internet/2023/10/18/how-americans-view-data-privacy/>
- PG&E Benchmarking: <https://www.pge.com/en/privacy-center/privacy-policy.html>

Customer Operations / Strategic Applications 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Outage Communications Program	
Project/Program Manager: Edineria (Di) Soares	Project/Program Number (Level 1): 25547144
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: January 2026	Estimated Date In Service: December 2028
2025-2029 Funding Request (\$000) Capital: \$10,802 O&M: \$20,488	
Work Description: In April 2018, the Company initiated the Outage Communications Program in response to the severe impact of consecutive storms Riley and Quinn in the northern regions of our service territory. The program has uncovered and addressed many of the pain points that are common to customers dealing with service interruptions, in the process improving customer communications before, during, and after electric service interruptions. With funding provided in Cases 22-E-0064 and 22-G-0065, the Company expanded the Outage Communications Program and established a dedicated team that continues to build the program and design a roadmap of initiatives focusing on three main areas: 1. Expanding the coverage of outage and emergency communications, so messages and updates can reach more impacted customers; 2. Modernizing the underlying technology to improve the speed and reliability of messaging; and 3. Developing uniform metrics and data analytics to measure the effectiveness of the Company's outage communications and identify necessary modifications and enhancements. For the 2026-2028 rate period, the Outage Communications Program requests funding for a suite of projects that support the continuity of the Company's operations and enhance our capacity to use advanced technologies. This will enable the Company to assist a larger number of customers quickly and efficiently through outages and other emergency events. Proactive Communications to Customers Predicted to Experience a Power Outage The main goal of this initiative is to send proactive communications to customers predicted to experience a power outage by leveraging Advanced Metering Infrastructure (AMI) technology. Customer Operations will work alongside the Electric Operations IT team to offer customers proactive notifications about their outages automatically, without the need for the customer to first report a power interruption.	

The AMI team has a capital request for this rate period to expand the capabilities of the AMI Restoration Validation Engine (ARVE) to identify customers predicted to be out of power. Once this automated process is implemented, the Company can expand the program to communicate proactively with customers when an outage is detected and validated using ARVE. With this funding request, the Outage Communications team will work with a vendor to update the messaging logic, create new scripts, and develop fallback systems to deploy communications to customers. The project will be developed in phases, starting with outages detected by AMI meters at critical facilities, then including additional commercial and residential customers in later phases.

Language Expansion

The Company used existing funding for the first phase of the technical infrastructure that allows us to send outage and emergency messages to customers in their preferred language. The funding request for the 2026-2028 rate period continues this work by translating our entire program into Spanish and developing the scripts and delivery process for communications in this language, which is preferred by 325,000 (nearly 10%) of Con Edison's customers.

Mobile First for Elderly, Blind, Disabled, and Other Sensitive Customers

This initiative is focused on expanding the existing communications program for elderly, blind, and disabled (EBD) customers to include text messages. By regulatory mandate, Con Edison must communicate with EBD customers daily throughout major outage events and keep those customers informed about outage restoration. Currently, the Company has over 200,000 EBD customers. The outage communications to this sensitive group are exclusively automated voice calls (robocalls). In a 2021 survey of over 600 EBD customers to understand their communications preferences, the Company learned that many of these customers (41%) would prefer a daily text to a recorded phone message. The primary reason, according to the survey, is because they find texts quicker and more convenient, as they are accessible at any time, easier to read, and less intrusive.

To meet this demand, this initiative will leverage vendor Message Broadcast, already responsible for other outage and emergency communications, to offer EBD customers a choice of preferred channel to receive the daily message during outage events. The project will include easy methods for customers to change their preference at any time.

Gas Operations Emergency Communications

This initiative will introduce new channels and touchpoints for communications to gas customers during outages or other gas emergencies. The goal is to start building a program that eventually makes the experience of gas customers similar to what electric customers have today by providing them with communications about the restoration of service and updates throughout their gas outages and other emergencies.

Cybersecurity Incident Contingency Response

This initiative will dedicate resources to solutions to the potential risk of cyber-attacks compromising the systems we use to communicate with customers about service interruptions and other emergencies. Focal points include protecting customer data and mitigating the risks of bad actors obtaining customer data and sending messaging to customers disguised as Con Edison.

Metrics Collection and Reporting Dashboard Enhancements

After every Class 2 Incident Command Structure type of event, the Outage Communications team is expected to create a report providing a 360-degree view of the experience of customers impacted by that event, including how many customers reported an outage, which channels they used, how many customers were restored without receiving an estimated time of restoration (ETR), how many had ETR updates, and what customer experience (CX) rating impacted customers gave the Company. This initiative aims to upgrade our current Outage CX dashboards to provide these data points more efficiently, avoiding the need for analysts to manually query multiple databases.

Maintenance and Upgrade of Outage Systems and Storm Response

The Company proposes O&M funding for essential upkeep of and improvements to systems and processes necessary to plan, strategize, coordinate, and deploy critical outage and emergency communications. The funding will mainly cover the cost of year-round multi-channel messaging.

The initiatives proposed in this request are complemented by a separate funding request in this rate case, **Exhibit_(IT-5)_Emergency Outage Communications Program**, which aims to upgrade the underlying technology used by telecom carriers to deliver messages to customers at a faster speed than the current process allows.

Timeline of Anticipated Major Milestones

2025/2026

- Kick off the development of **AMI predictive communications** – In the first year, the team will focus on building new logic, business rules, and scripts for messages to critical facilities, Life-Support Equipment and Medical Hardship customers, and begin the work to onboard residential customers
- Launch **Language Access initiative** – In the first year, the team will focus on developing scripts and templates in Spanish to cover the main outage touchpoints with customers
- Kick off development of new **multi-channel communications program for gas customers**

2027

- The team will work on building the logic and integrations needed to include all residential and small commercial customers in the AMI predictive communications program
- The Language Access project will focus on developing secondary and non-outage messaging scripts
- Launch Mobile First project for EBD customers
- Launch first use cases of multi-channel communications for gas customers

2028/2029

- Develop final stages of AMI predictive communications and move the program to the stabilization phase
- Delivery of complete cybersecurity response plan
- Delivery of updated outage communications metrics dashboard

See **Exhibit__(IT-5)_Outage Communications Program_Attachment 1_Request Detail** for a breakdown of costs associated with this request.

Justification Summary:

The Company is dedicated to enhancing the support we give customers during outages and emergencies. Our aim is to deliver essential, practical, and timely information that can assist families and businesses in our service area to manage interruptions smoothly and efficiently. To those ends, there are two principal reasons why the Company should continue investing in improvements to our customer outage and emergency communications:

- 1) Although Con Edison is one of the most reliable utilities in the country, the physical impacts of climate change (rising temperatures, rising sea levels, increased flooding, and stronger storms) pose an increasing risk to proper functioning of the electric grid and exacerbate existing hazards and challenges in Con Edison's service territory. The Company needs to be prepared to provide the best care for customers during these challenging times.
- 2) Communications technology and customer expectations are continuously evolving, and Con Edison needs to invest in modernizing its messaging systems and platforms to reach its customers efficiently and in a manner comparable to other trusted household brands on which consumers rely.

Expanded Reach, More Inclusivity

The majority of the Outage Communications funding requested by the Company for 2026-2028 focuses on developing technology to amplify our ability to reach our customers. Initiatives such as a new Emergency Communications Program for Gas Customers, Mobile First for Elderly, Blind, and Disabled, and the first iteration of our Language Access will enable us to reach a larger portion of our customers with messages that are more inclusive and accessible, particularly benefiting customers in disadvantaged communities, which include a large portion of our most vulnerable customers.

Proactive Communications Replaces Reactive Messaging

Delivering on the promise that smart meters and AMI would reduce reliance on customers reports for service interruptions to send them information about restoration progress is a critical Outage Communications initiative. The funding requested for this purpose complements the AMI team's efforts to fortify its systems, increase performance, and enable the use of smart meters' data before communicating with customers predicted to be out of power. The Outage Communications team will work with vendor Message Broadcast and our internal Electric Operations IT teams to develop new logic and business rules to trigger proactive communications that benefit virtually all customers experiencing service issues.

Though 2024 was a mild year for weather-related outages, Con Edison worked on service interruptions that impacted more than half a million customers. Of that total, around 120,000 contacted the Company to report their outages. In the current state of our Outage Communications Program, customers must report their service issues to get restoration progress updates from us via text, automated voice calls, and emails. That means that, last year, only 20% of our customers who experienced outages received those updates. With the expansion of the AMI Restoration Validation Engine to detect and confirm a customer outage as soon as it happens, the Company can proactively notify impacted customers predicted to experience service issues, not only those who report problems. The funding covers the costs associated with the corresponding increase in message volume, since the Company will aim to reach 100% of account holders with proactive messages when their power goes out.

Data-Driven Solutions

With the move to the new Customer Care and Billing (CC&B) system, the creation of our Customer Data Analytics section, and improved systems integrations, the Outage Communications Program is gaining more power to understand what features work for our customers and identify gaps on our customer-facing products and backend systems. This wealth of data requires programmatic investments so the Company can process and use this information. The Company plans to invest in better methods to collect, clean, process, analyze, and display our customers' data, providing solid metrics and deeper understanding of our customers' needs during outages and other emergencies.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The Outage Communications Program aims to support all customers, including those in disadvantaged communities (DACs), by providing vital information about service interruptions in a manner that meets customers' needs. With our multi-channel approach, the Company increases the chances of critical messages reaching all impacted customers, regardless of their phone type, web access, or digital competency. Initiatives such as Mobile First for EBD customers and Language Access further fulfill the Company's goal to make all outage and emergency messages available and accessible to all customers, especially those in our most vulnerable communities.

One of the largest initiatives in this funding request is to provide the ability for the Company to proactively communicate with customers about service interruptions as soon as they happen, by leveraging the intelligence of AMI meters. This project will be developed in full partnership with the AMI team and Electric Operations IT, as detailed in **Exhibit_(IT-6)_Transforming Outage Management with Advanced AMI Integrations**. Within this request, the AMI team describes the technology improvements that will allow the confirmation of "actionable outages" (those that require Company response) anytime a smart meter goes out; it will also allow the identification of single service outages (those that require customer electrician work). With this development, the Outage Communications team will then be able to work with vendor Message Broadcast to create the integrations, logic, and business rules necessary to use the data produced by the smart meters to trigger proactive communications with customers. The Company will be able to tailor messages to address the customers' specific situation, improving the efficiency and speed of our restoration effort while keeping the customers updated throughout.

2. Supplemental Information

Alternatives

Alternative 1

The alternative to not investing in expansion of the Outage Communications Program to reach all customers impacted by emergencies is to continue with the more limited processes currently in place. For example, if the Company is not able to develop proactive messages to customers whose outages are detected and validated by their smart meters, we will continue with the current state and communicate only with customers who report their service issues first.

Alternative 2

If the Company cannot offer Mobile First for Elderly, Blind, Disabled, and other sensitive customers to expand their choice of communications channels to text and emails, it will miss the opportunity to improve the customer experience during emergency events. The alternative is to continue with the current process, where these customers receive only automated voice calls.

Alternative 3

The alternative to not expanding the communications program for gas customers is to keep the current process – leveraging whenever possible the ad hoc messaging platform, the Company’s system to send messages on demand, without prepared scripts or templates – to resolve some of the outage and emergency communications gaps when incidents impact large groups of gas customers.

Risk of No Action

Risk 1:

Fewer customers will receive timely and accurate information about their service interruption, which can lead to frustration, dissatisfaction, and loss of trust in the Company.

Risk 2:

The Company misses the opportunity to leverage advanced technologies, such as AMI and multilingual messaging, to improve the customer experience and reach more customers with proactive and personalized communications.

Risk 3:

The Company will face potential cybersecurity threats, regulatory compliance issues, and operational inefficiencies if the outage system and processes are not regularly maintained and upgraded.

Non-Financial Benefits

Since launching the Outage Communications Program, the Company is nimbler when addressing and messaging customers about weather, outage events, and other emergencies. The enhancements listed in this funding request will continue to improve our customers’ experiences by amplifying the reach and efficiency of our outage and emergency communications. By the end of this rate period, Con Edison will have a modernized and comprehensive Outage Communications Platform capable of delivering multi-channel messages via high-throughput ports that better meet our customers’ preferences. It also brings the Company closer to addressing customers’ growing expectations of a more proactive, no-effort approach to the delivery of vital information about their service.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Basis for estimate

Capital costs and O&M costs were estimated based on labor, services, and contingency costs compared with benchmarked projects and vendor quotes.

Project Risks and Mitigation Plan

Risk: Cybersecurity Incidents: Cyber-attacks could compromise the systems used to communicate with customers about service interruptions and other emergencies.

- **Mitigation Plan:** Cybersecurity Incident Contingency Response: Dedicate resources to discovering, designing, and developing solutions to mitigate cyber-attack risks. The focus will

be on protecting customer data and preventing bad actors from obtaining customer data and sending messages disguised as Con Edison. Risk: Communication Failures: The AMI engine may fail, disrupting proactive customer communications. • Mitigation Plan: Fallback Systems for Communication Failures: Work with the vendor (Message Broadcast) to update the messaging logic, create new scripts, and develop fallback systems to enable smooth communications with customers even if the AMI engine fails.
Technical Evaluation/ Analysis N/A
Project Relationships (if applicable) The Outage Communications program will align and integrate with the following programs and projects to improve the customer experience: • Emergency Outage Communications Program • Customer Operations Data and Analytics • Digital Customer Experience (DCX) • Customer Outreach and Education • CC&B Enhancements and Upgrade • Customer Assistance • Customer Engagement Platform (CEP) • Electric Ops' Outage Management, Central Support Ops, IT, Storm Recovery teams • Emergency Preparedness • Gas Operations • AMI team • Corporate Affairs (Media, Social Media, Regional Affairs, Web, Creative and Marketing teams)

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M				\$1,928	\$1,611	\$3,190
Regulatory Asset						
Capital				\$1,159		\$2,514

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	\$2,100	\$3,567	\$4,583	\$5,090	\$5,148
Regulatory Asset					
Capital (Total)	\$1,890	\$2,403	\$2,303	\$2,103	\$2,103
Labor	\$217	\$233	\$233	\$116	\$116
M&S	\$1,135	\$1,392	\$1,341	\$1,292	\$1,292

Contract Svcs.	\$538	\$538	\$538	\$538	\$538
Other		\$168	\$122	\$94	\$94
Overheads		\$72	\$69	\$63	\$63

*The test year runs from 10/1/2023 to 9/30/2024.

Outage Communications Program Capital and O&M Request

Table1: Capital and O&M Total

	2026	2027	2028
Capital	\$2,403,000	\$2,303,000	\$2,103,000
O&M	\$3,566,600	\$4,583,153	\$5,090,600

Table 2: Outage Communications Capital Summary

	2026	2027	2028
Labor	\$232,500	\$232,500	\$116,250
Overheads	\$72,090	\$69,090	\$63,090
Contracts	\$538,288	\$538,288	\$538,288
Licensing & Fees	\$1,391,537	\$1,341,537	\$1,291,663
Other	\$168,585	\$121,585	\$93,709
Total	\$2,403,000	\$2,303,000	\$2,103,000

Table 3: Outage Communications O&M Summary

	2026	2027	2028
Labor	\$158,000	\$158,000	\$292,000
Contracts	\$269,144	\$269,144	\$269,144
Licensing, Fees, Other IT	\$605,456	\$696,010	\$980,281
Messaging Cost	\$2,522,000	\$3,448,000	\$3,537,175
Other	\$12,000	\$12,000	\$12,000
Total	\$3,566,600	\$4,583,154	\$5,090,600

Customer Operations / Strategic Applications 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Retail Access System Modernization	
Project/Program Manager: Orlando Hernandez	Project/Program Number (Level 1): 25543066
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: January 2025	Estimated Date In Service: December 2028
2025-2029 Funding Request (\$000) Capital: 42,067 O&M: 7,341	
Work Description: The Company embarked on the pre-implementation planning phase of its Retail Access System Modernization effort in 2024 to modernize its legacy Retail Access applications – the Retail Access Information System (RAIS) and the retail choice components of the Transportation Customer Information System (TCIS). As approved in Cases 22-E-0064 and 22-G-0065, the project is focused on maintaining the Company’s functions that enable the Retail Access market for electric and gas residential and commercial customers. As required under the Company’s current rate plan, the Company filed a formal business plan documenting the proposed solution, project delivery process, implementation plan, and schedule, as well as an evaluation of the project’s costs and benefits, with the Public Service Commission (PSC) in those cases on December 2, 2024. (Exhibit __ (IT-5)_Retail Access System Modernization_Attachment 1_CECONY Retail Access System Modernization Business Plan - December 2024) As part of this pre-implementation planning phase, the project team collaborated internally and with external stakeholders, including energy service companies (ESCOs), to identify opportunities to improve the Company’s current systems, as well as their technical and operational limitations. The formal project implementation comprises two distinct phases. - Phase I will modernize the Company’s internal Retail Access systems: the RAIS and the retail access components of the TCIS. - Phase II will upgrade the Company’s external Retail Access web interfaces and enhance the stakeholder experience with improved self-service and reporting capabilities. Phase I: Retail Access System Modernization Phase I project implementation commences in Q1 2025 and will deliver business and stakeholder value iteratively through multiple release cycles using a hybrid-agile project delivery method. This project will address both business and stakeholder requirements, as well as technical and functional limitations and pain points within the current system. The Company will accomplish this effort by modernizing the existing software and hardware technology to extend the viability of the Retail Access applications and drive stakeholder value.	

Business and stakeholder requirements for analysis, remediation, and modernization as part of Phase I include:

- Discrepancies encountered with Electronic Data Interchange (EDI) 867 (usage) and 810 (invoice) transactions that lead to transaction failures.
- File processing failures due to missing data from the billing platform.
- Data mismatches between the legacy retail access applications and the billing platform (e.g., price differences and enrollment/de-enrollment dates).
- Persistent cancel/rebill discrepancies.
- Billing-related issues stemming from meter discrepancies.
- Complications arising from unmetered account vs. metered account information.
- Inaccurate capacity date information.
- Limited number of EDI transactions necessitating a refresh of the EDI and Supplemental Guidelines.
- Interval data viewing challenges, including lack of export capability, invalid account alerts, and advanced filter capabilities.
- Difficulties in identifying eligible customers within existing tools/advanced account lookup via the websites.
- ESCO ability to add/remove authorized users through a secure Company portal.
- Improved reporting capabilities and remediation of report discrepancies.

Each release will comprise of a set of repeatable phases including plan, analyze, design, build, test, and deploy.

A key element of the project's success will be continuous engagement with the Company's stakeholders, including ESCOs and EDI providers. As such, this plan includes frequent stakeholder communications, dedicated time for stakeholder testing, and post-deployment support for rapid response and issue resolution.

The Phase I effort will include system testing, stakeholder testing, and stakeholder engagement activities for each release to maintain compliance with the PSC's Uniform Business Practices (UBPs), PSC orders regarding EDI requirements, and the Company's obligation to provide timely responses to ESCOs. A stabilization period will help resolve system defects and data issues, while also providing end user and stakeholder support.

Phase II: Web Interface and Experience Enhancements

Following completion of the Company's Phase I Retail Access System modernization efforts, the Company will consolidate and modernize its external (Internet) web-based Retail Access user interfaces (UI) and internal (Intranet) web-enabled Retail Access applications and reporting engine. This effort, Phase II, will enhance Retail Access self-service capabilities for the Company's stakeholders.

Requirements for Phase II include:

- Enhanced ESCO and stakeholder web user experience (e.g., retrieval of invoice and billing history) for streamlined processes across both Con Edison and Orange and Rockland Utilities, Inc.
- Access to supplemental industry reference data via electronic files (weather, zone maps, zip codes, load profile data, etc.).
- Enhanced Installed Capacity (ICAP) year values and access to prior year ICAP values.
- Management of gas supply delivery process for customers (e.g., forecasting, nominations, and imbalance levels).

- New and/or enhanced system administration features (e.g., user/identity access management, file templates, and EDI transaction management) for internal end users.
- Modernized reporting capabilities and access to ESCO-specific regulatory and customer and business data (e.g., daily account listing).
- Address interval data viewing challenges, including lack of export capability, invalid account alerts, and advanced filter capabilities.

The high-level proposed timeline for Phase I and Phase II includes the following project phases:

- Envision: Define the high-level vision, scope, objectives, and goals for the project; develop delivery timeline; and assign resources and roles.
- Plan: Capture the business requirements and functional and non-functional features based on business and stakeholder feedback.
- Design: Develop detailed system architecture and design specifications based on the project's requirements.
- Build: Execute the system modernization by developing applications and integrations based on the finalized design specifications.
- Test: Conduct various test phases to validate that the application product meets and complies with business requirements. Incorporate user acceptance testing, performance testing, stakeholder testing, and operational readiness testing efforts to identify and correct potential system issues.
- Deployment/Stabilization: Prepare for production migration, business and stakeholder readiness, and go-live. Also, establish hyper care and post go-live stabilization efforts to provide production support and drive system adoption.

2025: Envision, Plan, and Design (Phase I)

- Envision
- Plan and Initial Design
- Iterative Build and Test (Release 1)
- Change Management and Stakeholder Engagement

2026: Build and Test; Deploy and Stabilize (Iterative Releases) (Phase I, cont.)

- Deploy and Stabilize (Release 1)
- Iterative Build and Test (Release n*)
- Deploy and Stabilize (Release n)
- Change Management and Stakeholder Engagement

2027-2028: Build and Test; Deploy and Stabilize (Iterative Releases) (Phase II)

- Iterative Build and Test (Release n)
- Deploy and Stabilize (Release n)
- Change Management and Stakeholder Engagement

Note, the final number of iterative release cycles will be confirmed during the Plan and Initial Design phases. For a more detailed breakdown on capital and O&M needs for this project, please refer to [Exhibit___\(IT-5\)_Retail Access System Modernization_Attachment 2 _RAS Mod Capital and O&M Request Detail.](#)

Justification Summary:

The Retail Access Program was established to support the PSC's goal to increase competition in the energy markets following deregulation. Since the program's inception in the late 1990s, the Company

has supported the program through partnerships with more than 200 ESCOs serving more than 650,000 electric and gas customers. The introduction of the EDI framework in 2002 required the Company to develop a suite of Retail Access-related applications to facilitate daily market transactions with participating ESCOs. This suite of applications – custom built more than 20 years ago, when the market was not as robust and customer adoption had not approached current levels – remains critical to the Company’s ability to support customer choice and ESCO participation. However, the technology used to build the applications is outdated and requires modernization.

The combined number of EDI transactions for account changes, price changes, and monthly and historical usage requests is now approximately 17 million per year. Additionally, the Retail Access Program’s rules and requirements – reflected in the UBPs and numerous PSC orders – have evolved throughout the years. The existing suite of applications must scale to meet current demands in an already complex market, as well as future rate or billing innovations that may be required to facilitate the clean energy transition.

The Company must also modernize its legacy web-based platforms and improve operational efficiencies through additional enhancements to its Retail Access data and reporting capabilities. The 2023 Rate Order directed the Company to engage with ESCOs and other stakeholders in 2024 to gather feedback on the program. Specific engagement efforts included a stakeholder survey to solicit feedback on current systems and functionality, as well as their goals for a modernized solution, to assist the Company in understanding stakeholders’ priorities, challenges, and desired outcomes. The Company collated these results and shared them at a follow-up stakeholder meeting. The Company will leverage insights from this feedback to inform future enhancements to the User Experience (UX) and User Interface (UI) to meet or exceed evolving expectations regarding usability, data access, and reporting. Further detail on the stakeholder outreach sessions and results are documented in the Company’s business plan (Exhibit (IT-5) Attachment 1_CECONY Retail Access System Modernization Business Plan - December 2024).

The modernization of the Company’s Retail Access Systems, web user interfaces, and reporting technologies will not only address inefficiencies and compatibility issues associated with existing systems but also enhance protection against cyber threats – vulnerabilities to which outdated systems are susceptible. These efforts are essential to maintain the integrity and competitiveness of the energy markets and to comply with the PSC’s market goals. They also will enhance the existing systems to accommodate new rules and requirements set forth in the UBPs and other orders.

Without modernization, the systems will become a bottleneck in facilitating future rate and billing innovations, as well as policy directives supporting New York State’s clean energy transition. As the state’s energy landscape shifts toward more sustainable energy models, the ability of ESCOs and utilities to seamlessly collaborate and transact is paramount. Modernizing the systems will enable them to handle further regulatory changes, market growth, and clean energy transitions that will shape the energy market of the future.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

As the clean energy transition continues to move forward, the foundational systems proposed in this project will allow the Company to facilitate customer choice in the Retail Access market including clean energy options, which will contribute to reduced greenhouse gas emissions, and alternative rates, both for all customers and those residing in disadvantaged communities. This is consistent with the Company’s ongoing commitment to facilitating the Retail Access market and customer choice and its support for achieving the State’s clean energy goals.

2. Supplemental Information

Alternatives

An alternative to the Retail Access System Modernization project is to implement a commercial off-the-shelf “COTS” Tier 1 utility enterprise system solution to replace the legacy RAIS and TCIS systems, along with the existing server infrastructure, middleware technologies, and file transmission platforms. However, due to the system’s dependency on and interaction with the Company’s new Customer Care and Billing system, implementing an enterprise system solution is not advisable until a cloud-based, seamlessly integrated solution can be achieved for the long term.

Risk of No Action

The Retail Access System Modernization project must be completed to prevent failure of the current legacy systems business and stakeholder processes. Without completion, ongoing support of the Retail Access market would rely heavily on time-consuming and resource-intensive manual interventions.

Failing to modernize the Retail Access Systems presents significant risks to the program’s operational integrity, compliance with regulatory mandates, and long-term ability to support competitive energy markets. Key risks include:

- **Potential system failures and operational disruptions:** The aging infrastructure supporting the Retail Access System is increasingly prone to failure. As transaction volumes continue to rise, the system’s outdated technology will be unable to keep pace, leading to potential service interruptions. A system outage or failure would severely impact the ability of more than 200 ESCOs to conduct daily transactions, such as customer account changes, price updates, and usage data requests, disrupting the entire market and eroding customer trust.
- **Inability to support future market needs:** The energy market is rapidly evolving, driven by customer expectations, technological advancements, and policy shifts toward clean energy. The current system’s lack of scalability and flexibility means it will not be able to handle new market innovations such as dynamic rate structures, time-of-use pricing, or other future programs essential to driving energy efficiency and supporting the clean energy transition. The system’s inability to support these advancements could limit customer options, hinder competition, and reduce the Company’s ability to lead in a transforming energy market.
- **Data inconsistencies and impact to the stakeholder experience:** As transaction volumes grow and the market becomes more complex, the current system’s limitations in enabling data consistency and accuracy will lead to incorrect or delayed information exchanges between the Company and stakeholders. This could result in billing errors, incorrect enrollments, or account mismanagement, leading in turn to stakeholder dissatisfaction, complaints, and regulatory scrutiny.
- **Cybersecurity:** Increased vulnerabilities due to outdated technology platforms and software.

Non-Financial Benefits

1. Deliver near-term value to Stakeholders: Address business and stakeholder requirements through iterative releases throughout the project timeline.
2. Optimize self-service and reporting capabilities: Update features and functionality to enhance reporting capabilities via self-service, such as enhanced ICAP year values and access to prior year ICAP values through the Retail Access web user interface.
3. Automate Retail Access exception handling: Introduce Robotic Process Automation (RPA) to automate Retail Access exception handling through the Company’s Customer Care and Billing System (CC&B).
4. Enhance data quality: Bring systemic checks and balances to avoid current issues caused by inaccurate or mismatched data, which will enhance visibility and reporting into open items or discrepancies and reduce overall discrepancies.

5. Improve operational efficiency: Streamline the transaction management process, reducing reliance on manual processes to investigate file transfer issues and minimizing file reprocessing efforts.
6. Enable process improvements: Reduce current transaction processing failures by enabling the ability to isolate and reprocess failed transactions without impacting successful transactions, which will reduce manual effort from both the Company and stakeholders and enable process standardization across the Company.
7. Modernize web experience: Update Retail Access web user interfaces to enable a modern, standardized stakeholder experience.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

Documented in the Retail Access System Modernization Business Plan, which the Company filed with the PSC on December 2, 2024, in Cases 22-E-0064 and 22-G-0065.

2. Major financial benefits

- Cost Avoidance
 - Commercial off-the-shelf (“COTS”) product customization
 - Temporary Retail Access staffing augmentation
 - End-user COTS solution training
 - Retirement and consolidation of legacy web server infrastructure
- Cost Reduction
 - Highly skilled IT contractor development and support services

3. Basis for estimate

Documented in the Retail Access System Modernization Business Plan, which the Company filed with the PSC on December 2, 2024, in Cases 22-E-0064 and 22-G-0065.

Project Risks and Mitigation Plan

Risk 1: Lack of key technical or business resources with the required subject matter expertise due to operational needs in other business areas or in competing projects.

Mitigation plan: As needed, engage the services of system integrator resources, retiree contractors, and business area resources outside of the organization.

Risk 2: Misalignment between Company and stakeholder priorities and vision for the future Retail Access System modernization activities.

Mitigation plan: Document and communicate detailed stakeholder engagement plan, test plan, test cases, and testing schedule with all participating stakeholders; enable early and frequent stakeholder communications; and enhance ongoing stakeholder support channels.

Technical Evaluation and Analysis

Documented in the Retail Access System Modernization Business Plan, which the Company filed with the PSC on December 2, 2024, in Cases 22-E-0064 and 22-G-0065.

Project Relationships (if applicable)

Project relationships include CC&B, due to requirements for the proposed system modernization efforts to support and integrate with the Oracle CC&B platform.

3. Funding Detail (\$000)

Retail Access System Modernization (Phase I)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						0
Regulatory Asset						
Capital						3,561

2025-2029 Request: Retail Access System Modernization (Phase I)**Total Request by Year:**

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	0	1,641	2,029	1,015	0
Regulatory Asset					
Capital (Total)	10,500	16,222	4,650	1,395	0
Labor	1,047	1,143	381	167	
M&S					
Contract Svcs.	7,528	12,338	2,993	1,014	
Other	1,370	2,116	1,073	127	
Overheads	555	625	203	87	

*The test year runs from 10/1/2023 to 9/30/2024

Retail Access Web User Interface and Reporting Enhancements (Phase II)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						0
Regulatory Asset						
Capital						0

2025-2029 Request: Retail Access Web User Interface (UI) and Reporting (Phase II)**Total Request by Year:**

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	0	0	1,641	1,015	0
Regulatory Asset					
Capital (Total)	0	0	9,300	0	0

Labor			762		
M&S					
Contract Svcs.			5,986		
Other			2,146		
Overheads			406		

*The test year runs from 10/1/2023 to 9/30/2024

BY DMM

December 2, 2024

Honorable Michelle L. Phillips
Secretary
State of New York Public Service Commission
Three Empire State Plaza
Albany, NY 12223

**Re: Case 22-E-0064 – Proceeding on Motion of the Commission as to the Rates,
Charges, Rules and Regulations of Consolidated Edison Company of New York,
Inc. for Electric Service**

**Case 22-G-0065 – Proceeding on Motion of the Commission as to the Rates,
Charges, Rules and Regulations of Consolidated Edison Company of New York,
Inc. for Gas Service**

Dear Secretary Phillips:

In compliance with Section O(2) of the Joint Proposal approved in the New York State Public Service Commission's *Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plans with Additional Requirements*, issued July 20, 2023, and your letter of September 30, 2024, granting an extension of time for this filing, Consolidated Edison Company of New York, Inc. (the "Company") is filing with this letter its business plan for the Company's Retail Access System Modernization project.

If you have any questions, please do not hesitate to contact me.

Respectfully submitted,



Edward Sherwin

Enclosure



RETAIL ACCESS SYSTEM MODERNIZATION

BUSINESS PLAN

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

DECEMBER 2024

Contents

Executive Summary	1
Implementation Plan and Proposed Schedule.....	3
Cost Benefit Summary.....	4
Retail Access System Modernization Background.....	6
NYS Policy Evolution for the Competitive Energy Marketplace.....	6
Market and Transaction Growth	7
Current Retail Access System Overview and Challenges	8
Pre-Implementation Planning Effort.....	9
Stakeholder Outreach Sessions and Results	10
Company and Stakeholder Roles and Responsibilities.....	12
Retail Access System Solution Modernization Overview	13
Project Delivery Process, Implementation Plan, and Proposed Schedule	15
Benchmark Summary.....	15
Overview of Delivery Process and Implementation Plan	17
Project Delivery Approach and Proposed Schedule	17
Project Team Structure	21
Governance Model.....	23
Test Plan and Scope	24
Background and Lessons Learned	24
Test Phases.....	25
Organizational Change Management.....	28
Cost Benefit Summary	29
Cost Benefit Overview.....	29
Financial Benefits	31
Financial Cost Avoidance	32
Non-Financial Benefits	33
Cost Model Assumptions.....	34
Conclusion	36
List of Abbreviations and Terms	37

EXECUTIVE SUMMARY

Consolidated Edison Company of New York, Inc. (“Con Edison,” “CECONY,” or the “Company”) embarked on the pre-implementation planning phase of its Retail Access System Modernization effort in 2024 to enhance its current retail access systems – the Retail Access Information System (“RAIS”) and the retail choice components of the Transportation Customer Information System (“TCIS”). While this Business Plan is being filed by Con Edison, it will be jointly funded by and will benefit both Con Edison and Orange and Rockland Utilities (“O&R”).

A retail access system provides the technological capability for delivering high-quality service to customers and market providers (“Stakeholders”) so that customers can choose their electricity and natural gas supplier from a competitive market. Recognizing that energy choice remains an important option for customers in Con Edison’s and O&R’s service territories, the Company is committed to meeting New York State’s retail choice mandates and enabling customers to select an energy provider that provides renewable, as well as traditional, energy supply. The Company’s long-range plans continue to emphasize customer expectations amid dynamic changes in technology and the marketplace. Overlaying this shift in customer expectations are New York’s energy policy initiatives, which include the pursuit of achieving 70 percent of its electricity from renewable sources by 2030 and a zero-emission electric grid by 2040, known as the New York Clean Energy Standard.¹

This effort is focused on several key requirements. First, understanding the requirements of Stakeholders such as energy service companies (“ESCOs”) requires defining the strengths and challenges of the Company’s current systems. Additionally, it is essential to identify design requirements that satisfy the needs of key Stakeholders and enable the Company to meet regulatory demands. Analysis and establishment of technology solutions to meet these requirements are equally important. Lastly, incorporating a comprehensive analysis into a formal Business Plan—including key activities to design, build, and deploy the selected retail

¹ New York State Energy Research and Development Authority, “Clean Energy Standard” <https://www.nyserda.ny.gov/All-Programs/Clean-Energy-Standard/>.

choice technology, develop an implementation plan, and identify projected costs and benefits—is foundational to the Retail Access System Modernization effort.

The New York State Public Service Commission’s (“PSC”) July 2023 *Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plans with Additional Requirements* (“2023 Rate Order”) directed Con Edison to file a Business Plan with the PSC and “engage and consider Stakeholder feedback related to its replacement of its Retail Access Information System and draft Business Plan.”² The Company has implemented a comprehensive engagement strategy with Stakeholders, including quarterly meetings to update Stakeholders on project developments and foster dialogue. Con Edison has also held smaller focus groups with select Stakeholders to gather feedback and gain a deeper understanding of their technological needs. To complement these efforts, Con Edison has conducted three surveys to gather Stakeholder input on its proposed retail access technology plans and feedback on its Business Plan. The Company has reviewed this input and integrated it, where possible, into its overall program strategy. Stakeholder engagement has enabled the Company to develop a robust list of requirements for its future state retail access technology and identify a technology solution that will address many of the Stakeholders’ key needs in working with the Company.

The Company initiated a pre-implementation planning effort in Q1 2024 to conduct a thorough evaluation of its current retail access systems to identify opportunities for improvements in features and functionality. Complex business rules and requirements, growth in volume of transactions, and aging technology have caused more frequent issues with retail access transactions, making it more difficult for Company information technology personnel to identify points of failure. During its pre-implementation planning effort, the Company evaluated a number of solutions, considering cost factors and associated risks, to address the identified business requirements and Stakeholder pain points, including implementation of a commercial off-the-shelf (“COTS”) vendor product and the modernization of its existing Retail Access applications. This robust evaluation identified the need for extensive customization of the COTS product, which would require substantial configuration and modifications to the Company’s recently implemented Oracle Customer Care and Billing (“CC&B”) system. The

² Cases 22-E-0064 and 22-G-0065, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plans with Additional Requirements, p. 52.

modernization of the Company's Retail Access systems mitigates the risks associated with customizing a new COTS product within the existing CC&B system. This strategic approach further supports a smoother transition to a new Retail Access System by aligning it with a future CC&B system upgrade. The Company anticipates that a future CC&B upgrade will incorporate the features of the COTS product, optimizing both resources and costs, and thereby eliminating the need for initial customizations required for product installation.

The Company recommends modernizing its current Retail Access systems and their integrations with other key enterprise systems, including the recently implemented CC&B system, to facilitate billing and customer account-related transactions, and IBM Sterling Integrator to enable EDI transactions. This system modernization effort will address technical and functional limitations and pain points within the current systems, optimize business processes, and facilitate EDI transactions. As such, the modernization effort will minimize disruption to both Company operations and external Stakeholder-related interactions.

Implementation Plan and Proposed Schedule

The Company will proceed with modernizing the Company's existing systems and external web interfaces from the first quarter of 2025 through 2028. The Company has defined a 48-month timeline that incorporates two major phases: Retail Access System Modernization ("Phase I") and Retail Access Web User Interface and Reporting Enhancements ("Phase II"). Both Phase I and Phase II will include the following project phases:

- (1) Envision: define the high-level vision, scope, objectives and goals for the project, as well as develop the delivery timeline and assign resources and roles,
- (2) Plan: capture the business requirements, functional and non-functional features based on business and Stakeholder feedback,
- (3) Analyze/Design: develop detailed system architecture and design specifications based on the requirements,
- (4) Build: execute the system modernization by developing application and integration enhancements based on the finalized design specifications,
- (5) Test: conduct various test phases to validate the application meets and complies with business requirements, and

- (6) Deploy/Stabilize: prepare for production migration, business and Stakeholder readiness, go-live and establish post go-live stabilization efforts to provide production support and drive adoption of the modernized solution.

Stakeholder engagement is an integral component of each phase of the implementation plan. The Company will incorporate extensive engagement with ESCOs, EDI providers, and other Stakeholders to confirm that the system enhancements are ready for production and to mitigate post-production complications. This engagement approach is based on extensive lessons learned from past large technology programs, including the Company's recent CC&B implementation, as well as benchmarking with peer utilities who have undertaken similar efforts. This benchmarking revealed that extensive pre-deployment engagement and testing were key to the success of these implementations. As such, the Company will engage in a robust set of engagement and testing activities during each planned release of a modernized functionality, as described in detail in the Organizational Change Management section of this document.

Cost Benefit Summary

The Company completed an analysis to evaluate the financial and functional justifications for modernizing its current Retail Access system to implement enhancements and improve the resiliency and reliability of the Retail Access applications and data. The Company estimates \$49.1 million in capital expenses, including Allowance for Funds Used During Construction ("AFUDC") through 2028, to envision, plan, analyze/design, build, test, and deploy/stabilize the new enhancements. The Company also estimates \$7.9 million of operation and maintenance ("O&M") expenses to implement and stabilize the modernized platform through 2028. These costs will be allocated between Con Edison (92.75 percent) and O&R (7.25 percent) under the companies' standard methodology for allocating the costs of enterprise-wide technology solutions.³

In its analysis, the Company identified potential benefits of implementing the modernized system and updating its web user interfaces. These benefits are detailed in the discussion of

³ See Consolidated Edison Corporate Accounting Procedure, Accounting for Transactions between CECONY and ORU, GAP-040C, April 28, 2017.

financial and non-financial benefits in the “Cost Benefit Summary” section of this Business Plan. In summary, the major benefits of the modernized Retail Access system include:

Table 1: Financial and Non-Financial Benefits Summary

Financial Benefits	Non-Financial Benefits
• COTS product customization cost avoidance • Avoidance of Retail Choice supplemental staffing required for the duration of a COTS vendor implementation • End-user COTS training cost avoidance • Retirement and consolidation of legacy web server infrastructure • Reduction in highly skilled labor required for future development/enhancements	• Deliver near-term value to Stakeholders • Optimize self-service and reporting capabilities • Automate Retail Access exception handling • Enhance data quality • Improve operational efficiency • Enable process improvements • Modernize web experience

In conclusion, the retail choice marketplace continues to evolve to afford customers more options to participate in a diverse array of clean and traditional energy choices. The Company requires a modern Retail Access system to facilitate the delivery of efficient solutions and address increasing customer and Stakeholder needs and expectations.

RETAIL ACCESS SYSTEM MODERNIZATION BACKGROUND

NYS Policy Evolution for the Competitive Energy Marketplace

New York State (“NYS” or the “State”) introduced full retail competition in the State’s electric and natural gas markets in the late 1990s. The introduction of competition granted utility customers the opportunity to choose their energy supplier. The PSC directed Con Edison to file tariff leaves and a Retail Access Implementation Plan and Operating Procedure to implement the Company’s Retail Access program (“Retail Choice”).⁴ The first phase of Con Edison’s Retail Choice program ran from June 1, 1998 through March 31, 1999, and included proposals for a program to encourage participation by residential and small commercial, non-time-of-use electric customers. This first phase was successful in encouraging the participation of approximately 60,000 retail customers in Retail Choice.⁵ Subsequently, the Commission ordered the Company to file yearly proposals with the PSC to further support the NYS Retail Choice program. In response to its proposal, Con Edison received PSC approval in April 2002 to implement a consolidated billing program and electronic data interchange (“EDI”) standards.⁶

The PSC adopted Uniform Business Practices (“UBPs”) in February 1999 to provide consistent business procedures for both ESCOs and electric and gas utilities across the state.⁷ As the competitive retail energy market has evolved, the UBPs have been amended to reflect changes in the market while continuing to provide consumer protections, streamlined business transactions, and communications protocols between ESCOs and utilities.

⁴ Cases 96-E-0897 et al., *In the Matter of Consolidated Edison Company of New York, Inc.’s Plans for (1) Electric Rate/Restructuring Pursuant to Opinion No. 96-12; and (2) the Formation of a Holding Company Pursuant to PSL, Sections 70, 108 and 110, and Certain Related Transactions*, Order Authorizing Tariff Amendments Related to Retail Access Phase II and Power for Jobs to Go Into Effect on a Permanent Basis (issued June 30, 1999), pp. 1-2.

⁵ Case 96-E-0897, Order Approving Incentives for Retail Access Phase II (issued Dec. 22, 1998), pp. 2-3.

⁶ Case 96-E-0897, Order Approving Phase 5 Retail Choice Program (issued Apr. 29, 2002), pp. 1-2.

⁷ New York State Department of Public Service, Uniform Business Practices, <https://dps.ny.gov/uniform-business-practices/>.

The Company has consistently supported the requirements of the Retail Access program for all Stakeholders through the adoption of the UBPs. This includes the following:

- Replacement of email communications and transactions to and from Stakeholders with standardized EDI transactions
- Community Choice Aggregation
- Service portability enhancements
- Implementation of an EDI Testing Tool to help support the onboarding of new ESCOs to the market
- Management and support of interval usage data with the implementation of Smart Meter/Advanced Metering Infrastructure (“AMI”) technologies
- Support of ESCO credit and debit EDI transactions on customer accounts
- Monthly and Historical Interval Usage enhancements
- Development and enhancement of custom internal user interfaces for Company employees to effectively navigate the system, data, and business requirements

Energy choice remains a crucial option for consumers, particularly within the Con Edison service territory. It also contributes to the State’s pursuit of achieving 70 percent of its electricity from renewable energy sources by 2030 and a zero-emission electric grid by 2040.⁸ The Company is committed to facilitating customer choice and collaborating with ESCOs and other Stakeholders in a seamless and market-friendly manner, while working with customers, regulators and policymakers to reimagine energy for the future.⁹ As part of this commitment, the Company is endeavoring to enhance its retail access capabilities and continue to support customers who wish to select an energy provider that promotes renewable energy supply.

Market and Transaction Growth

The NYS Retail Access Program, established to enhance competition in energy markets after deregulation, has seen significant growth since its inception in the late 1990s. The Company

⁸ New York State Energy Research and Development Authority, “Clean Energy Standard” <https://www.nyserda.ny.gov/All-Programs/Clean-Energy-Standard/>.

⁹ Con Edison, “Our Clean Energy Commitment,” <https://www.coned.com/en/our-energy-future/our-energy-vision/our-energy-future-commitment/>.

has supported and participated in the Retail Access Program through engagement with the growing number of ESCOs and customers who elect to enroll in the program. Since its inception, the Retail Access market in the Company's service territory has grown to more than 650,000 electric and gas customers and more than 200 ESCOs.

With the adoption of EDI standards and technology for the transmission of customer information and related data, the Company processes more than 17 million ESCO-related transactions annually. As the volume of transactions increased, the Company implemented technology platforms to facilitate data exchanges with ESCOs. These platforms also integrate ESCO choice seamlessly into customer billing processes. This robust technology architecture is central to the Company's Retail Access Program and compliance with the PSC's regulatory requirements. Furthermore, employee training emphasizes effective customer engagement to respond to inquiries or customer concerns regarding Retail Access.

The Company has continued to experience a steady growth of EDI transaction volumes related to account changes, price changes, and monthly and historical usage requests. The Retail Access program's rules and requirements, reflected in the UBPs and numerous PSC orders, have evolved throughout the years. Additional policies and regulatory requirements, such as distributed energy resource management mandates and the introduction of community distributed generation, have further complicated the Retail Access landscape. These changes have introduced challenges, particularly when paired with the Company's current technology platforms. Therefore, the Company must modernize its systems to effectively support the growth of the Retail Access Program and better adapt to evolving market conditions.

Current Retail Access System Overview and Challenges

The Company has developed and leveraged a suite of customized Retail Access applications to support the NYS Retail Access EDI framework established in 2001. But these tools—developed to facilitate the management and processing of market transactions involving ESCOs, EDI providers, and other Stakeholders—are dated. Consequently, these systems, crucial for supporting customer choice and ESCO participation, must be updated to effectively adapt to market changes.

The combination of complex business rules and requirements, growth in volume of transactions, and aging technology can cause Retail Access transactions to fail, while making it more difficult for information technology personnel to identify the points of failure. These complexities often significantly extend the time required for failure recovery and issue resolution. The Company encounters issues in the reconciliation of incoming and outgoing transactions between divergent systems, which lead to inefficient collaboration with Stakeholders. The Company has made a concerted effort over the years to enhance its processes, modify the applications, and implement monitoring and alerts for when transactions fail to process. To effectively enhance its Retail Access systems, the Company's necessary first step was to replace its outdated Customer Information System ("CIS"), as this system, along with the Retail Access Systems, were closely aligned. With the successful implementation of CC&B in October 2023 and over a year of system stabilization and defect resolution, the Company is well-positioned to prioritize the modernization of its Retail Access Systems.

This program will focus on improving system interactions, making more visible the potential points of failure, and revamping discrepancy reports to increase accuracy and better highlight potential issues. Such enhancements would not only increase efficiency and system reliability, but also enable better visibility and improve proactive system issue alerts.

Pre-Implementation Planning Effort

The Company implemented a modern enterprise customer care and billing platform for both Con Edison and O&R in October 2023. This initiative has provided the Company with a valuable opportunity to modernize its Retail Access applications. Accordingly, the Company received PSC approval to initiate this project through the Joint Proposal adopted in its 2023 Rate Order. The Joint Proposal requires the Company to develop a formal Business Plan and conduct Stakeholder engagement to gather input on the Company's draft Business Plan, testing and implementation milestones, and test plan and communication protocols.¹⁰

¹⁰ Cases 22-E-0064 and 22-G-0065, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plans with Additional Requirements (issued July 20, 2023), p. 52.

The Company initiated its pre-implementation planning effort in Q1 2024. Con Edison and O&R engaged consultants to help evaluate the operational capability and functionality of its Retail Access systems; document the key business requirements to support Retail Access, including the UBPs; propose system solutions and alternatives, technologies, and solution architecture; and develop the business case analysis found in later sections of this Business Plan.

The focus of the pre-implementation planning effort was to establish the Business Plan and set a strong foundation for this project. The Company adopted a pre-implementation planning approach that included establishing project governance, developing a Stakeholder engagement plan, completing a fit-gap analysis on functional and technical requirements, establishing an implementation roadmap, and completing and filing the formal Business Plan. The Company followed prescribed milestones throughout this planning effort to engage and gather input from key Stakeholder parties, as established in the 2023 Rate Order. The following section details this undertaking.

Stakeholder Outreach Sessions and Results

The 2023 Rate Order directed the Company to engage with ESCOs and other Stakeholders in the first quarter of 2024 to gather feedback on the program. Following that initial engagement, the Rate Order required the Company to engage in further Business Plan outreach in the second quarter of 2024. Specific engagement efforts have included and continue to include:

- Quarterly Stakeholder update sessions, which focus on updates on the pre-implementation planning effort and provide an open forum for questions.
- Conversations with smaller groups of Stakeholders who manage a high volume of retail access transactions.
- ESCO Newsletters provide project updates and meeting materials for reference. These are in addition to existing resources, such as the Company website and standing meetings, that the Company provides for ESCOs.
- Survey on the initial outline of this Business Plan to request feedback from Stakeholders on content focus areas and support development of a Business Plan that

- would address Stakeholder needs and PSC requirements. This Business Plan integrates Stakeholder feedback provided in this survey.
- Survey on a draft of this Business Plan to request Stakeholder input. Stakeholders emphasized the importance of thorough testing to verify system functionality, shared recommendations for additional features for the Company's consideration, and noted the desire for continued Stakeholder engagement and communications. The Company has analyzed this feedback for inclusion in the Business Plan and integration into the Company's implementation plan.
 - Survey to Stakeholders requesting feedback on current systems and functionality, as well as their goals for a modernized solution, to assist the Company in understanding their priorities, current challenges, and desired outcomes. The Company collated these results and shared them with Stakeholders during a follow-up meeting. Key results are featured below:

Figure 1: Stakeholder Survey Results Executive Summary

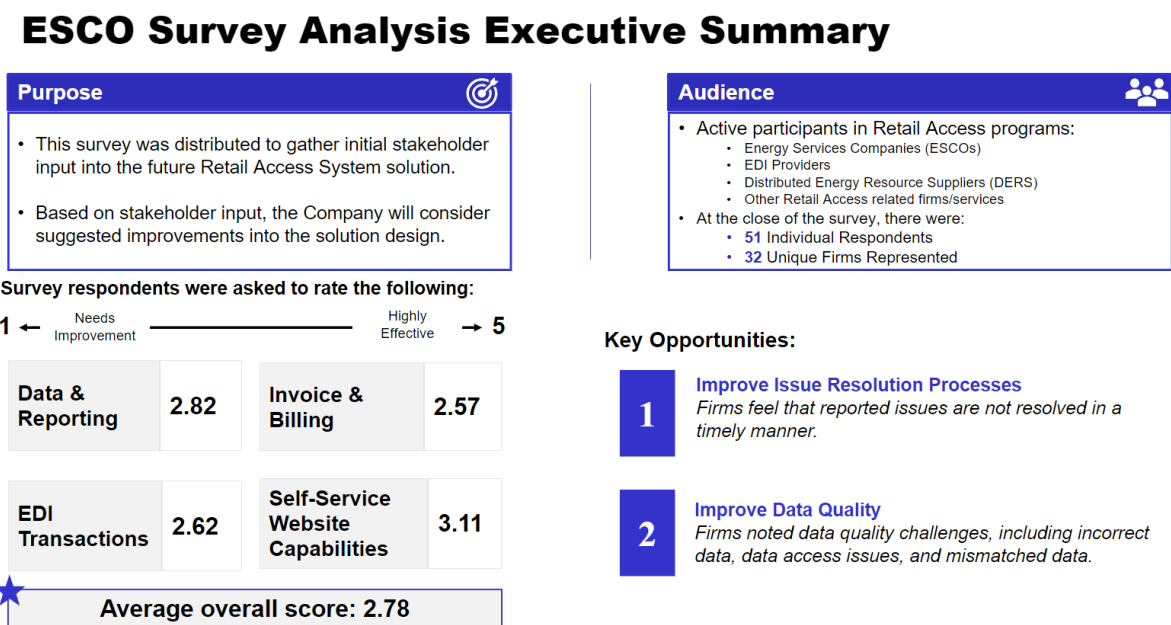
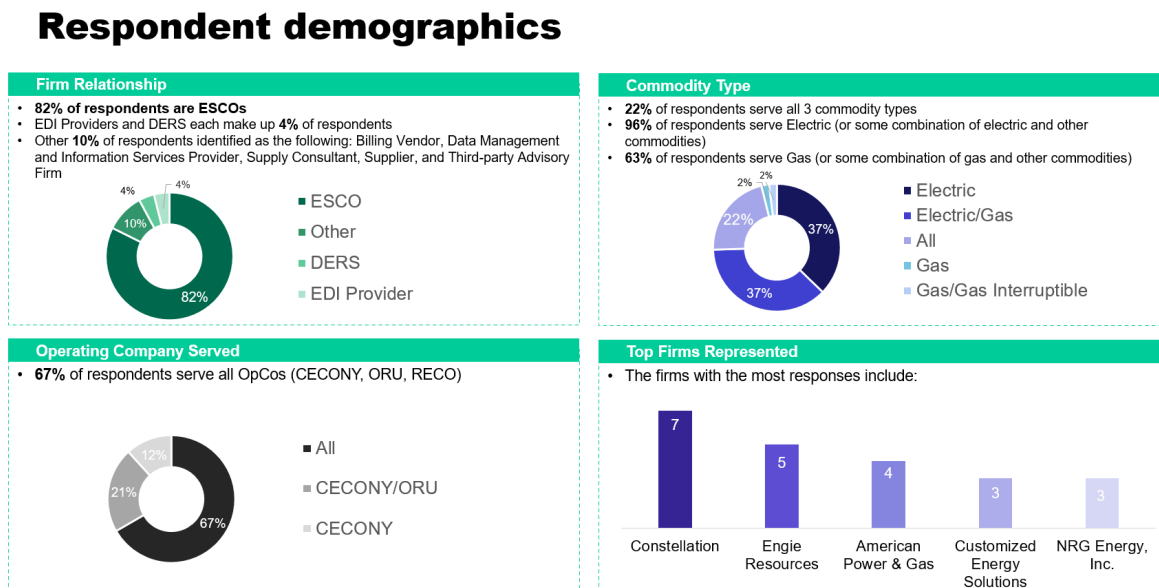


Figure 2: Stakeholder Survey Results Respondent Demographics



Company and Stakeholder Roles and Responsibilities

The Company is deeply committed to fostering a competitive retail energy market in which customers can select their energy supplier. Furthermore, the Company actively supports the needs of participating ESCOs and Stakeholders by adhering to the UBPs' standards for efficient business transaction processing, effective communication protocols, and the security of customer data and transactions.

The Company's dedicated Retail Choice department actively collaborates with the PSC and engages with ESCOs and Stakeholders to meet customer needs and support efficient ESCO operations. Additionally, this group works with Stakeholders through formal annual, bi-annual, and quarterly meetings to provide relevant updates on the retail access market, system issues and resolutions, and other ongoing or proposed Business and IT-related changes.

Throughout the life of this project, the Company will continue to pursue engagement and transparency through quarterly meetings and by involving Stakeholders in User Acceptance Testing ("UAT"). The Company will also continue to leverage written communications (e.g., newsletters) and standing meetings (e.g., Annual Marketer Meeting) and, as necessary, provide

instruction and guidance for Stakeholders on the modernized solution so that they understand what is changing for them and to prepare them for new features and functions.

Stakeholder roles and responsibilities include active and ongoing engagement with the Company's Retail Access operations and participation in this project. The Company will coordinate critical testing activities and will invite the participation of Stakeholders who transact Retail Access data with the Company. Key efforts during the test phase of the project will include system integration testing and UAT to validate data and confirm alignment with Stakeholders' day-to-day operations. Further information on testing efforts can be found in the "Test Plan and Scope" section.

Retail Access System Solution Modernization Overview

The Company has researched technological and market advancements to consider a future state Retail Access system solution that aligns with business and Stakeholder requirements, while adhering to regulatory and UBP standards. Key requirements of this solution include:

- An enhanced technology platform that provides Retail Access infrastructure and integrations to ESCOs and third-party Stakeholders, as well as to existing Company technology architecture and platforms, including CC&B;
- Improved exception handling;
- Improved data quality;
- Advanced compliance with computer security;
- Streamlined transaction management process to address discrepancies and improve integrations between Retail Access systems;
- Enhanced user experience through a modernized web platform, enabling advanced self-service capabilities and aligning information across Operating Companies; and
- Enhanced Stakeholder inquiry process.

The Company currently utilizes homegrown applications that interface with Oracle CC&B and other corporate systems. During its pre-implementation planning effort, the Company evaluated a number of solutions to address its identified business requirements and Stakeholder pain points, including a commercial off-the-shelf ("COTS") vendor product and the

modernization of its existing Retail Access Applications, among other alternatives, to evaluate whether their capabilities could address the current challenges and future needs of the NYS Retail Access market.

This robust evaluation identified the necessity for extensive customization of the COTS product, which would require substantial configuration and modifications to the recently implemented CC&B system. This custom COTS installation has not been conducted in the market to date, exposing the project to unforeseen risks. Because this customization would have been a necessary first step in installing the required database and system infrastructure to support the COTS product, it would have added an additional six months of effort to the project timeline and the corresponding costs for required database configuration, system customization and testing.

The modernization of the Company's Retail Access systems mitigates the risks associated with customizing a new COTS product within the existing CC&B system. This strategic approach facilitates a smoother transition to a new Retail Access System by aligning it with a future CC&B system upgrade. The Company anticipates that this future CC&B upgrade will include the features of the new COTS product, providing a Retail Access solution that can be configured immediately. This approach would also eliminate the need for customizations to the baseline COTS product to work with the existing CC&B system, optimizing both resources and costs.

The Company recommends modernizing its current Retail Access Systems and its externally facing Web User Interfaces ("UIs") and reporting capabilities in lieu of implementing a COTS vendor product that would require extensive customizations to the Company's CC&B system. This recommendation is based on the following criteria: the need to address current system challenges and issues in the near-term, the requirement to integrate this project as part of the Company's overall enterprise technology upgrade path, and the commitment to deliver immediate and incremental value to address Stakeholder pain points.

PROJECT DELIVERY PROCESS, IMPLEMENTATION PLAN, AND PROPOSED SCHEDULE

Benchmark Summary

The Company has gathered best practices and valuable lessons learned from within the Company, third-party vendors (“Vendors”), and peer utilities to inform its approach to modernizing its Retail Access systems. The Company’s recent Customer Service System (“CSS”) replacement emphasized the importance of conducting iterative discovery and design sessions to develop the most comprehensive solution while facilitating collaboration across project teams. Additionally, it is critical to thoroughly examine existing defects within current Retail Access systems to understand root causes and projected mitigation timelines, and to incorporate sufficient contingency, particularly for testing phases and Stakeholder engagement. The Company incorporated these lessons learned into the pre-implementation planning phase, structuring the project to facilitate integration across workstreams from the outset, and recognizing the importance of a comprehensive understanding of the project by all key individuals participating in project activities.

The Company also contacted select utility peers to understand their solutions and associated benefits and challenges. This proactive engagement with external utility counterparts has yielded an understanding of the potential advantages and obstacles associated with various retail access solutions, thereby facilitating informed decision-making in compliance with industry standards and regulatory expectations. Table 2 summarizes the benchmark utilities and current billing platforms.

Table 2: Benchmark Utilities

Utility	Region	Utility Type	Single/Multiple Jurisdiction	Customers	Billing Platform
Utility 1	East	Gas	Single	Over 1 million	Oracle C2M
Utility 2	East	Gas	Multiple	Over half a million	Oracle CCS
Utility 3	Midwest	Electric	Single	Over 3 million	Oracle CC&B
Utility 4	Midwest	Electric	Single	Over 100 thousand	Oracle CCS
Utility 5	Northeast & West	Electric	Multiple	Over 3 million	Oracle C2M

Lessons learned are detailed below:

- **Gather Comprehensive Functional Requirements:** Clear market and business requirements for each transaction and process within the utility retail access system are essential. These requirements must be communicated in terms that business users and Stakeholders can understand, as they are foundational to the development of the solution and the creation of test scenarios that verify the solution meets both business and market demands.
- **Conduct Requirements Reviews:** There are two critical stages for conducting requirements reviews. The first stage involves pre-design requirement reviews, where the solution team collaborates with Company business owners to review the captured requirements, confirm understanding, gather configuration values, discuss assumptions, define scope, and obtain document sign-off. The second stage is the design requirements review, during which the solution team presents the requirements to its vendor partner's design, development, and testing teams to enable an understanding of the project's scope. Requirements reviews conducted pre- and post-design enable checks and balances throughout the system development lifecycle, which are critical to achieving a functional end solution.
- **Facilitate a Functional Demonstration:** A functional demonstration of the solution with Stakeholders before code delivery benefits both business users and functional subject matter experts ("SMEs"). This offers a preview of the solution, facilitating discussions about assumptions and confirming that the project team can address discrepancies in understanding. As a result, when the transactions and/or processes are delivered, the business is already acquainted with the solution, minimizing risk and the need for a potential redesign.
- **Use Converted Data and Transaction Files:** Using actual scenarios of customer transactions in early testing phases significantly enhances the quality of market transaction tests. By testing with transactions that have been processed by Retail Access systems and Oracle CC&B, the team can avoid the pitfalls of assumptions that are

inherent in manually created transactions. This approach effectively initiates parallel testing early in the project lifecycle, enabling an additional layer of validation throughout the testing phases.

- **Execute Performance Testing:** Planning sufficient time to execute a robust performance testing effort is a critical layer of testing validation that will equip the project for success.

Overview of Delivery Process and Implementation Plan

Project Delivery Approach and Proposed Schedule

The Company's approach to project delivery relies on an integrated and comprehensive project plan that encompasses all activities necessary to deliver the solution. This process includes enterprise architecture, process design, configuration, development, and testing, including a series of technical test processes and Stakeholder testing. It also leverages organizational change management, knowledge transfer, training, integration, data conversion, dress rehearsal preparations, business readiness, go/no-go evaluation dates and activities, cutover, and post go-live support.

The formal project implementation is composed of two distinct phases:

Phase I: Retail Access System Modernization

- Phase I will enhance the Company's internal Retail Access systems: the Retail Access Information System (RAIS) and the retail access components of the Transportation Customer Information System (TCIS). Business and Stakeholder requirements for analysis, remediation, and modernization as part of Phase I include, but are not limited to, the following:
 - Discrepancies encountered with EDI 867 (usage) and 810 (invoice) transactions that lead to transaction failures
 - File processing failures due to missing data from the billing platform

- Data mismatches between the retail access applications and the billing platform (e.g., price differences and enrollment/de-enrollment dates)
- Cancel/rebill discrepancies
- Billing related issues stemming from meter discrepancies
- Inaccurate capacity data information

Phase II: Web User Interface and Reporting Enhancements

- Phase II will upgrade the Company’s external Retail Access web user interfaces and enhance the Stakeholder experience with improved self-service and reporting capabilities. Requirements for Phase II include, but are not limited to, the following:
 - Enhanced Stakeholder web user experience (e.g., retrieval of invoice and billing history) for streamlined processes across both Con Edison and O&R
 - Access to supplemental industry reference data via electronic files (e.g., weather, zone maps, zip codes, load profile data, etc.)
 - Enhanced Installed Capacity (“ICAP”) year values and access to prior year ICAP values
 - Management of gas supply delivery process for customers (e.g., forecasting, nominations, and imbalance levels)
 - New and/or enhanced system administration features (e.g., user/identity access management, file templates, and EDI transaction management) for internal end-users
 - Modernized reporting capabilities and access to ESCO-specific regulatory and customer and business data (e.g., daily account listing)
 - Interval data viewing challenges including lack of export capability, invalid account alerts, advanced filter capabilities

CECONY and O&R use a Software Development Life Cycle (“SDLC”) approach that allows for software to be developed in a robust and repeatable manner. The SDLC process includes various methodologies such as Waterfall, Agile, and Hybrid-Agile. For this project, CECONY

and O&R will use a combination of Waterfall and Agile methodologies (i.e., hybrid-agile) which include Envision, Plan, Analyze/Design, Build, Test, and Deploy/Stabilize phases.

The following is a brief description of each phase:

- **Envision:** This phase is underway and focuses on the high-level vision and scope for the project. One of the guiding principles is to develop synergies and promote standardization where applicable between CECONY and O&R. Standardization facilitates more streamlined business operations and provides a consistent experience for Stakeholders when interacting with both companies. The strategy is used to inform, add, or modify any requirements. The team is mapping existing requirements to the key processes for downstream and upstream traceability. This exercise helps to determine the high-level future target state.
- **Plan:** The planning phase focuses on establishing the business requirements, functional requirements, and non-functional/technical requirements for a successful implementation. The high-level program plan will be converted into manageable work streams. Detailed templates, schedule, deliverables, and performance scorecard will be defined during this phase.
- **Analyze/Design:** During this phase, the project team will perform requirement analysis, assess business processes captured during the pre-implementation planning phase, develop to-be process flows, perform fit gap analysis, and identify and prioritize Reports, Interface, Configuration, Extensions, and Forms (“RICEF”) objects. The team will translate requirements into technical specifications, create system architecture and data flow diagrams, and verify that security measures and compliance protocols are integrated into the design. The project team will then establish and configure the applications within a dedicated development environment, leveraging integrations with development Edge system environments to maintain the integrity of the Company’s production systems. The platform will be validated and tested before starting the formal build phase of the project.
- **Build:** During the build phase, each requirement will be tracked to either a configuration object, i.e., fit, or application development object RICEF, i.e., gap. Once developed or

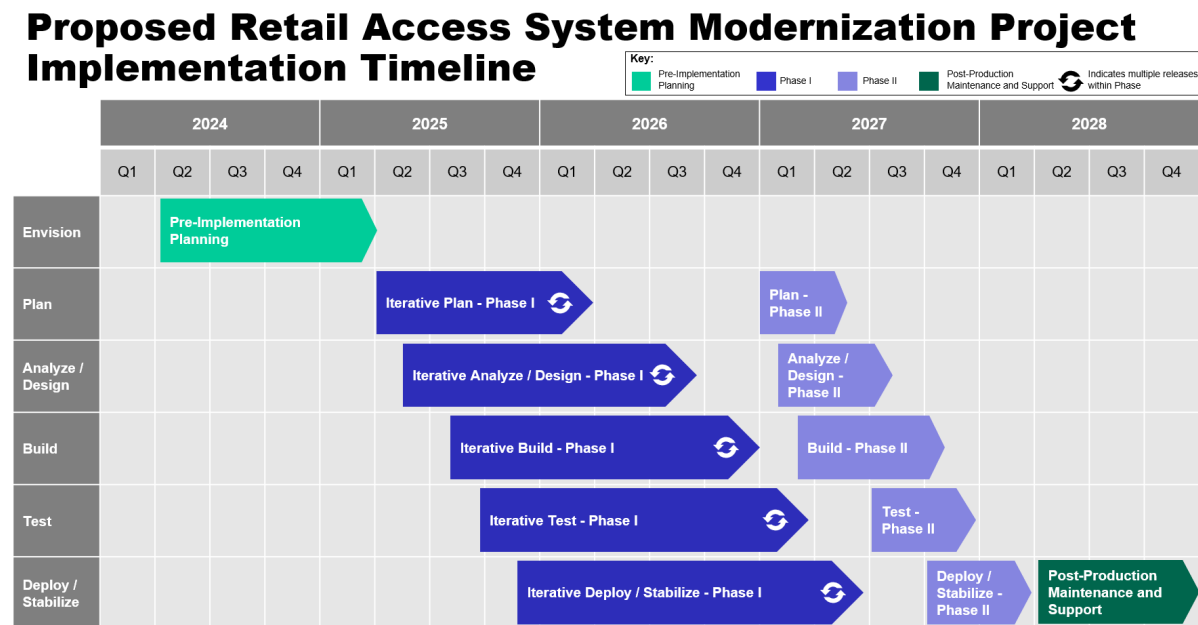
configured, the requirement will be tracked to a Unit Test (“UT”) case. The project team will also conduct targeted System Testing (“ST”) for each release developed during this phase to validate that all the configurations and enhancements developed in the solution work as expected.

- **Test:** During the Test Phase, every aspect of the solution will be tested so that the end-to-end product works as expected. The team will prepare and execute System Integration Testing (“SIT”) to validate the technical interfaces and business processes between the solution and other business systems. User Acceptance Testing (“UAT”) will test and validate that the product meets the requirements for business users’ functional areas. ESCO testing will validate the high-frequency and high-priority processes between the Company and Stakeholders. The Company will introduce training materials, including job aids, during this phase so that Stakeholders have the foundational knowledge required to perform their day-to-day activities.
- **Deploy and Stabilize:** This phase is where the developed product becomes available to business users in a production environment. Any KPIs aligned with the requirements are tracked to validate expected system outcomes and business benefits. The stabilization phase follows deployment and focuses on system and data monitoring, defect management, and business user/Stakeholder support to minimize system downtime and performance risks and enhance business user/Stakeholder satisfaction.

Project implementation commences in Q1 2025 and will deliver business and Stakeholder value through a hybrid-agile project delivery method. This method incorporates multiple release cycles delivering both technical and process-functional capabilities through iterative plan, analyze/design build, test, and deploy/stabilize phases to deliver prioritized functionality sooner than would be possible through a traditional “waterfall” approach. The delivery approach considers the existing enterprise architecture landscape with over a dozen ancillary Edge systems and related system integrations; the complexity of the New York State retail access program with approximately 200 ESCOs and Stakeholders; the integration of Stakeholder processes in the plan, design, and test phases and the inclusion of Stakeholders in

the testing phase; and comprehensive organizational change management and training to address Stakeholder readiness and engagement.

Figure 3: Proposed Retail Access System Replacement Project Implementation Timeline



Project Team Structure

Labor Plan: Staffing required throughout the project lifecycle will include CECONY and O&R internal resources to support the project and operations, as well as external resources with specialized skillsets for IT development projects. The resource sourcing mix considered several factors, including the availability of resources with the required project skillsets within the Company’s IT and Customer Operations organizations; alignment of IT managed-service-provider expertise with project activities; System and Business Integrator roles to minimize project risk; and previous experience with CSS and retail access implementations in the industry.

CECONY and O&R Staffing: To incorporate knowledge of Company business and IT operations into the solution design, it is critical to include CECONY and O&R subject matter experts throughout the project phases. These internal resources will play many key roles, including:

- Functional Designers to define the current and target processes
- Subject Matter Experts to support the definition of the current and target processes
- Technology and Solution Architects to manage technical resources
- Integration Specialists to support integrations with existing peripheral systems
- Organizational Change Management Practitioners to prepare the organizations for the transition to the modernized system
- Developers to assess, design, build, and configure the Retail Access systems and web platforms
- Data Conversion Specialists to support enhanced data models and data integrity
- Test Execution Team Members to support the planning and designing of testing materials, including test scenarios and test scripts

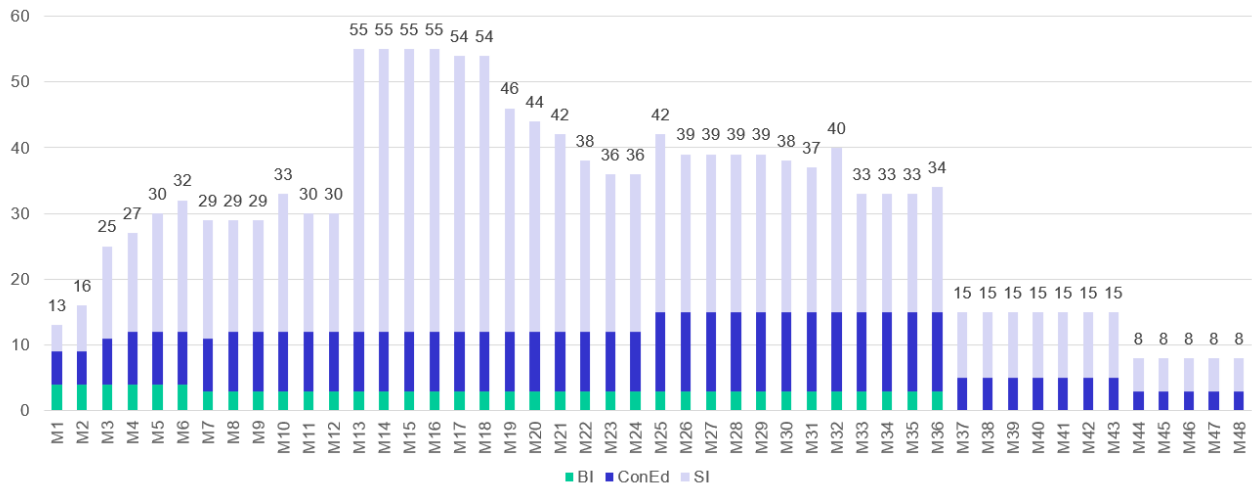
The Company anticipates approximately 20 percent of project staffing to be delivered by CECONY and O&R resources.

External Resources: Multi-year IT implementations are typically conducted in partnership with third-party contractors. These resources provide specialized expertise on the system platforms and assist in designing, configuring, and testing the solution. These external resources will play many different roles in the modernized Retail Access System, including but not limited to:

- System Integrators (“SI”), Business Integrators (“BI”), and other consultants to advise and support on how best to plan and realize an IT modernization. Their proven methodologies, experience, and lessons learned will support each phase of the implementation by providing relevant frameworks, guidance, and support to the project team.
- Managed service providers who currently support the Company’s technology portfolio, to provide knowledge of the current IT landscape and integrations between the technology portfolio and the new enhancements. These resources will also be assigned certain development and configuration roles.

The figure below (Figure 4) illustrates the draft overall staffing plan for the project through the Stabilize phase.

Figure 4: Retail Access System Replacement Project Staffing Plan –Total Count Per Month



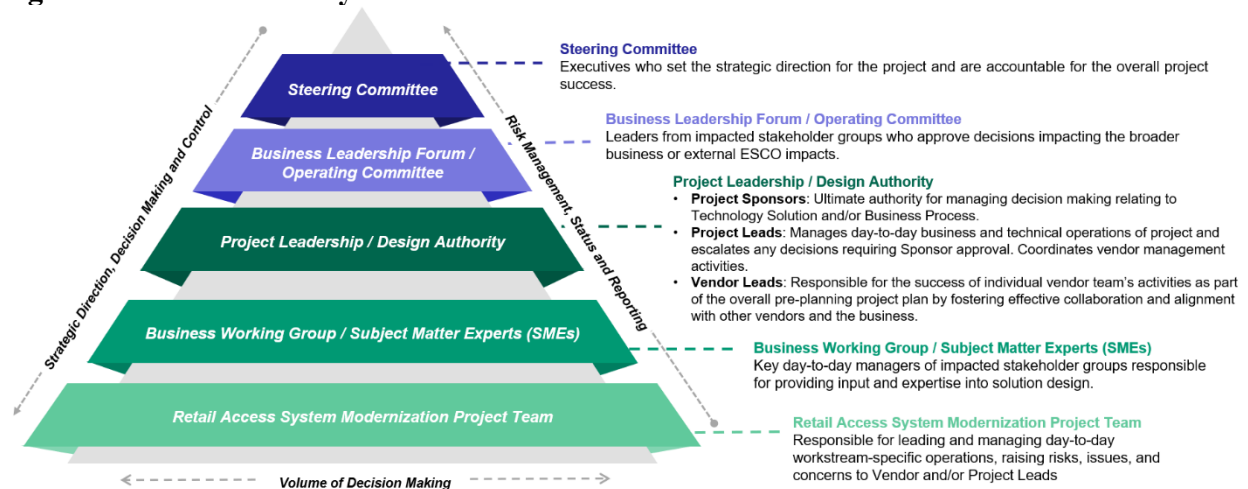
Governance Model

The Retail Access System Modernization governance model is the structured system of rules and processes used to administer the project's planning and implementation effort. The governance model for the project was established during the pre-implementation planning effort and sets the foundation for the decision-making framework to foster accountability and alignment between the project team, project sponsors, senior leadership, and other business and Stakeholder groups. The model facilitates project delivery on time and on budget by bringing together business stakeholders for efficient decision-making, with a focus on key decisions that not only shape the project, but also steer the project direction and mitigate risk.

The project team has adopted this governance model to highlight a clear distinction between the varying levels of decision-making within the project and the business. The project governance and decision-making framework outlines who has responsibility and authority to make decisions so that there is clearly defined accountability for all aspects of the project. This effort is the link between, and support for, the governance decisions made by the Steering Committee and the work of the project leadership team to deliver the project and its outcomes.

A sound project governance decision framework provides for a shared understanding of governance roles, scope, and deliverables. The governance model, depicted in the following figure (Figure 5), demonstrates the structure of Retail Access System Modernization governance to facilitate decision-making and manage risks.

Figure 5: Retail Access System Modernization Governance Model



Test Plan and Scope

Background and Lessons Learned

The Testing Phase is an essential aspect of the project, underscoring the quality of the Build Phase. It includes the modernized solution to be developed within existing systems, particularly the Company's RAIS and TCIS applications; System and Web User Interfaces; reporting tools; and the Oracle CC&B system. Detailed test plans will be established for each test phase, outlining the specific testing scope, approach, execution plan, and management processes, including defect management. The test plans will also define the Stakeholders involved, assign roles and responsibilities, establish timelines, and specify the communication channels to be utilized by the project team for both business and external Stakeholders.

Lessons learned have been integrated into the plans across all testing phases to enhance the integrity of testing plans and facilitate a successful implementation. These include:

- Thorough planning for releases is essential to verify that the enhancements encompass all required functionalities within a business process or interface and requires coordination across various business and technical areas.
- Early involvement of Business Functional and IT systems SMEs in test planning and preparation is critical for maximizing test coverage, aligning expectations, and achieving seamless test execution.
- Edge systems within the testing scope may require additional test cases for their systems or downstream interfaces, and identifying these requirements early is essential to allocate adequate time and resources.
- Formation of a dedicated test data management team proficient in extracting relevant Retail Access and related Edge and Billing system data will greatly enhance testing efficiency by addressing the diverse data requirements of the testing team, business users, and Edge systems.
- Company business users conducting UAT must receive specialized training to enable them to effectively test the solution against diverse real-life business scenarios.
- Managing the scope and duration of the Stakeholder Testing phases is essential to identify potential issues, mitigate risks, and build confidence in the solution.
- Ample notice to Stakeholders to set expectations and align on schedules and participation is required for successful Stakeholder testing efforts.
- The Company should conduct Stakeholder verification to validate critical, relevant business scenarios that support Stakeholder operations.

Test Phases

Each test phase is described below:

System Test (“ST”): The System Test phase confirms that each functional and technical component of the solution aligns with the defined business requirements. This phase involves validating that the system supports full operability of the interconnected functions within the application, including methods and/or objects within a specific functional area. ST will be executed over multiple iterations or cycles, based on the solution components being built and

delivered and the relevant transaction types (e.g., Enrollment, Drop, Usage, Billing, and Payment/Invoicing).

Key considerations for the System Test scope include:

- Validate Business Requirements: Testing will encompass all new business requirements that will continue to emerge from strategic workshops to address challenges identified in the current processes and systems.
- Document Updates Necessary to Existing Processes: ST will also evaluate updates to the existing system configurations and extensions required for the implementation of the modernized solution.
- Define System Testing Scope: The testing scope for system modernizations will be identified by the system owners and teams managing current Edge applications, EDI communications, external web user interfaces, and the systems and processes of third-party vendor solutions.
- Conduct Basic Function Testing for Non-Third-Party Integration (“TPI”) Business Processes: Changes to the current solution architecture include the creation of new objects and updates to or decommissioning of existing objects, required during implementation planning. Basic functional testing for all business processes will address the associated risks of these impacts. This approach will select scenarios based on lessons learned from the Company’s 2023 Oracle CC&B implementation.

System Integration Testing (“SIT”): System Integration Testing verifies the seamless integration of all Retail Access Systems and their interfaces with the Company’s Oracle CC&B system and Edge systems, encompassing both inbound and outbound communications. SIT aims to validate that the system components are accurately modeled, configured, and integrated to support the execution of end-to-end business scenarios. This phase confirms that the modernized system and all its interfaces can effectively communicate and function cohesively with the necessary systems.

SIT allows for a comprehensive evaluation of each release. SIT will be logically segregated by release. Key scope considerations for SIT include:

- Reports, Interfaces, Conversions, Extensions, Functions (“RICEF”) Requirements: SIT will encompass interface requirements that have been identified during pre-implementation planning. Testing will assess the solutions proposed to address any issues or inefficiencies found in the current processes and systems.
- Existing RICEF Dispositions: SIT will assess the performance and compatibility of existing RICEF components, validating that they function correctly within the environment and align with updated business requirements.

User Acceptance Testing (“UAT”): User Acceptance Testing verifies that the solution effectively meets the essential business processes of Retail Access Systems and complies with the UBP and EDI Guidelines and policies governing transaction flow between the Company and Stakeholders. Company end-users are responsible for conducting UAT for Retail Access Systems, Oracle CC&B and Edge systems, while also coordinating the validation of end-to-end EDI transaction processing and web user interfaces with third parties. Both full and subset scenarios will need to be tested. Depending on testing need and scope, Stakeholder participation may be required. The Company will develop comprehensive Stakeholder communication and engagement plans to inform Stakeholders of testing plans.

Performance Testing (“PT”): Performance Testing assesses the performance of the system to support critical functions and requirements of the Retail Access business to confirm that there is no degradation of system performance. PT focuses on confirming that key User Interface (“UI”) functions, Application Programming Interfaces (“API”), and batch processes perform within acceptable business ranges, verifying the system replacement does not degrade existing performance benchmarks. The PT phase may include multiple cycles of Load, Stress, and Endurance Testing to enable a robust and efficient system that meets the demands of the business operations.

Disaster Recovery (“DR”) Testing: DR Testing verifies that a company can swiftly recover and resume operations in the aftermath of unexpected events such as cyberattacks, equipment failures, and natural disasters that threaten business and system functionality. A successful DR testing process requires testing and implementation milestones that are compatible with the schedules and requirements of Stakeholders.

Stakeholder Testing: Stakeholder Testing allows participating external entities to validate the end-to-end functionality of the modernized system. This testing phase is built upon a partnership between the project team members and Stakeholders to initiate, process, and respond to related EDI transactions; use web applications; and generate reports.

Organizational Change Management

The purpose of Organizational Change Management (“OCM”) is to engage and prepare business users and Stakeholders to use the new features enabled by the modernized Retail Access System. To achieve this, the Company will engage a Business Integrator partner to advise on the development and execution of a structured and collaborative change management program that leverages industry-leading practices and toolkits. OCM has been integrated into all program aspects, beginning with pre-implementation planning, and incorporates lessons learned from the Company’s CSS replacement, particularly in external Stakeholder communications and engagement and support plans. Such communications efforts will include:

- Mechanisms to facilitate ongoing dialogue and engagement in both group and individual settings with external Stakeholders
- Opportunities to continuously gather iterative feedback from Stakeholders through multiple release cycles
- Early and ongoing communications, continuous opportunities to gather input into the plans, and the flexibility to adjust plans as needed to accommodate Stakeholder requirements throughout the project

COST BENEFIT SUMMARY

Cost Benefit Overview

The Company engaged third-party vendor partners with experience implementing and supporting comparable Retail Access platforms to perform an assessment for a new Retail Access System in April 2024. Between April and November 2024, the project team and vendor partners conducted a thorough planning effort for the modernization of the Company’s Retail Access systems and updated assumptions that were used to estimate the project’s anticipated costs and benefits. The cost and benefit assumptions were validated through an iterative review process across all relevant Company stakeholders. This section provides details of cost reductions, avoidance, and benefits outlined in the business case.

Key factors that are embedded in the cost estimate include: (1) an assessment of the current state business processes, (2) integration and technical architectures, (3) labor resources, (4) non-labor costs, such as hardware and software, and (5) indirect costs.

The Company determined whether labor costs should be classified as capital or O&M by analyzing the activities that would be performed by resource type and role for each phase of the project. Similarly, for the non-labor costs, capital and O&M determinations followed Plant Accounting rules and Generally Accepted Accounting Principles (“GAAP”).¹¹

The following tables provide further details on estimated capital and O&M expenditures by cost category.¹²

¹¹ Consolidated Edison Corporate Accounting Procedure, Accounting for Transactions between CECONY and ORU, GAP-040C, April 28, 2017.

¹² Values in the tables may not sum exactly due to rounding.

Table 3: Estimated Capital and O&M Costs for Project from 2024 to 2028 (\$000)

Total Cost 2024- 2028	CECONY	O&R	Total
Capital	45.6	3.5	49.1
O&M	7.3	0.6	7.9
Total	52.9	4.1	57.0

Table 4: Estimated Capital Expenditures from 2024 to 2028 (\$000)

Total Capital	2024	2025	2026	2027	2028	Total
Labor	459.6	1,126.4	1,228.8	1,228.8	179.2	4,222.8
A/P	3,163.7	7,791.2	13,229.6	9,655.0	840.6	34,680.1
Other	-	1,776.7	2,312.2	3,461.6	386.4	7,936.9
Overheads	145.6	548.5	598.4	598.4	87.3	1,978.3
AFUDC	72.1	47.9	74.0	56.3	6.6	256.9
Total	3,841.0	11,290.7	17,443.0	15,000.1	1,500.1	49,074.9

Table 5: Estimated O&M Expenditures from 2024 to 2028 (\$000)

Total O&M	2024	2025	2026	2027	2028	Total
Labor	-	-	153.6	614.4	460.8	1,228.8
A/P	-	-	1,536.0	2,784.0	1,248.0	5,568.0
Other	-	-	-	-	249.0	249.0
Overheads	-	-	74.8	548.2	224.4	847.4
Total	-	-	1,764.4	3,946.6	2,182.2	7,893.2

Associated implementation and ongoing O&M funds are needed to maintain the modernized Retail Access Systems. The \$7.9 million in O&M costs associated with the effort include:

- **Change Management & Training:** These funds are needed for design, development, and deployment of training materials and necessary toolkits for Retail Access and other impacted employees and Stakeholders.

- **Post-Production Maintenance and Support:** These funds are needed to maintain and support the Retail Access systems post go-live.

Financial Benefits

As part of the analysis conducted to support the investment decision for this project, the Company has identified potential financial benefits that it expects to realize by modernizing the Retail Access Systems.

The financial benefits of the modernized Retail Access Systems include both cost avoidance and cost reductions. Details include:

- Commercial off-the-shelf (“COTS”) product customization: Modernizing the Company’s existing systems will avoid the costs of retrofitting new functionality into a COTS vendor product to integrate it with the Company’s current customer information and billing system (CC&B). The Company expects that a future version of CC&B—unlike the Company’s current version—will include the functionality and components required for the Company’s retail access functions. So, by modernizing its existing systems, rather than implementing a new COTS product at this time, the Company will avoid the consulting and labor costs required to retrofit the COTS product to work with the Company’s current version of CC&B.
- Temporary Retail Access staffing augmentation: If the Company implemented a new COTS product, then it would need additional staffing in the Retail Choice group to support manual work efforts during the development and implementation of the COTS product. By modernizing its existing systems instead of implementing a COTS product, the Company will be able to avoid those supplemental staffing costs.
- End-user COTS solution training: If the Company implemented a COTS solution, it would need additional instructor-led training for business users. By instead modernizing its existing systems, the Company will be able to avoid those costs.
- Retirement and consolidation of legacy web server infrastructure: The Company will reduce its technology costs by consolidating CECONY and O&R web server platforms and retiring redundant web servers.

- Highly skilled IT contractor development and support services: Reduce IT consulting labor and costs required for Retail Access system development and maintenance activities post modernization.

Financial Cost Avoidance

The Retail Access System Modernization project will facilitate a one-time savings of approximately \$10.4 million in avoided COTS vendor product implementation costs for the Company, as detailed in Table 6.

Table 6: Estimated Cost Avoidance

Function	Description	Estimated Cost Avoidance (\$000)
COTS product customization	Retrofit of a mandatory enterprise product solution component into the Company's Customer Care and Billing (CC&B) system. This customization would have been required if the Company were to implement a COTS vendor product solution onto the current version of CC&B.	\$3,000
Temporary Retail Access staffing augmentation	Retail Access Full Time Employee staffing to support manual work efforts during the COTS vendor product implementation is avoided as the Company recommends not implementing a COTS solution at this time	\$3,906
End-user COTS training	With the decision to not implement a COTS vendor product solution, extensive instructor-led training for business users is avoided	\$3,303
Retirement and consolidation of legacy web server infrastructure	Reduction in new web server infrastructure through targeted server retirements and consolidation of CECONY and O&R web server platforms	\$218

The Retail Access System Modernization project will also facilitate ongoing cost reductions of approximately \$2.1 million in annual capital spend in highly skilled IT contractor costs for the Company, as detailed in Table 7.

Table 7: Estimated Cost Reduction

Function	Description	Estimated Annual Cost Reduction (\$000)
Highly skilled IT contractor development and support services	Reduce the need for highly skilled IT consultants to conduct system development and enhancement efforts following the Retail Access System Modernization	\$2,072

Non-Financial Benefits

The modernized Retail Access Systems will enable non-financial benefits for the Company and Stakeholders by supporting continuous improvement of the Stakeholder experience as detailed below:

- Deliver near-term value to Stakeholders: Address business and Stakeholder requirements through iterative releases throughout the project timeline.
- Optimize self-service and reporting capabilities: Update features and functionality to enhance reporting capabilities via self-service, such as enhanced ICAP year values and access to prior year ICAP values through the Retail Access Web User Interface.
- Automate Retail Access exception handling: Introduce Robotic Process Automation (RPA) to automate Retail Access exception handling through the customer information and billing system.
- Enhance data quality: Bring systemic checks and balances needed to avoid current issues caused by inaccurate or mismatched data, which will enhance visibility and reporting into open items or discrepancies and reduce overall discrepancy quantities.
- Improve operational efficiency: Streamline the transaction management process, reducing reliance on manual processes to investigate file transfer issues and minimizing file reprocessing efforts.
- Enable process improvements: Reduce current transaction processing failures by enabling the ability to isolate and reprocess failed transactions without impacting successful transactions, which will reduce manual effort from both the Company and Stakeholders and enable process standardization across the Company.

- Modernize web experience: Update Retail Access Web User Interfaces to enable a modern, standardized Stakeholder experience.

Cost Model Assumptions

As part of the Retail Access System pre-implementation efforts that commenced in April 2024, CECONY and O&R conducted several activities to provide insight and assumptions used in the development of the cost and benefit forecast set out in this Business Plan. Key cost model assumptions are detailed in Table 8 below.

Table 8: Cost Model Assumptions

Assumption	Description	Source
Program labor forecast	Detailed activity-based implementation plan from Envision through Deployment developed to forecast total labor hours, cost, and needed FTEs	Pre-Implementation Planning
Hardware and software (including maintenance)	Total estimate of all hardware and software costs required throughout the full project lifecycle	Pre-Implementation Planning
Capital and O&M allocations	All detailed cost items categorized and allocated to Capital or O&M in line with GAP-40 principles and in consultation with CECONY Regulatory, Finance and Accounting	GAP-40
AFUDC	CECONY – 5.9% O&R – 6.13% Applied to all capital excluding hardware	Corporate Accounting Guidance
IT Labor support costs	Detailed cost estimate for IT labor-related costs associated with changes made to Retail Access Systems	Pre-Implementation Planning

Business Labor support costs	Forecast of the business impacts of a Retail Access System Replacement implementation and associated cost	Pre-Implementation Planning

CONCLUSION

Con Edison and O&R require a modernized Retail Access System to address increasing Stakeholder needs and expectations. The Company also must modernize its Retail Access System to facilitate the delivery of efficient solutions for customers. This project provides an opportunity for process standardization across the Company and enables value for Stakeholders. This effort will enable the Company to enhance its technology and operations to support the business and regulatory demands associated with participation in the Retail Access Marketplace, as stakeholders expect. For these reasons, the Company is moving forward with the modernization of its Retail Access Systems, Web User Interfaces, and reporting tools.

LIST OF ABBREVIATIONS AND TERMS

AFUDC	Allowance for Funds Used During Construction
AMI	Advanced Metering Infrastructure
API	Application Programming Interface
CC&B	Customer Care & Billing system (Oracle software product)
CECONY	Consolidated Edison Company of New York, Inc.
CIS	Customer Information System
CSS	Customer Service System
COTS	Commercial off-the-shelf vendor product
DR	Disaster Recovery
DER	Distributed Energy Resource Company
Edge System	A secondary Company system which interfaces with the primary system, not a core focus of the solution
EDI	Electronic Data Interchange
ESCOs	Energy Service Companies
GAAP	Generally Accepted Accounting Principles
ICAP	Installed Capacity
NYS	New York State
O&M	Operation and Maintenance
O&R	Orange and Rockland Utilities, Inc.
OCM	Organizational Change Management
ORT	Operational Readiness Testing
Phase I	Retail Access System Modernization
Phase II	Retail Access Web User Interface and Reporting Enhancements
PSC	New York State Public Service Commission
PT	Performance Testing
RAIS	Retail Access Information System
RICEF	Reports, Interface, Configuration, Extensions, Functions
RPA	Robotic Process Automation
SDLC	Software Development Life Cycle
SI	System Integrator
SIT	System Integration Testing
SME	Subject Matter Expert
ST	System Testing
Stakeholders	Third-Party entities including ESCOs, EDI Billers, EDI Providers, Gas Marketers, DERs, and others directly impacted
TCIS	Transportation Customer Information System
TPI	Third-Party Integration
UAT	User Acceptance Testing
UBP	Uniform Business Practices
UI	User Interface
UT	Unit Test

Retail Access System Modernization (Total)				
Capital		2026	2027	2028
Labor	Internal Labor (Business & IT)	1,143	1,143	167
Contractor Services	Contractor Services (Staff Augmentees/Consulting & Professional Svcs)	12,304	8,979	782
	Infrastructure	34	-	232
	Software Licenses	-	-	-
	<i>Contractor Svcs Subtotal</i>	12,338	8,979	1,014
Overheads	Labor & Capital Overhead	556	557	81
	AFUDC	69	52	6
	<i>Overheads Subtotal</i>	625	609	87
Other	Contingency	2,116	3,219	127
Total		\$16,222	\$13,950	\$1,395

Retail Access System Modernization (Total)				
O&M		2026	2027	2028
Labor	Internal Labor (Business & IT)	143	604	462
Contractor Services	Training	1,428	1,428	
	Contractor Services (Consulting & Professional Svcs)	-	1,344	1,344
	Infrastructure	-	-	-
	Software Licenses	-	-	-
	<i>Contractor Svcs Subtotal</i>	1,428	2,772	1,344
Other	Labor & Maintenance - Other	70	294	224
	<i>Other Subtotal</i>	70	294	224
Total		\$1,641	\$3,670	\$2,030

Retail Access System Modernization (Phase I)				
Capital		2026	2027	2028
Labor	Internal Labor (Business & IT)	1,143	381	167
Contractor Services	Contractor Services (Staff Augmentees/Consulting & Professional Svcs)	12,304	2,993	782
	Infrastructure	34	-	232
	Software Licenses	-	-	-
	<i>Contractor Svcs Subtotal</i>	12,338	2,993	1,014
Overheads	Labor & Capital Overhead	556	186	81
	AFUDC	69	17	6
	<i>Overheads Subtotal</i>	625	203	87
Other	Contingency	2,116	1,073	127
Total		\$16,222	\$4,650	\$1,395

Retail Access System Modernization (Phase I)				
O&M		2026	2027	2028
Labor	Internal Labor (Business & IT)	143	461	231
Contractor Services	Training	1,428		
	Contractor Services (Consulting & Professional Svcs)	-	1,344	672
	Infrastructure	-	-	-
	Software Licenses	-	-	-
	<i>Contractor Svcs Subtotal</i>	1,428	1,344	672
Other	Labor & Maintenance - Other	70	224	112
	<i>Other Subtotal</i>	70	224	112
Total		\$1,641	\$2,029	\$1,015

Retail Access System Modernization (Phase II)				
Capital		2026	2027	2028
Labor	Internal Labor (Business & IT)		762	
Contractor Services	Contractor Services (Staff Augmentees/Consulting & Professional Svcs)		5,986	
	Infrastructure		-	
	Software Licenses	-	-	-
	<i>Contractor Svcs Subtotal</i>		5,986	
Overheads	Labor & Capital Overhead		371	
	AFUDC		35	
	<i>Overheads Subtotal</i>		406	
Other	Contingency		2,146	
Total		\$ -	\$9,300	\$ -

Retail Access System Modernization (Phase II)				
O&M		2026	2027	2028
Labor	Internal Labor (Business & IT)		143	231
Contractor Services	Training		1,428	
	Contractor Services (Consulting & Professional Svcs)	-		672
	Infrastructure	-	-	-
	Software Licenses	-	-	-
	<i>Contractor Svcs Subtotal</i>		1,428	672
Other	Labor & Maintenance - Other		70	112
	<i>Other Subtotal</i>		70	112
Total		\$ -	\$1,641	\$1,015

Customer Energy Solutions 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: AMI Communication Network Steady-State	
Project/Program Manager: Jude Del Percio	Project/Program Number (Level 1): 27536182
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/2025	Estimated Date In Service: 12/2029
2025-2029 Funding Request (\$000) Capital: \$11,142 O&M: \$0	
Work Description: Con Edison's Advanced Metering Infrastructure (AMI) Communication Installation Project concluded in 2024. Now, an AMI Network Steady-State budget must be established to support the AMI system that was erected under the AMI Project.¹ The system that was established included an AMI communication mesh network, which includes interconnected communication devices that aggregate data from and communicate with AMI electric and gas meters and natural gas detectors. The AMI communications mesh network system also supports customer billing and provides data that supports multiple Company initiatives such as monitoring usage and load profiles to optimize clean energy sources into the grid, outage management, customer safety assurance through hot socket alarms and natural gas leak detection, among others. This funding will continue the critical operation of the core AMI system and allow for the installation of new communication devices to accommodate growth in our service territory. This will be accomplished through additional meter installations, replacing damaged communications devices in the field, and generally supporting the changing conditions across the service territory. The annual \$2.8M in capital funding is required to install approximately 400 communications devices. This estimate includes: • Cost of equipment and the associated peripheral equipment • Installation of these new devices to make the asset field operable • Labor costs related to project management and field oversight of internal labor resources ○ Project managers and field oversight will plan and issue the work, review, and approve engineering designs, and other related activities	

¹ Case 15-E-0050, Consolidated Edison Company of New York, Inc. – Electric Rates, Order Approving Advanced Metering Infrastructure Business Plan Subject to Conditions (issued and effective March 17, 2016) (“AMI Order”).

Justification Summary:

This funding request will continue the Company's AMI Project investment in foundational technology. The AMI communication mesh network is comprised of various interconnected communication devices and appurtenances installed in the field which communicate with both AMI electric and gas meters.

The AMI mesh network must accommodate changing conditions across the Con Edison service territory. These factors drive the need to install new mesh network devices to remediate the dynamic conditions and continue the production and collection of automated customer consumption data from AMI meters. Thus, there is a continual requirement to design new communication network nodes and install new communication network devices and appurtenances in the field.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The AMI communication network provides greater insight into real-time and historic energy use for customers and for Con Edison, providing a platform for new programs and innovative operating procedures and policies. The communication network also allows the Company to expand and enhance energy efficiency programs as well as introduce other innovative programs which reduce overall energy usage.

2. Supplemental Information

Alternatives

There is currently no viable alternative solution.

Risk of No Action

Without continued investment, the AMI communication network performance would decay, resulting in an increase in both estimated and unbilled customer accounts. These customers would not be receiving the benefits of AMI, including access to their usage, which allows them to manage their costs. There would be a negative safety impact as a decay in communications network performance would impact electric outage detection and natural gas detector alarm capabilities.

Non-Financial Benefits

When the AMI communication network is performing at the intended operational level, the following non-financial benefits are realized:

- Increased service reliability due to immediate outage notification emanating from the meter and delivered to Con Edison via the AMI communication network. This accurate and timely outage information enables Con Edison to restore service.
- Increased customer satisfaction and empowerment due to the availability of the customer's energy usage information on the Con Edison website and shorter services outages, both of which are made possible by the AMI communication network.
- Increased safety due to immediate notification, via the AMI communication network, of gas leaks reported by the Natural Gas Detectors (NGD) and hot sockets which alarm in the AMI Operations Control Center (AOCC). Thus, these safety features, coupled with the AMI mesh network, serve a life safety function and their maximum reliable communication performance is a necessity providing an added measure of benefit to all communities across the service territory, including disadvantaged communities.

Summary of Financial Benefits and Costs

The cost estimates are based on the forecasted number of installation jobs per year and the historical average cost per installation job as well as forecasted communication device equipment needs.

Project Risks and Mitigation Plan Risk 1: A shortage of in stock network devices could extend the project timeline. Mitigation Plan: Con Edison shall order sufficient quantities of network devices and required accessories well in advance, taking into account vendor lead times, delivery, etc. Risk 2: Insufficient staffing to install network devices could extend the project and/or prevent completion. Mitigation Plan: Dedicated field crews will be assigned for installation and/or remediation of network devices to ensure timely completion.
Technical Evaluation / Analysis N/A
Project Relationships (if applicable) This project is related to both the AMI Operations Steady-State O&M and IT's AMI Enhancements Programs as well as any other project or program that relies on AMI data. This project is also related to the Meter Installation and Meter Purchase Programs. The AMI Communication Network allows for the communication of meter usage data back to IT systems.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						\$50
Regulatory Asset						
Capital						\$1,500

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)		\$2,827	\$2,772	\$2,772	\$2,772
Labor		\$1,525	\$1,525	\$1,525	\$1,525
M&S		\$286	\$230	\$230	\$230
Contract Svcs.					
Other					
Overheads		\$1,016	\$1,017	\$1,017	\$1,017

Business Unit / Division 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☒ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☒ Operationally Required ☒ Strategic	
Project/Program Title: AMI Systems Sustainability Program	
Project/Program Manager: Madhu Reddy	Project/Program Number (Level 1): 25508506
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date:	Estimated Date In Service:
2025-2029 Funding Request (\$000) Capital : 57,680 O&M : 155,000	
Work Description: The Con Edison/Orange and Rockland AMI project implemented a highly innovative IT platform with first-in-kind unique features, a secured wireless communication network, over 5.4 million smart meters, gas IMUs, and over 220,000 methane sensors in Con Edison's service territory, covering 3.4 million electric customers and 1.2 million gas customers. The project modernized the Company's energy grid, enhanced customer service, improved operational efficiency, and supports clean energy initiatives. The reliable and robust AMI platform allows for gathering 15-minute meter readings for all 5.4 million meters on schedule without affecting the billing process and avoid any estimated bills and delayed billing. The AMI platform consists of the following critical business applications: • Head End System (HES) – Provides communication and collects data from smart meters. • Meter Asset Management System (MAMS) - Tracks and maintains all meters and related equipment from procurement to retirement. • Meter Data Management System (MDMS) - Collects, analyzes, processes, and stores data received from smart devices, for billing and operation purposes. • Profield Encore (PFE) - Tracks and manages all asset deployments, including meters, methane sensors, socket APs, and more. • AMI Custom Applications - Develops and manages in-house custom applications for business users to monitor and support interfaces, data sync, reports, and more. After the completion of the initial AMI business case in 2023, we proceeded with the ongoing refinement of business processes, the enhancement of system performance and the implementation of the business case for 2024-2025. The business objective is to ensure the long-term sustainability of AMI applications while also aiming to enhance and streamline existing business processes, eliminate manual business processes, and stabilize, and secure critical AMI hardware and applications.	

This capital request, covering the period from 2026 to 2028, will allow Con Edison to enhance the AMI application platform by streamlining operations and automating critical AMI systems. These upgrades and enhancements are crucial to support ongoing corporate initiatives related to meter data, sensor data, billing data, and outage data, all of which rely on the stability of the AMI applications and to prepare for clean energy initiatives. Additionally, they will ensure that Con Edison can uphold the reduced estimated interval data and continue to consistently deliver a high percentage of actual bills to our customers. Additionally, to ensure these systems are highly secured in accordance with corporate cybersecurity initiatives.

The work description for each of the AMI applications for the capital request is below.

- **Head End System (HES) Enhancements:**

The Head-End System (HES) enables two-way communication between smart meters and AMI applications. It acts as a central hub for data transmission, facilitating the seamless exchange of information, which is crucial for effective energy management and customer billing. It is crucial to annually upgrade the HES system to maintain optimal application functionalities, enhance capabilities, improve security, and ensure seamless integration with other AMI applications. We collaborate with vendors to carry out these yearly upgrades, which help us maintain a reliable and secure infrastructure, protect against vulnerabilities, improve system performance, maintain vendor support, and continue to produce customer with actual bills.

- **Meter Asset Management System (MAMS) Enhancements:**

The Meter Asset Management System (MAMS) is a comprehensive repository for all data related to metering and Advanced Metering Infrastructure (AMI) devices. With over 5.4 million smart meters, gas IMUs, and more than 220,000 methane sensors deployed, MAMS is responsible for recording all asset details from procurement to retirement, ensuring the tracking of assets and their lifecycle. The objective is to establish a centralized data repository, referred to as a Data Lake, for MAMS. This repository will serve as a centralized repository that ingests and stores large volumes of data in its original form and automates the collecting process and managing data related to the meter lifecycle. Also, it will provide our business with real-time reporting and visualization, simplify data analysis, and provide accurate and up-to-date information. In addition, this centralized data repository will serve as a valuable data source for various business organizations, supporting their operational needs across multiple use cases. This initiative will enable the business team to make well-informed decisions and strategically invest in our infrastructure to enhance our operational capabilities.

In our pursuit of improving the efficiency and reliability of the MAMS, we recognize the critical importance of implementing robust source code version control procedures and automating our continuous integration and continuous deployment (CICD) pipelines. These measures will significantly contribute to the overall quality of our software and streamline our development and deployment processes. We will work with the MAMS vendor to implement version control, which will deliver high-quality results with timely deliverables, simplify the management of our code and artifacts, provide consistent deployments, meet the auditing compliance with version control and deployments, and ultimately improve the overall quality of our software, adhering to best practices in version control, we can streamline the development and deployment process, and minimize errors. Also, our commitment to version control and CICD automation aligns with our goal of delivering high-quality software version control management and deployments.

- **Meter Data Management System (MDMS) Enhancements:**

Upgrade the MDM application to the latest version to ensure up-to-date software version, optimize application functionality, enhanced security. Application security includes practices that help identify, protect against and address vulnerabilities to minimize the likelihood of a cyber-attack or data breach and seamless integration with other AMI applications is maintained. We will collaborate closely with our vendor to execute this upgrade meticulously, as it is crucial to maintaining a reliable and secure infrastructure. This upgrade will enhance our current process of providing customers with actual bills, cybersecurity compliance, and integration compatibility with other AMI and customer billing applications. It will also strengthen our commitment to providing enhanced customer service, improve our capabilities to achieve 100% system uptime and resiliency for critical AMI applications and upgrade the application architecture, and infrastructure with cutting-edge technology. This upgrade is pivotal for the continuous improvement of our services and infrastructure. It reflects our commitment to excellence and positions us at the forefront of technological advancement in our industry.

As we progress through our ongoing 5-year hardware refresh cycle, our commitment remains steadfast toward enhancing our application architecture and infrastructure in alignment with corporate and cybersecurity standards.

We will refresh and upgrade our critical AMI infrastructure which includes all servers and storage. In addition, the plan is to introduce High Availability (HA) for the MDM system, including the application servers and storage to improve overall resiliency. These enhancements are crucial for the business, since they provide uninterrupted access to vital data and services, reduce system downtime. It will also enable the users to access the latest capabilities and functionalities, ensure a reliable application platform, and address vulnerabilities.

We will also incorporate cutting-edge technologies such as containerization (e.g., Kubernetes) to streamline the patching process. This will help us manage our infrastructure and operational systems efficiently. The benefits of this technical infrastructure and architecture enhancement include scalability, high availability, resource efficiency, self-healing capabilities, portability, and improved practices in DevOps, Cloud, and DevSec Ops.

We also plan to enhance the functionality of our systems and processes, automate manual workarounds used by business users, and streamline our business processes to improve efficiency. In addition, we are committed to providing comprehensive support for Public Service Commission (PSC) mandated rate changes or implementing new rates within the Meter Data Management System (MDMS).

These strategic enhancements and upgrades are essential for maintaining application reliability, high performing ensuring uninterrupted application access and preserving data integrity. Also, we aim to improve the applicaiton functionalities, secure continued support from our hardware vendors and uphold our commitment to excellence.

- **Profield Encore (PFE) Enhancements:**

We plan to enhance Profield Encore (PFE) application functionalities and align them with our organization's commitment to delivering safe and reliable services. These new features will enhance inventory controls, simplify the documentation process for AMI network device investigations, streamline the process for large meter-base installations, and refine data quality by reducing the need for manual efforts, workarounds, and customer-estimated bills. These enhancements are crucial for improving the overall efficiency of our business operations and reaffirming our dedication to upholding high-quality service standards.

- **AMI Custom Applications Enhancements:**

We plan to enhance the functionality of our AMI Cross Meter Sync (ACMX) custom application. Our objective is to streamline data management and synchronize asset data across AMI and customer billing applications. To achieve this, we plan to incorporate Network Device information into ACMX, automate data collection and comparison in a centralized repository, and generate synchronization reports.

We also aim to introduce an array of new features in ACMX, including meter discovery, orphan assets, complex billing parent/child validations, asset lookup functionality, automated alerts, and Advanced analytics, which will provide actionable insights for automated issue resolution. These enhancements will significantly boost our business capabilities, enabling better data synchronization across applications and more efficient customer billing processes. This marks a significant step forward for our operations.

We plan to upgrade the functionalities of our AMI Suite custom application. These enhancements are not just incremental; they are pivotal improvements and the introduction of new tools that will propel our operational capabilities forward. Our key objectives are to implement Life-Support Equipment (LSE) alarms, add a safety control for Remote Connect Disconet (RCD), develop a web-based tool for assets cleanup, integrate real-time alarm mapping for natural calamities, create a service request closure tool, and streamline and consolidate existing AMI tools, APIs, and applications.

With these enhancements, we plan to elevate our business capabilities, enabling us to streamline operational processes, optimize asset management, and improve business operation processes.

Justification Summary:

Upgrading the Head End System (HES) is crucial in maintaining operational excellence at the highest standards. This upgrade offers improved functionalities, enhanced security, seamless integration, infrastructure integrity, secure continuous vendor support, and continue to produce customer with actual bills.

Implementing the Data Lake for the Meter Asset Management System (MAMS) advances our data management and decision-making capabilities. This tool allows users to extract information from a single source of truth. This approach allows for data consistency and reliability and empowers better decision-making. Moreover, integrating Microsoft's AI tools to develop a custom Copilot for MAMs will enhance our reporting process. Business users can generate reports more efficiently using natural language prompts, which improves the decision-making process, enhances data quality, and reduces report creation time.

Implementing version control and automated CICD pipelines for MAMS can significantly enhance software development efficiency and improve overall software quality. This strategic enhancement is

in line with software development best practices and aims to improve the end-user experience. Additionally, automated CI/CD pipelines enable faster and more reliable deployments while ensuring efficiency and security compliance. They can significantly benefit the software development process and deliver high-quality software more efficiently.

Upgrading our MDM system to the latest version and advancing our infrastructure is a critical initiative. The upgrades' key benefits include optimizing system functionalities, capability enhancement, security and business operations, seamless integration, secure business environment, cybersecurity compliance, secure continued vendor support, and enhanced system operation processes. These upgrades are essential to maintaining and upkeeping our applications and ensuring the reliability and security of our services. We prepare for the future by embracing these changes and reinforcing our commitment to excellence.

The proposed enhancements to the Profield (PFE) application offer an excellent opportunity to improve the documentation and efficiency of meter installation activities. By using these enhancements, we can improve data quality and streamline meter installation processes. This enhancement will improve data quality and ultimately enhance overall application efficiency.

As part of our commitment to continuously improving our AMI Cross Meter Sync (AMCX) custom application, the proposed enhancements are essential to improving overall efficiency and effectiveness and saving valuable time and resources previously spent on manual processes. Implementing these new features, such as meter discovery, complex billing validations, and prediction-based remediation, will enhance our business operations. These features will result in efficient data management, faster issue resolution, and decreased reliance on manual intervention.

Enhancements to our AMI Suite custom application are essential to making AMI sustainable by improving customer awareness during outages, streamlining work processes, enhancing asset management, ensuring billing accuracy, and bolstering data integrity. These enhancements will result in efficient business operations, enhanced security, quick emergency response, and simplified system management. Moreover, they will lead to significant cost savings, improved Con Edison responsiveness to critical events, and enhanced customer experience.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Refer to original business plan.

Alternatives

Upgrades (HES and MDM):

It's crucial to recognize that we have no choice but to upgrade our applications and infrastructure. Persisting with outdated systems may cause negative consequences, such as reduced functionalities, security vulnerabilities, poor system performance, lack of vendor support, and decreased customer satisfaction.

Data Lake for MAMs:

While not implementing a Data Lake for MAMs is an option, it may lead to increased manual effort, challenges in data management, and higher costs. On the other hand, purchasing alternative tools

requires careful consideration of their compatibility with our current infrastructure and the overall return on investment.

Implementing Version Control:

Opting to maintain software version changes manually is a viable alternative; however, it is important to be aware of the inherent risks associated with this approach, including errors and bugs, code conflicts and merge issues, and potentially causing delays in the software development process.

Enhancements to Applications:

The option of not enhancing applications will lead to decreased system efficiency and ultimately reduce the application's ability to handle the current workload, impacting performance. It will also result in continuing to maintain documentation manually and relying on workarounds to perform specific tasks that are time-consuming and possibly result in customers receiving estimated bills. We may not be able to meet customers' evolving needs and will miss out on the opportunity to improve the customer experience.

Implementing application enhancements and system upgrades is critical to preserve the integrity of the company's original AMI program. Additionally, these measures play a vital role in upkeeping the company's applications, protecting against potential cyber vulnerabilities, and ensuring the ongoing reliability and security of the applications and infrastructures.

Risk of No Action

Upgrades:

Continuing to maintain the systems without upgrades will result in outdated systems and present a multitude of challenges that could impede our organization's progress. These systems will soon be outdated and potential roadblocks to our future success. These issues compromise our operational capabilities and needlessly put our customers' information at risk. We must transition away from these outdated systems to safeguard our business operations and maintain our customers' trust.

Data Lake for MAMs:

Without a centralized data lake data repository, business users' decisions rely on incomplete or inconsistent data, decreasing effective decision-making. Additionally, it can be challenging to scale data storage and processing capabilities to keep up with growing customer data needs.

Implementing Version Control:

Not implementing version control can lead to several risks and challenges in software development. It can lead to errors and bugs in the software. Without version control, tracking code changes and reverting to previous versions, if necessary, is difficult, causing code conflicts and the loss of vital data. It will slow down the development process.

Enhancements to Applications:

The risk of not enhancing the application leads to inefficient documentation, poor data quality, and inefficient meter installation processes, negatively impacting customer satisfaction and trust. Manual processes will continue to be the norm, consuming valuable time and resources and leading to errors and inaccuracies in customer billing processes, customer dissatisfaction, decreased efficiency, inefficient business operations, data integrity issues, delayed emergency response, increased operation costs, and poor customer experience. Additionally, this could result in prolonged outages and customer safety concerns.

This capital investment in the AMI platform is critical for Con Edison to realize the full value of the AMI program. Without action, the company and its customers face potential billing issues. Furthermore, it will be at significant risk if the company lacks the necessary application and hardware upgrades to support customer billing, storm restoration, and integration with other applications.

Non-Financial Benefits

The proposed upgrades and enhancements offer numerous non-financial benefits. These include reinforced security, seamless integration with other applications, consistent and reliable data, improved business user decision-making, standardized data across various reports, enhanced software development, better end-user experience, higher data quality, reduced manual processes, improved customer satisfaction, and overall enhanced business operations and customer experience.

Summary of Financial Benefits and Costs (attach backup)

The system upgrade and enhancements yield heightened operational efficiency, lowered maintenance and operation costs, and potential cost savings resulting from optimized processes.

Project Risks and Mitigation Plan

Risk 1: System upgrades sometimes result in software functionality issues and system errors.

Mitigation plan: Test the upgrade thoroughly in a non-production environment before deploying it to the live system.

Risk 2: Implementing a data lake for Master Asset Managers (MAMs) may pose data security and governance risks.

Mitigation plan: Have security measures and data governance policies to ensure data safety and integrity.

Risk 3: Enhancements to an application can sometimes lead to technical challenges and compatibility issues.

Mitigation plan: Develop a comprehensive testing plan, conduct compatibility tests with current application functionalities and integrations, and establish a good support plan to address any issues that arise after going live.

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

Con Edison AMI edge systems like CC&B, OMS, WMS, GC

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M *					-	30,000
Regulatory Asset		-	-	-	-	-
Capital		-			-	7,000

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M *	30,000	30,000	31,000	32,000	32,000
Regulatory Asset					
Capital (Total)	12,719	21,941	10,864	6,078	6,078
Labor	2,000	1,512	1,484	1,369	1,369
M&S	7,569	15,350	4,350	600	600
Contract Svcs.	2,775	5,079	5,030	4,109	4,109
Other	375	-	-	-	-
Overheads		-	-	-	-

Note:

➤ O&M * :

O&M funding includes expenses for both employee and vendor labor, in addition to costs associated with vendor and software licenses and maintenance.

Information Technology 2026-2028

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Clean Energy Mapping Platform	
Project/Program Manager: Oleg Tosic	Project/Program Number (Level 1): 27708282
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: Q1 2026	Estimated Date In Service: Q2 2030
2026-2028 Funding Request (\$000) Capital: \$100,000 O&M: N/A	
Work Description: The Company has been actively working to consolidate their legacy mapping systems onto a new enterprise-wide tool, a Geographic Information System ("GIS") and expects this project to be completed in Q4 2026. The enterprise GIS, or eGIS, that the Company is implementing is on ESRI's Geometric Network ("GN") model. Once implemented, Con Edison will upgrade from the GN to ESRI's Utility Network ("UN") model. The upgrade to the UN provides the only channel for ongoing vendor system support by ESRI and continues building foundational system capabilities to facilitate the clean energy transition and management of regulatory requirements. Con Edison will implement the Clean Energy Mapping Platform upgrade to the UN across the enterprise, providing this enhanced functionality to all parts of the business which include low and medium voltage Electric, Gas, Steam, and Orange and Rockland ("O&R"). With improved tools to monitor network performance, the system contains technical improvements that are foundational to facilitating the clean energy transition, enhanced ability to access data in the field, and ability to display assets in 3D, the UN has many new features to improve the GIS capabilities of the Company. A more comprehensive summary of the benefits of the UN are described in the Justification Summary section below. In the coming years, focus will continue to shift to the UN, by ESRI and their GIS technology partners, as the GN nears end-of-life. In 2028, the GN model and its associated 10.x version of applications such as ArcMap and ArcGIS will no longer be supported by ESRI, which opens the door to more risks in cyber security and ongoing maintenance. The Company plans to begin the upgrade during the next rate period. The Company will implement the enterprise-wide upgrade to the UN by commodity, phased based on the maturity on the GN model. The IT team has developed high-level estimates of the implementation timeline and costs to upgrade to the UN. These estimates were developed using lessons learned from previous and current GIS implementation costs as well as benchmarking against peers who have performed similar system upgrades. Inputs for consideration included resource availability, scope of the systems, and prior vendor quotes. These estimates will be further refined after the Company completes its RFP process to gather quotes and proposals from potential vendors. The current plan for the upgrade is to start in line with the rollout of Phase 3 in 2026 and go through 2030.	

2026	2027	2028	2029	2030
Q1 2026	CECONY Gas	Q4 2027		
	Q4 2026	CECONY Steam	Q3 2028	
		Q4 2027	CECONY Electric	Q4 2030
		Q2 2028	O&R Electric and Gas	Q1 2030
For this implementation, the Company will engage a GIS product vendor and system integrator, following a similar process the Company utilized for the GN implementation. This partner will perform a range of activities to catalog the current GIS network, prepare and migrate the data, configure and customize the system, and test and deploy the UN for each business. Some key activities include: • Develop the software package • Code system customizations • Provide system integrator services • Perform data conversion • Develop system architecture The estimated capital cost from 2026 through 2028 to implement this enterprise-wide upgrade is \$100 million, developed using cost estimates from vendor proposals. This cost estimate is comprised of costs for vendors, internal labor, hardware, licenses, and system integration, as well as Allowance for Funds Used During Construction (“AFUDC”). It also accounts for contingency to address possible scope adjustments as the implementation progresses. The Company will reevaluate the project cost estimates for future years as the plans further develop and implementation progresses and include it in the next rate case. The work from 2028 through 2030 is currently estimated at an additional \$85 million, to be requested in the next rate case.				
Justification Summary: There are several reasons that drive the need for Con Edison to upgrade the GIS from the GN to the UN. First, with the upcoming end of life of the GN, the Company needs to keep pace with vendor support, to mitigate cybersecurity risk and best utilize platform partners. Secondly, the UN provides new functionalities and enhances the user experience of the tools. Finally, the system contains technical improvements that are foundational to facilitating the clean energy transition by allowing us to map in 3D, utilize cloud services and enhance the speed of the software by deploying faster servers. Maintaining detailed and accurate mapping systems is critical to Con Edison’s ability to safely, reliably and efficiently manage its extensive systems. This need is highlighted as these systems become more complex in the future. Con Edison’s maps are used to catalog millions of assets in every street in the Company’s service territory, and are critical to plan, maintain, repair, and operate the system as well as account for these assets from a financial and tax perspective. GIS has become standard technology and system of record for utilities and Con Edison’s implementation of the GN has already started achieving the benefits of an enterprise-wide GIS. The UN, with its ongoing support, enhanced functionalities, and technical improvements will better enable the Company to manage its systems.				
<u>End-Of-Life Support</u> The GN will soon be unsupported by ESRI, driving the need to transition to a supported mapping platform. ESRI’s support of the GN will end in 2028 and this support is critical to maintaining a secure enterprise GIS. After 2028, ESRI will no longer rollout security patches or updates, leaving the system vulnerable to malicious attacks and bad actors targeting outdated systems. Businesses with an outdated technology (defined as a software or system that is no longer receiving official support and updates from its manufacturer or developer) are 65% more likely to suffer a data breach than those that keep				

theirs up to date. Additionally, data breaches for businesses with outdated technology cost about 47% more.¹ One reason for this additional cost is that it often takes longer to discover a breach on an end-of-life system. Additionally, a severe breach can force the need for an immediate upgrade. Any emergency upgrade of the system would require at least two years to reasonably implement, keeping the Company open to further possible attacks in that time.

Cybersecurity is of the utmost priorities to Con Edison. Reliable electric service underpins modern society and critical services in New York City. The IT team upholds a policy of “cyber-first,” as it plans and operates the various technologies of the Company. Upgrading to the UN is essential not only to maintain cybersecurity protocols but also play a significant role in reducing the technical debt the Company has accrued. By transitioning to the UN, Con Edison can eliminate the complexities and inefficiencies associated with the outdated system, improving code maintainability and performance. This proactive approach will enhance overall portfolio stability and efficiency, ensuring long-term operational integrity and reinforcing the Company’s commitment to cybersecurity excellence.

Prior to the implementation of the GN, Con Edison had been utilizing outdated technology for over 25 years. Con Edison’s experience of being on unsupported systems have further strengthened the argument to upgrade to the UN. Without the upgrade, the Company will need to invest in enhanced security measures to compensate for the lack of vendor support, including regular monitoring, intrusion detection systems, and advanced firewalls to detect and prevent potential threats. The Company will also need to hire and train in-house resources and develop in-house capabilities to create patches for critical vulnerabilities, manage the data, and maintain the integrity of the system. The compliance and risk related activities will also need to expand to assess adherence to standards and develop strategies for risk mitigation, respectively.

Enhanced Functionalities

The data organization and network structure of the UN is more sophisticated than that of the GN. While the GN provides data modeling focused on connectivity and tracing between network elements, the UN also incorporates detailed information about network components. The models include data regarding asset types, asset properties, and relationships between assets, supporting more complex structures with hierarchies and dependencies. The models are flexible and highly adaptable, supporting complex utility structures like Con Edison’s dense, urban electric and gas systems. This allows for a richer representation of the real-world components and assets. The ability to depict the real-world network more accurately is another driver for upgrading to the UN.

The UN also offers tracing capabilities that are more advanced than the GN. The GN provides simple tracing to find connected features upstream or downstream. The UN can handle complex scenarios such as tracking specific asset types, phases, and condition. Because of the association between assets and logical groupings within the data structure, the UN can perform dynamic modeling, which includes real-time asset condition tracking, predictive analysis, and network scenario simulations, improving decision-making.

The GN is primarily designed for desktop use, with some web and mobile access. The UN was designed for use across multiple platforms but is optimized for web services. This makes project collaboration simple and immediate and makes the tools more accessible for field and remote workers. The platform also allows for better integration capabilities with other enterprise systems, such as operational technologies and asset management systems. This upgrade enables real-time data updates from the field, which are immediately reflected in the network model housed in the mapping platform.

¹ “IT Security Economics 2020: Part 2.” Kaspersky Daily. Accessed June 16, 2024.
<https://www.kaspersky.com/blog/it-security-economics-2020-part-2/>.

The UN also has better visualization capabilities. The UN offers 3D modeling and provides clearer, more detailed representation of the network. Users can realistically visualize their projects in both 2D and 3D. The enhanced visualization and spatial analysis capabilities can provide insights into the relationships between DERs and the grid and help the Company optimize their placement and operation. The modeling capabilities provide operational views of how assets are configured, create and enforce attribute and network rules, and even network views of past, present, and future versions for planning purposes. Other key features include performing isolation and circuit analysis, demonstrating impacts to the network based upon load or weather events, and produce dynamic reports.

In addition to these enhanced functionalities that Con Edison will utilize upon go live, the UN also provides the Company with opportunities for expanded future capabilities. With the ability to input and manage containment data and more detailed asset information, UN provides the opportunity for expanded asset management. The UN also offers the ability to perform mobile web editing. With this feature and after revisions of current operational procedures, users in the field could access and edit maps, reducing the need for desktop tools to accomplish the same tasks. The UN's real-time data input capabilities allow for collaborative map development of 3D land bases with the city.

Technical Improvements

As noted above, the GIS collects and manages geospatial data. Currently, the GN collects this geospatial data of utility asset data, but the connectivity model and several key attributes for load flow analysis are housed in the Poly-Voltage Load Flow ("PVL") model. This tool is an internally developed and maintained application, originally created for planning purposes. This separation between the system of record for the utility assets and a home-grown connectivity model designed for planning raises several key challenges. First, an application wishing to ingest all the attributes needed for operational load flow analysis must collect the connectivity from PVL, the utility asset attribute data from GIS, and reconcile differences between them. Differences can arise between the time when field work is executed, which changes the asset attributes (i.e., the "as-built" model), and when a planning model was published and its successive update (i.e., the "as-planned" model). Second, as an internally developed system, PVL was not designed for consumption by other enterprise software solutions, raising the complexity of building and maintaining system integrations. Finally, accounting for customer-owned resources presents an additional layer of complexity as that information is housed in a third system (the Distributed Energy Resource Asset Repository or "DAR").

A primary enhancement of the UN upgrade is to fully develop the connectivity model of all company and customer assets into the GIS and ease the consumption of that connectivity model into other operational technologies ("OT"). Additionally, the Company is piloting industry-standard load flow models CYME and Sincal, to assess the degree to which they can accurately model the Company's network underground system design. An accurate, up-to-date, and dynamically updated network connectivity model is a foundational technology to enable the OT needed to successfully operationalize DER programs and operate a flexible and DER-responsive grid. Specifically, this UN update enables control systems like the Advanced Distribution Management System ("ADMS") and Distributed Energy Resource Management System ("DERMS") - operational systems that analyze grid conditions in real-time, issue commands, and update the as-operated network model accordingly. The UN upgrade supports these technologies in the following ways:

- Extending the network model to behind-the-meter ("BTM") resources and consuming and manipulating that model in control systems like DERMS and ADMS is necessary for advanced DER operations. Information about asset availability information, specific location and connection points of DERs, and complete load flow connectivity are necessary to make operational decisions regarding dispatch and outages. Presenting and updating DER and

connectivity information in operational systems enables operators to leverage these resources during periods of grid constraint.

- The modern architecture of the UN has been designed for integration with other enterprise applications, like DERMS, ADMS, and Work Management Systems (“WMS”). With application interfaces and configurability out-of-the-box, systems integrations are more efficient and geo-spatial asset data is more readily available to other systems and analytics platforms.
- Combining information about utility and customer-resource attributes in a consumable format enables related analysis, like hosting capacity, to be shared both internally and externally. The layering feature lets users turn off and on layers to update and share only the necessary information to the relevant to the recipient of the information. For example, the Company currently expends significant resources to combine and clean data across several sources to produce the hosting capacity maps and system data sharing required by the Integrated Energy Data Resource (“IEDR”) to share with the New York State Energy Resource and Development Authority (“NYSERDA”) and developer stakeholders.

Readiness of the UN

The UN was in its nascency in 2018, running a beta version with few utility adopters. Several critical features needed for the Con Edison system, like underground conduit features, were not available in the beta version, and there was uncertainty as to when these capabilities would become available. Now, the UN is more robust, and Con Edison’s peer benchmarking highlights several utilities that have now adopted this tool as their enterprise-wide solution. Con Edison’s infrastructure is of a scale and level of complexity that surpasses most other utilities. Additionally, the Company services many customers, several of high importance (i.e., Wall Street); to have adopted a beta version with such significant customers was too big a risk. Additionally, in 2018 fewer resources existed with the expertise of the UN, increasing potential costs to staff the GIS team. With the end of life of the GN and all the capabilities of the UN, now is the right time for Con Edison to move to the UN.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The upgrade to the UN further facilitates the clean energy transition and will help Con Edison manage and meet regulatory requirements. The CLCPA has set several clean energy mandates related to reducing emissions, increasing the use of renewables, and focusing a portion of the benefits of clean energy investments in disadvantaged communities. Via the CLCPA goals, New York is expected to see more adoption of electric vehicles and the electrification of heating systems, changing the way New York generates, transmits, and uses energy.

Over the next few years, more renewables will be added to the grid, increasing the grid’s complexity. Tools like ADMS and DERMS help with network monitoring, outage management, grid maintenance, and DER management. As indicated in the “Justification Summary” the technical improvements provided by the UN operationalize ADMS and DERMS. The UN’s enhanced modeling, visualization, and analysis capabilities can generate insights to optimize the placement of new utility-scale and customer-owned DERs on the grid. The UN provides comprehensive insights into the grid’s capacity and constraints, helping manage the grid to accommodate high levels of renewable energy, monitoring performance of the assets, and driving stability and reliability. The UN’s real time data integration and reporting can also be used to help consumers monitor their energy production and consumption, contributing to a more active role in the clean energy transition.

As Con Edison continues to take proactive steps to incorporate climate change into planning, design, operations, and emergency response practices, the enhanced functionality of the UN provides the

Company the ability to identify the optimal investments in assets and projects to move NYS closer to meeting the environmental goals in the CLCPA.

2. Supplemental Information

Alternatives

Alternative 1 - Upgrade to non-ESRI Product	Reasons for Not Selecting Alternative
Source another provider of GIS with similar capabilities as the UN	- ESRI supports 85% of the market so there are limited options to transition to another supported GIS - ESRI offers a highly rated solution that many utilities have already adopted - While other solutions may exist and offer some of the same benefits as the UN, an upgrade from one ESRI system to another offers the most streamlined and cost-effective transition - The ecosystem of applications that sit atop the ESRI product (e.g., Schneider Electric design tools) will migrate to the UN as they were built on the same base
Alternative 2 - Not Upgrading from the GN	Reasons for Not Selecting Alternative
Remain on the GN past 2028	- ESRI will continue Mature Support of the GN in its current version (10.8.1) for utilities through March 1, 2028 - Con Edison will be at greater risk past 2028 for data breaches due to being on an unsupported system - Technology partners have already indicated a focus shift to the UN, requiring Con Edison to grow its internal team to maintain the GN (in-house FTEs and contractors) - New features and capabilities will be inaccessible to Con Edison

Risk of No Action

The risks of using the GN after it has reached end-of-life can be categorized into four areas.

1. **Lack of Security Updates:** When the GN reaches end-of life, ESRI will no longer develop and rollout security patches. Without regular security updates, any new vulnerabilities discovered will not be addressed, leaving the system exposed to exploits. Attackers often target outdated systems knowing they have known, unpatched vulnerabilities, which can lead to unauthorized access of sensitive data. There will be an increased likelihood of a data breach on the GN rather than the UN, and an increased costs to resolve the breach.
2. **Compatibility and Support:** As time passes, the outdated GIS will increase the cost and complexity of integrations with newer software or hardware, causing operational inefficiencies and increased potential for errors. Lack of vendor support means if issues arise, resolving them

becomes challenging and costly. This will place the Company in the situation they are currently in with multiple applications running individually to support a section or a department need in lieu of a centralized mapping application.

3. Reputation Damage: Data breaches can severely damage your company's reputation and erode trust with customers and partners. Additionally, if traced to outdated technology, this data exposure can increase the Company's legal liability.
4. Operational Disruptions and Recovery Costs: Electric and gas utilities are critical infrastructure, making them prime targets for cyber or ransomware attacks. Ransomware attacks, can cause significant downtime, disrupting services and operations, negatively impacting customers. The financial and operational costs of recovering from a cyber incident can be substantial, impacting the utility's ability to provide consistent service. For example, the Colonial Pipeline Company, the largest fuel pipeline in the US, fell victim to a ransomware attack in May of 2021. The pipeline was shut down for six days, during which the company took the rest of the system offline to prevent further attacks. The shutdown caused significant shortages of gas, diesel, and jet fuel in several states leading to panic buying and price increases. While the exact total cost of recovery is not disclosed publicly, a \$4.4 million ransom was paid and the Pipeline Company also incurred the costs of shutting down and restarting the pipeline, enhancing cybersecurity measures and system upgrades post-attack, and legal and consulting fees. Con Edison's electric and gas systems cover over 10 million customers, making the Company a likely target for bad actors. The complexity of the Con Edison system and the Company's high value customers lead to significantly greater costs to resolve a disruption of this scale.

Non-Financial Benefits

- Enhanced functionality of the UN – The UN includes improvements to data organization, analysis, visualization and tracking that accurately depicts the real-time and real-world Con Edison network as an out-of-the-box functionality.
- Further facilitation of the clean energy transition and management of regulatory requirements – The UN better supports OT, including ADMS and DERMS, and planning of projects that help the Company achieve clean energy policy objectives
- Enablement of ESRI partner solutions and products – Vendors are already focusing their product efforts on the UN and as time continues, all enhancements, customizations, and additions will be directed to the UN.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

The US Department of Energy published a framework for the appropriate evaluation methodology for grid modernization investments. The framework categorizes the purpose of expenditure and applies the most cost-effective methodology to maximize the benefits.² This UN upgrade happens to straddle multiple purposes outlined in the framework:

- Grid expenditure to replace aging infrastructure, new customer service connections, relocation of infrastructures for roadwork or the like, and storm damage repairs
- Grid expenditures required to maintain reliable operations in a grid with much higher levels of distributed resources connected behind and in front of the customer meter that may be socialized across all customers
- Grid expenditures proposed to enable public policy and/or incremental system and societal benefits to be paid by all customers

² "Modern Distribution Grid, Decision Guide, Volume III". US Department of Energy's Office of Electricity Delivery & Energy Reliability. Published June 28, 2017.
<https://gridarchitecture.pnnl.gov/media/Modern-Distribution-Grid-Volume-III.pdf>

The Company has chosen to use the “least-cost, best-fit” methodology, that is indicated for the first two of these three purposes. This methodology is focused on minimizing costs while achieving the desired outcome, and to ensure that the chosen solution fits the requirements or constraints of the stated need. This methodology drives cost efficiency, effectiveness, and practicality. To address the need of how the Company should maintain its cybersecurity goals as the GN reaches end of life, the Company utilized the best-fit assessment to determine the solution of upgrading to stay on a supported system and the least-cost assessment to determine that the Company should upgrade to the UN specifically.

The financial benefits of a modernized GIS platform have been captured as a part of the business case for the ongoing eGIS project. This upgrade to the UN is the incremental addition that allows Con Edison to continue to capture the value of the GIS, therefore a separate CBA has not been performed. The value of the UN, as indicated above, comes from the risk mitigation of remaining on an unsupported system and the enhanced functionality of the UN. What is outlined above is the most cost-effective option to upgrade the enterprise.

2. Major financial benefits

While the financial benefits of upgrading to the UN does not outweigh the costs of the implementation, the Company has identified additional benefits that come specifically from the UN and its out-of-the-box functionality. The table below describes each opportunity:

Benefit	Description of Additional Benefits
System Customizations	The GN required over 500 customizations to create the necessary functionality for Con Edison. The UN expects 20% less due to the out-of-the-box capabilities of the UN. This requires less cost to implement and to maintain over time.
Cyber Security	Being on a supported system enhances cyber security by reducing the number of ransomware attacks, improving the path to resolution, and reducing the scale of related operational disruptions.
Resources	The management of the UN requires fewer resources than if the Company had to manage the GN in-house once unsupported.
Technology Integrations and Retirements	The UN’s CIM Electric Utility Adaptor and other integrations offer additional capabilities, and may allow Con Edison to retire some legacy tools and save on their operating and licensing costs.
Server Efficiency	The UN runs on a 64-bit system which provides a performance improvement from the GN system. It also allows the Company to shift the majority of the existing servers to a cloud-based solution.

3. Basis for estimate

Con Edison’s IT conducted a study in 2024 to determine the opportunities for and estimates of cost avoidance or savings allowed due to the upgrade of the eGIS to the UN. These estimates take into consideration previous experience at Con Edison as well as information from ESRI and development partners to define the extent of these savings and cost avoidance opportunities.

Project Risks and Mitigation Plan

Risk 1: A risk that may prevent completion involves the vendor not being able to complete the implementation / upgrade.

Mitigation plan 1: The risk that Con Edison would choose a partner that would go out of business or stop services related to the eGIS is highly unlikely. Con Edison has a robust RFP process to choose a highly capable partner, one that many utilities have utilized previously and one that primarily focuses on the GIS and has made a shift to support the UN. The contract will define milestones and build in contingencies to guarantee the completion of this upgrade within the set parameters defined. In any situation where the work cannot be completed, other contractors in the industry have enough knowledge and could potentially take over the upgrade if the chosen vendor goes out of business or decides to stop providing their GIS services.

Risk 2: A risk that may extend the project timeline involves the accuracy of data migration or system configuration by the vendor during the upgrade from the GN to the UN system. Accurate data is needed to operate the system. The vendors will perform the data transfer work and configure the system. The Company relies on them to produce accurate maps.

Mitigation plan 2: The vendors selected to perform the data transfer and the system configuration and customization will have extensive experience in this field. The first mitigation step will be to verify their experiences during the bidding selection process. The vendors typically provide a list of companies and previous experiences. The Company will provide the rules for implementation and oversee the effort throughout the implementation to validate the results. Vendor work will be reviewed for accuracy and completeness by the vendors and by Con Edison. The plans will also build in scheduling contingencies to limit any major delays in the timeline.

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

The Company's legacy mapping system was designed to meet the needs of individual departments. The eGIS project currently in flight has considered the needs of these and more departments within the Company to drive successful adoption of the tool. The upgrade to the UN will retain these needs and capability requirements as a part of the effort.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M	N/A	N/A	N/A	N/A		N/A
Regulatory Asset	N/A	N/A	N/A	N/A		N/A
Capital	N/A	N/A	N/A	N/A		N/A

2026-2028 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	N/A	N/A	N/A	N/A	N/A
Regulatory Asset					
Capital (Total)	N/A	30,000	35,000	35,000	
Labor	N/A	12,000	13,000	13,000	
M&S	N/A	3,000	2,000	1,000	
Contract Svcs.	N/A	10,000	15,000	13,000	
Other	N/A	2,000	3,000	3,000	
Overheads	N/A	3,000	2,000	5,000	

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Control Center Resiliency Phase 2	
Project/Program Manager: Naquan LeSane	Project/Program Number (Level 1): 27708286
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 01/01/2025	Estimated Date In Service:
2025-2029 Funding Request (\$000) Capital: \$16.46 Million O&M: \$13.54 Million	
Work Description: This project aims to modernize and secure the Control Centers' information technology (IT) and operational technology (OT) systems to meet evolving operational requirements. Key objectives include maintaining up-to-date resiliency measures, ensuring system availability, redundancy, and capacity, while supporting business continuity during adverse events. Historically, each Control Center (Regional Electric, Gas and Steam) data network was architecturally designed to sever its connection from corporate data network in the event of a cyber-attack, enabling it to operate independently during adverse events. In this "Islanded" state, the Control Centers have access to critical SCADA applications and resources on their internal data network. To ensure uninterrupted operations and effective monitoring, these networks need to maintain independent copies of critical services and tools. As regulatory and business requirements evolve, the architecture and software deployed to the Control Centers High Value Network (HVN) must also advance. This project focuses on ensuring the continuous update and modernization of IT and OT systems, prioritizing operational readiness, resiliency, redundancy, and compliance with changing standards. This approach ensures that the Control Centers remain resilient and capable of maintaining operations under various conditions. This project will provide the Control Centers with the necessary technology, information, and capabilities to operate efficiently and safely by doing the following: 1. Procure and implement an Assest Management System. 2. Implement additional software to address vulnerability, patch, and identity management to enhance operational posture. 3. Continue to improve and upgrade current network infrastructure supporting Gas, Steam, and Electric in our data center environments (DC13, DC11, Worth St., Van Ness, and future co-locations). Replacing end of life and end of support switches, firewalls, and rack power distribution units (PDUs).	

4. Update of the compute and storage infrastructure for the OTCM, OTN, Steam and Gas SCADA Systems.

Renewal of underlying licensing for support, maintenance, and virtualization platforms on Nutanix and VMWare. This includes the update or replacement of our Backup and Infrastructure Services Systems (NTP, Active Directory, DNS and Load balancing).

The Operational Technology Center Management (OTCM) environment has become crucial to the overall management, operations and Cybersecurity posture of the Electric, Gas, and Steam commodities' Control Center operations. Efforts to maintain the environments' capabilities and readiness are essential to secure these segments' operations. Continuous modernization and adaptation are required to ensure that OTCM meets current and future regulatory compliance and evolves with the challenges of the operational environment.

Over the next five years, the OTCM and HVN segments infrastructure will need to be refreshed to improve our asset lifecycle management, resiliency, and proactively address regulatory compliance for the distribution commodities. The following strategic initiatives aim at fortifying our infrastructure:

1. Comprehensive Risk Assessment: Conduct regular audits and risk assessments to identify vulnerabilities within our network.
2. Advanced Threat Detection: Invest in advanced security technologies such as threat intelligence and machine learning, to enhance our threat detection capabilities.
3. Redundancy and Backup Solutions: Establish redundant systems and regular backup protocols to ensure business continuity in the event of a cyber attack or system failure.
4. Collaboration with External Experts: Work closely with internal and external cybersecurity experts, consultants, and organizations specializing in threat intelligence.
5. Regular Software Updates and Patch Management: Ensure that all software and systems are regularly updated and patched to protect against known vulnerabilities.

These investments aim to secure the HVN by segregating it from the corporate network resources, thus increasing reliability and operational resilience in the OTCM environment across our commodities' data centers (Worth St, Van Nest and DC11-DC13).

To ensure ongoing business operations while the HVN is isolated, the following investments will be made to create alternative network connectivity:

1. The implementation of Data Diodes to maintain secure data flows between the Corporate Network and HVN.
2. Increase connectivity for the HVN secure work areas.
3. Independent common toolset.

Enhanced Identity and Access Management will require investment in MFA infrastructure for Privileged Access Management solutions to support various commodities. Implementing Asset Management and Workflow management software solutions to enable Lifecycle Management processes to oversee hardware and software assets, ensuring optimal replacement before end-of-life. Additionally, the Power Management Systems for the OT Data Centers at Worth St, Van Nest, and DC11-13 will be repositioned within OTCM. These initiatives will require additional staff resources to implement new systems, monitor and support ongoing operations.

Justification Summary:

The regulatory requirements for Information Technology and Operational Technology systems associated with the SCADA systems have continued to grow, as the risks and threats to these systems have increased. Federal, State and Local legislation and regulatory standards present risks for fines associated with failing to comply with standards. The risk to the availability and reliability of the Company's Electric, Gas, and Steam SCADA systems, and downstream outage management applications and systems, have increased due to the complexity and interdependence of their components. Continually updating, maintaining and enchaining these systems operational and resiliency capabilities is the best course of action to avoid the significant costs associated with adverse events.

A major adverse event in the Control Centers space could impact the ability of CECONY to delivery energy, which would be critically impactful to our operations and our customers. Outages within the Electric Distribution space could incur significant regulatory fines and outages in the Gas space could incur financially significant service restoration costs. This project seeks to implement systems that would enhance visibility and the resiliency of these systems, as well as mitigate the risks associated with legacy systems.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The consolidation and optimization of our Electric, Gas, and Steam datacenter resources reduce our organization's carbon footprint. Additionally, investing in the effective operation of Control Center environments ensures efficient commodities transport which directly lead to a reduction of Greenhouse Gas Emissions.

2. Supplemental Information

Alternatives

The alternative is managing the Control Centers systems independently, supported by current system architectures without unified management. This approach will not adequately protect or provide updated controls to Identify, protect, detect, respond, and recover from advancing threats and techniques. Also, without centralized tools management or the overarching asset lifecycle management processes required to continuously update the Control Center environment, these systems face operational risks. This option is not recommended as it exposes Con Edison to security threats and diminishes system resiliency.

Risk of No Action

Risk 1

- Enhanced Islanding architectures are required to protect critical systems, prevent unauthorized access, and safely deliver energy during a cyber-attack. Failure to address this will place these systems at risk, and they will be vulnerable to targeted attacks, and where regulatory standards are mandated, put us at risk for fines due to non-compliance.

Risk 2

Strategic topology and architectural revisions to the existing Islanding design, and are required to improve system availability, and to mitigate and remediate impact from cyber events.
Risk 3 Asset and lifecycle Management tools and processes are needed to ensure effective and secure Control Center operations across the commodities (Gas, Electric, Steam). Without ongoing analysis, update, maintenance, and replacement of critical components that comprise the Control Center’s infrastructure, significant operational risks can emerge. Unplanned downtime, systems failures, and unmitigated vulnerabilities can lead to business disruptions and Cybersecurity events.
Non-Financial Benefits - Enhanced Operational Posture and heighten resilience to adverse events - Continual update, improvement and modernization of the SCADA systems and their supporting infrastructure - Improved asset and patch management capabilities to enable more efficient operations. - Improved operational reliability and enhance system safety
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) We’re investing in these initiatives to avoid potential impacts of adverse events. For example, the cost estimates of an operational failure of the SCADA systems can vary based on the severity of the event. Our company can incur a \$10M penalty for each distribution underground network reporting below 90% in a month. The cost estimates of a cyber-breach to the Control Centers SCADA systems can vary based on the impact of the event. In worst-case scenarios, the threats to business operations, energy delivery, personnel, and public safety in either of these cases are significant. For example, one of the most high-profile ransomware attacks occurred when the Colonial Pipeline, a major fuel pipeline operator in the U.S., was targeted. The company paid a ransom of approximately \$4.4 million to regain access to its systems. Additionally, the attack resulted in widespread fuel shortages, operational disruptions, and increased costs for recovery, ultimately leading to an estimated total financial impact exceeding \$5 million, not including long-term reputational damage. 2. Major financial benefits The major benefit of this proactive approach is the mitigation of risks and costs associated with unplanned outages and Cybersecurity events. 3. Basis for estimate These estimates are based on recently implemented projects and an independent third party assessment done by a consulting firm.
Project Risks and Mitigation Plan N/A
Technical Evaluation/ Analysis N/A
Project Relationships (if applicable)

N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		<u>3,100</u>	<u>6,470</u>	<u>3,970</u>	<u>1,540</u>
Regulatory Asset					
Capital (Total)		<u>6290</u>	<u>4420</u>	<u>5750</u>	
Labor					
M&S		<u>5,690</u>	<u>3,820</u>	<u>5,150</u>	
Contract Svcs.		<u>600</u>	<u>600</u>	<u>600</u>	
Other					
Overheads					

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: DECC SCADA(CDMS) Upgrade 2026	
Project/Program Manager: Wayne Hui	Project/Program Number (Level 1): 27691373
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/2/2026	Estimated Date In Service: 12/31/2027
2025-2029 Funding Request Capital: \$9,550 O&M: \$3,460	
Work Description: Consolidated Distribution Management System (CDMS), built on the GE Power-On-Reliance platform, received a significant design change and upgrade in 2022. This system is one of the crown jewels for the Company, providing supervisory control and data acquisition (SCADA) for our electric distribution control centers in Manhattan, Brooklyn/Queens, Bronx/Westchester, and Staten Island—collectively known as the DECCs. Through CDMS, Electric Operations manages over 5,000 field SCADA devices connected as Remote Terminal Units (RTUs) located in unit substations and various overhead and underground locations within our service territory polling in more than 1.5 million data points. The reliability and safety of our operation and the well-being of our customers hinge on the CDMS's operational integrity, necessitating unparalleled resilience in both availability and disaster recovery capabilities and ongoing adaptation. The primary goal of this project/program is to secure funding for the system's continuous lifecycle management, expansion, and necessary customizations in response to increasing demand, as well as evolving cybersecurity requirements. Maintaining and expanding this complex system will demand additional resources, encompassing a staffing increase, training programs, and the procurement of dedicated hardware and software to support new designs, such as separating Remote Monitoring System (RMS) and SCADA functions. These designs must align with the operational strategies of our control centers and distribution engineering plans, as well as accommodate broader IT initiatives such as control center relocations, network utilization, and data center consolidation which requires additional equipment for testing capabilities in the lab for reliability, and innovations and hardware for improving disaster recovery and rebuild capabilities. Furthermore, a critical component of our strategic approach involves the evaluation of alternative SCADA applications and solutions to mitigate vendor-related risks effectively. Establishing a dedicated funding stream for these evaluation efforts is essential, ensuring that we remain at the forefront of technology adoption and maintain our commitment to operational excellence and customer safety.	

Example of increasing scopes into upgrading the system includes:

1. Additional Quality Assurance System (QAS) system (Backup QAS) to allow more testing capabilities which will be required as we integrate more cybersecurity tools into the environment.
2. Tertiary backup (DR) system to enable practice exercise and execution of faster recovery from catastrophic ransomware type of scenarios.
3. Additional server infrastructure to provide more resiliency and availability functions and bandwidth of resources for growth.
4. Expand the system's overall capacity and performance to meet business demand of SCADA growth.
5. Separate RMS and SCADA functions into two systems

Justification Summary:

As we navigate an era of unprecedented demand and complex cybersecurity threats, the need for continuous investment in our CDMS has never been more critical. This proposal seeks to secure the necessary funding to support the system's lifecycle management, expansion, and customization to meet the evolving needs of our infrastructure and ensure the safety of our operations and customers.

CDMS is at the heart of our operations and data points that feed downstream applications such as the PI Historian and OMS for further operational and engineering needs. This system's reliability is not just a matter of operational efficiency but of public safety and trust. The proposed funding will enable us to strengthen staffing, enhance training, and acquire the latest hardware and software, ensuring that our system remains compatible with current and future control center and distribution engineering plans.

Moreover, in response to the dynamic nature of the digital landscape, this proposal includes provisions for the evaluation of alternative SCADA applications/solutions. This is a strategic move to mitigate vendor-related risks and ensure that our infrastructure remains secure against evolving cyber threats. By investing in our CDMS, we are not only committing to the highest standards of service and safety but also ensuring that we stay ahead of the technological curve, ready to adapt to the future needs of our community and industry.

In summary, this funding proposal is an essential step towards safeguarding the integrity of our electrical distribution system, enhancing operational resilience, and ensuring the continued safety of our employees and customers. It represents a forward-looking approach to SCADA management, embracing innovation and strategic planning to meet the challenges of today and tomorrow.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

1. Reduction of Greenhouse Gas Emissions: Our plan to upgrade and expand the CDMS is crucial for the efficient management of energy distribution, including the integration of renewable energy sources into the grid. By improving the reliability and efficiency of the grid management system, we can reduce energy waste and support the state's transition to cleaner energy sources, thus contributing to the overall goal of reducing greenhouse gas emissions.
2. Increased Renewable Energy Integration: The CDMS is instrumental in managing the complexity of integrating renewable energy sources, such as solar and wind, into the existing grid. These sources are variable and require advanced management systems to ensure stability and reliability of the

power supply. Enhancing the CDMS supports the state's ambition to increase the share of renewable energy in the power mix, a key component of the CLCPA.

3. Climate Justice and Community Protection: A significant aspect of the CLCPA is its focus on climate justice, ensuring that the benefits of a greener economy are shared across all communities, especially those historically affected by pollution and climate change. By ensuring the resiliency and reliability of the electrical distribution system, our proposal indirectly supports these objectives by providing a stable and reliable energy supply to all communities, thereby facilitating equitable economic growth and resilience against climate-related disruptions.

4. Support for Clean Energy Initiatives: By funding the lifecycle management, system expansion, and cybersecurity enhancements of the CDMS, we are laying the groundwork for future clean energy initiatives. This includes the ability to manage distributed energy resources and demand response programs more effectively, both of which are vital for reducing reliance on fossil fuels and meeting the CLCPA's renewable energy goals.

In summary, our proposed plan for the CDMS not only addresses the immediate operational needs of our energy distribution system but also embodies the spirit of the CLCPA by contributing to the development of a more resilient, efficient, and equitable energy future for New York State.

2. Supplemental Information

Alternatives

An alternative to the proposed plan for the Consolidated Distribution Management System (CDMS) upgrade, focusing on lifecycle management, system expansion, cybersecurity enhancements, and the integration of renewable energy sources, could involve transitioning to an Advance Distribution Management System (ADMS):

1. Advanced Distribution Management Systems (ADMS): Instead of focusing solely on the CDMS upgrade, consider implementing ADMS solutions that offer more comprehensive functionality, including better integration of DERs, improved outage management, and enhanced operational efficiency.

2. Investment in R&D: Allocate resources towards research and development of new technologies that can enhance grid resilience, efficiency, and integration of renewable energies, such as advanced battery storage technologies and smart grid solutions.

This alternative approach focuses on decentralization, community empowerment, and the innovative use of technology to enhance the resiliency and efficiency of the energy system. However, it necessitates a more thorough examination of the implications and the time required to conduct a proof of concept for the technologies, as well as the planning for infrastructure, additional skill sets, and staffing requirements. Additionally, we must consider any potential regulations, cybersecurity, and compliance requirements that may apply in an ADMS configuration.

Risk of No Action

If we do not proceed with the upgrade during this upcoming cycle, then our system will become outdated and be more susceptible to system failures, cyberattacks, and inefficiencies which can lead to financial, legal, and reputational issues. Below further explains what could occur if we choose to wait another rate cycle.

1. Operational Vulnerability: Without the lifecycle upgrade plans, the existing infrastructure will become increasingly unable to handle the volume growth and complexity of data, leading to potential system failures or downtimes. This can disrupt operations, affecting productivity and system expansion for the business.

2. Security Vulnerability: The infrastructure will continue to become outdated and be more susceptible to security vulnerabilities and cyberattacks. Failure to maintain an upgrade plan could leave critical systems exposed to possible breaches, resulting in data loss, privacy violations, and legal repercussions, along with damaging the organization's reputation.

3. Inefficiency and Higher Costs: Outdated systems are often less energy-efficient and more costly to maintain. Over time, the costs associated with running and fixing older infrastructure can exceed the investment required for an upgrade.

Non-Financial Benefits

1. Sustainability and Environmental Responsibility:

The system upgrade will incorporate the latest technology platforms that not only enhance energy efficiency but also optimize space usage, significantly reducing our overall environmental footprint. By utilizing advanced technologies, we can minimize energy consumption, which leads to lower greenhouse gas emissions and supports our commitment to sustainability.

Furthermore, these upgrades will improve our operational efficiency, allowing us to achieve more with less energy, thereby contributing to a cleaner, more sustainable future. This dual focus on advanced technology and environmental responsibility positions us as a leader in the industry, dedicated to both innovation and the protection of our planet.

Summary of Financial Benefits and Costs (attach backup)

1. Cost Savings: Upgrading to more efficient and modern technologies can lead to significant cost savings in the long run. These savings come from reduced energy consumption, lower maintenance costs, and decreased need for physical hardware through virtualization. Additionally, streamlined operations and automation can reduce labor costs associated with manual processes.

2. Reduced Downtime Costs: Modern, resilient infrastructure can minimize system downtime, which in turn reduces the financial losses associated with operational interruptions. Downtime can be costly, not just in lost productivity but in stakeholders' confidence. Ensuring high system availability helps to mitigate these risks.

3. Improved Scalability: The proposed plan includes infrastructure that can easily scale to meet demand without significant additional investments. This scalability ensures that the organization can handle growth efficiently, avoiding the financial strain of emergency infrastructure upgrades.

Project Risks and Mitigation Plan						
1. Scope Creep Risk: Changes or expansions in project scope during execution can lead to extended timelines and increased costs. Mitigation: Establish a clear project scope at the outset. Implement a strict change management process that assesses the impact of any proposed change on the timeline and budget before approval.						
2. Underestimating Costs Risk: Initial cost estimates may be too optimistic, leading to budget shortfalls. Mitigation: Conduct thorough upfront planning and budgeting, including contingency funds for unexpected expenses. We will define a monthly schedule to review and update cost projections as the project progresses.						
3. Technological Challenges Risk: Encountering unforeseen technological issues can delay project milestones. Mitigation: Engage in comprehensive pre-implementation testing and pilot programs to identify potential technology issues. Keep abreast of technological developments and maintain flexibility to adapt the project plan.						
4. Vendor and Supply Chain Delays Risk: Delays in vendor deliveries or supply chain disruptions can hinder project progress. Mitigation: Develop strong relationships with reliable vendors and consider multiple sources for critical components. Establish clear contracts with defined delivery timelines and penalties for delays.						
Technical Evaluation / Analysis						
Project Relationships (if applicable)						

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M			\$1,500	\$1,960	
Regulatory Asset					
Capital (Total)		\$4,650	\$4,150	\$750	

Labor		\$460	\$460		
M&S					
Contract Svcs.		\$4,190	\$3,690	\$750	
Other					
Overheads					

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Enterprise Geographic Information System (eGIS) Implementation Phase 3	
Project/Program Manager: Baeth Fanek	Project/Program Number (Level 1): 25764450
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: October 2023	Estimated Date In Service: December 2026
2025-2029 Funding Request (\$000) Capital: 160 total cap (43,300 for RY1) O&M:	
Work Description: This request is to complete Phase 3 which was previously approved by the PSC and it currently an ongoing project at Con Edison. In 2019, the company began the enterprise Geographic Information System ("eGIS") project to transfer the distribution system onto a new state of the art mapping system to adapt to the changes in the energy landscape. This project will implement an enterprise-wide eGIS in three phases. The company filed a business plan in 2019 (and an updated version in 2022) and received approval from the PSC to proceed with the first two phases of the project (see Exhibit (IT-1)). Phase 3 was discussed in the original filing but was not started to minimize project risk. The business case filed highlighted the benefits of the completing all three phases of the project. To reduce project risk, the company is migrating the mapping systems in three phases described below: - Phase 1 (began in 2019 – ended in Q4 2022): M&S for Gas and Electric – These are the distribution class cables and transformers (120v – 460v). These plates include all the cables, transformers and services that deliver power to the customers. There are 24000 combined plates between Electric and Gas. This phase was completed successfully. - Phase 2 (began in 2020 – ends in Q4 2024): Primary and Staten Island Mapping. These maps include distribution class cables for our 4kV to 33kV cables; these medium voltage cables deliver power and higher voltage to a customer area. There are over 2800 medium voltage cables. This phase will go live November 2024 and will be completed within budget. - Phase 3: C&DO (Q12023 – Q42026): Conduit and Composite Feeder. These plates include in the underground conduits that occupy the electric distribution class cables described in phase 1 and phase 2. They also include maps that show which conduits are occupied and which conduits are vacant. This request migrates the C&DO plates onto the eGIS platform allowing the Company to establish an enterprise state of the art mapping system. Since the initial description, the Company is expanding the scope to include 41 additional data elements. When complete, this platform will offer one consolidated mapping and visualization system across electric, gas, and steam.. The GIS costs associated with will be handled separately within Steam rate w filings. All costs in this whitepaper are for the electric portion of the project only. The Gas legacy maps were converted in the previous phase of this project.	

The capital for this white paper are associated with vendor milestones, internal labor and AFUDC changes. A separate white paper shall be filed for the O&M request.

In 2019, the Company submitted a business plan and a Cost Benefit Analysis (“CBA”) for all three phases. The Company shared and updated the CBA in 2022. We additionally updated the financials since 2022 to accommodate for changes to the project schedule and various financial factors. We have considered lessons learned and the expanded scope to rework phase 3 cost to \$160 million, from previously indicated \$125 million. Please note the total request in this white paper amounts to \$151M and a future financial transaction will reconcile the total ask to \$160M. These additional costs stem from the additional requirements and increased vendor costs. Cost table below:

Project Costs (\$ in Millions)	
Phases	Capital Costs
Phase 1	\$ 25
Phase 2	\$ 87
Phase 3	\$ 160
Total	\$ 272

The Company has engaged a GIS product vendor, a data migration service vendor, and system integrators to:

- Develop the electric and Steam geospatial data models
- Develop functional requirements documentation for the Core GIS, Web Visualization and
- Mobile product components
- Develop the necessary integrations between GIS and the existing systems.
- Migrate existing mapping data from existing legacy mapping applications, populate it to electric and Steam geospatial data models, conflate it to real-world coordinates and adjust assets as necessary
- Integrate the Graphic Design tool with Phase 1, 2 & 3 GIS maps
- Identify business processes that will be impacted by GIS and Graphic Design tool and define business process redesign
- Train all end-users on the Core GIS, Web Visualization and Mobile

Justification Summary:

In Phase 1 the Company complete the migration of 24,000 low-tension electric and gas plates; 2,400 feeder (medium voltage maps) in Phase 2, in Phase 3, when completed, we will have migrated 14,000 conduit and composite plates and 64,000 manhole detail drawings. Maintaining detailed and accurate mapping systems is critical to Con Edison’s ability to operate, maintain, and plan for its extensive electric, gas, and steam systems, both today and as the systems become more complex in the future safely, reliably, and efficiently. Con Edison’s maps are used to catalog millions of assets in every street in our service territory, and are critical to maintain, repair, and operate the system as well as account for these assets (property records) from a financial and tax perspective. The Company is in the process of transferring the distribution system as described in Phase 1 and Phase 2 above, the roll out for these phases will occur by borough; although some boroughs will be transferred to the new mapping system, the reaming boroughs are currently operating on a unsupported mapping system. An enterprise GIS has become standard technology for large utilities and although Con Edison has been able to extend the life of the existing mapping system, it is becoming increasingly resource intensive and limiting to achieving the Company’s goals and keep with the changing energy landscape. Based on our benchmarking exercise, most other major utilities in the United States have already implemented a state-of-the-art enterprise GIS. Other major utilities have had an enterprise GIS for at least five years, and many for more than 10, and their testimonials and product demonstrations are extremely compelling.

Phase 1 and Phase 2 of the project will deliver the distribution system of the electric and gas which include all low voltage (120V/460V) and medium voltage system (13kV – 33kV). The completion of Phase 3 is required to prepare Con Edison for the grid of the future and eliminate the risk of operating on an outdated mapping system. Phase 3 will transfer the remaining mapping systems that are currently operating on the outdated applications onto a new state of the art mapping application called eGIS. There are over 14,000 combined conduit plates and composite feeder plates in all the boroughs and Westchester. Once implemented, the eGIS will be the cornerstone for Con Edison's Grid Modernization and customer experience efforts. A GIS platform is required to implement a modern intelligent grid. Various vendors have existing tools utilized by other utilities that modernize the grid, allow for the integration of distributed generation, and enhance analytics and automatic operations for the distribution grid. Without a GIS platform, the Company will fall behind its peers in preparing the grid for the utility of the future.

The Company's AMI program and enhancements in its communication infrastructure will allow realtime data to feed into the eGIS, which the Company can then use to assist with outage management. Control Center personnel will be able to see a live map of existing outages and can better direct crews to return customers to service faster. In addition, the eGIS will allow the Company to produce models that reflect data from its distribution assets, AMI meters, EV Charging Infrastructure, and DERs connected to the system. With these models, Con Edison can more efficiently plan, design, and better operate the grid and its gas and steam systems. In short, the eGIS will touch on all aspects of the Company's operations.

The GIS mapping system will also impact several business processes followed in gas and electric's Customer Engineering, Regional Engineering, Control Center, New Business and System Reliability groups. For example, since all regions will be utilizing the same software, the methods for updating maps will be consistent across all regions. This allows the company to better utilize resources during contingencies in the future since all regions are following the same procedures.

As major storms are expected to increase frequency and severity due to climate change, the eGIS platform will improve the Company's storm outage recovery efforts by integrating with the Outage Management System and the AMI system. The eGIS will also integrate asset information and flood maps. This will facilitate evaluation and planning for flood risks to Con Edison assets, which takes on greater importance as the Company migrates to a projected floodplain of FEMA +5 for planning purposes. An eGIS platform allows the company to better collaborate with local, state and federal agencies during sever weather or catastrophic events.

In addition, the mapping and visualization of DER connected to eGIS will facilitate modeling and support the Distributed Energy Resources Management System ("DERMS") the Company is developing, improving the Company's integration of DER and support achievement of Climate Leadership and Community Protection Act ("CLCPA") goals.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The Company's long-range plans includes having a GIS system to enhance storm response and system sensors & grid modernization.

2. Supplemental Information

Alternatives

Alternative 1 - Upgrade Existing Systems	Reasons for Not Selecting Alternative
• Upgrade underlying versions of MicroStation and Oracle for composite and conduit plates • Migrate custom code from all systems to be compatible with upgrades • Modify existing system interfaces to be compatible with underlying system upgrades	• Costs to upgrade the existing mapping system • Migrating custom code & application interfaces from legacy platform is not feasible due to unsupported systems
Alternative 2 - Build New System Internally	Reasons for Not Selecting Alternative
• Select underlying GIS or Computer Aided Design ("CAD") product and internally develop a custom system	• Adequate "off the shelf" alternatives exist • Length & cost of project would be extended • Lack of specialized resources

Risk of No Action

Not finishing Phase 3 of the project would mean that the Company will need to continue to rely on current mapping systems. This would disrupt the future business process being implemented that leveraged a graphic design tool that integrates with eGIS maps. Efficiency gains from the new process would be lost and require additional manhours to create new assets, construct, and map them. The current mapping systems are also beyond their respective product support life cycles and do not provide the capabilities of current GIS products. In addition, not finishing Phase 3 of the project will hinder the Company's ability to realize all the outlined benefits described in this white paper. Without full eGIS implementation, Con Edison will continue to face technical and business challenges/risks, such as:

- Reduced functional capabilities
- Potential security vulnerabilities in non-supported system components
- Inconsistent asset data across multiple mapping systems
- Continued reliance on static map products instead of dynamic interactive map displays
- Suboptimal integration with operational systems across the Company (e.g., with the WMS and Outage Management System ("OMS")) and with external entities (e.g., New York City Smart City efforts); GIS will enhance the Company's current WMS and OMS functionality and improve the ability to share mapping data with external entities that already use GIS
- Increased costs to maintain and enhance multiple obsolete technologies

Non-Financial Benefits

- Grid Visibility & Monitoring – With the availability of geo-spatial data on our assets, grid operators will be able to visualize grid variables and equipment conditions. Advanced grid monitoring and operator tools depend on robust visualization tools enabled by GIS technology.
- Grid Modeling & Simulation – Interconnected grid models with AMI data and DER assets will enable end to end load flow modeling all the way to the customer meter for seamless functionality between the grid and customer technologies. The Enterprise GIS will increase the

quality of data used by engineering load flow analysis systems such as electric Poly Voltage Load flow ("PVL") and gas SynerGEE, reducing the time required to prepare data for import into planning and analysis systems. The Enterprise GIS system will also improve the efficiency of isolation traces using built-in trace capabilities in the GIS and improving the accuracy of gas load flow models

- Grid Planning – The eGIS platform will enable spatial analytics to improve grid reliability planning. For example, Company engineers can visualize historical electric and gas outages across the entire system to identify low reliability areas for planned investments that coincide with New York City and Westchester County's planned infrastructure projects to reduce costs. Over time, spatial analytics enabled by machine learning tools will improve grid asset management capabilities.
- Grid Hosting Capacity – Interconnected grid models will improve the accuracy of the impact of the DER installations and increase the accuracy of the hosting capacity.
- Grid Operation – Enterprise visualization platform enabled by the eGIS will be integrated with the electric and gas outage management systems to provide operators near-real-time visibility on grid conditions and enhanced situational awareness to dispatch resources to nearest assets.
- Vegetation Management – The eGIS will enable new spatial analytics capabilities combined with accurately mapped facilities that will enable efficiency gains in the planning and tracking of vegetation management to reduce unplanned outages. In addition, the eGIS will provide the capability of targeting vegetation management based on circuits and migrate to condition-based vegetation management program vs. time-based program, thereby optimizing investments. eGIS will enable integration of LiDAR technology to enhance vegetation management programs soon.
- Outage Management – eGIS will improve the accuracy of outage counts in the OMS system and facilitate faster restoration of customer outages during normal blue-sky events as well as major storms. Combining geospatial visualization of AMI data with predictive analytics tools will enable the Company to reduce the duration of the outages from weather events and identify weak points in the electrical distribution system to prevent future outages.
- Damage Assessment – Enterprise GIS will allow the Company to deploy a standardized damage assessment tool that will seamlessly integrate with our existing OMS and WMS systems to increase operational efficiency.
- Software licensing and infrastructure costs – These costs are higher for unsupported mapping systems due to need for custom support and with no additional functionality. Mitigation of cybersecurity vulnerability with unsupported infrastructure components require additional investments that affects end users' access to these systems and increases support costs. Migrating to an enterprise-wide GIS will allow the Company to consolidate the mapping systems and reduce software and hardware costs associated with multiple systems. Deploying an eGIS platform will allow the Company to develop strategic partnerships with vendors to standardize technology platforms and effectively manage support costs.
- Reducing non-enterprise GIS applications – An eGIS will reduce costs and streamline business processes by using Company-wide application platforms. An enterprise-wide GIS platform will reduce the segmentation of the application portfolio and matching support levels to system needs.
- Support costs – An eGIS will provide cost avoidance associated with training and sourcing of limited resources supporting outdated mapping technology platforms. An eGIS platform will allow the Company to focus talent on the highest value work, such as technology enablers, and using vendors for standard work. Standardizing common mapping tools will also lower support costs by mitigating the need for custom tools.
- Software integrations – Software integrations with obsolete outdated mapping platforms increase implementation and operational costs of operational utility systems (WMS, OMS, etc.). eGIS will reduce the integration costs of future software platforms as well as improve the

availability and security of these platforms by replacing non-standard integrations. eGIS will reduce cybersecurity risks due to obsolete technology, promotes enhanced infrastructure utilization.
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) TBD 2. Major financial benefits The cost avoidance and savings add up to \$395 million over 20 years. This is made up of \$93 million in operational efficiencies and \$302 million in elimination of legacy applications maintenance and support. 3. Basis for estimate An in-depth Phase 0 study was conducted to estimate the costs based on acquiring the software, hardware, and labor/contract resource requirements.
Project Risks and Mitigation Plan Risk 1: A risk that may prevent completion involves Schneider Electric (SE), who is the provider of the ArcFm mapping system that we are currently utilizing to go out of business or SE could stop providing their ArcFM services to Con Edison. Mitigation plan 1: The likelihood of SE going out of business or stopping their ArcFM services is highly unlikely. Many utilities in the United States and world-wide utilize the ArcFM software as their main mapping application. SE plans to continue providing support for the current version of ArcFM purchased by the Company, and they have outlined plans to provide support for future upgrades of the ESRI platform and ArcFM software. In addition, other contractors in the industry have enough knowledge in the ArcFM software and could potentially take over the upgrade if SE goes out of business or decides to stop providing their GIS services. Risk 2: A risk that may extend the project timeline involves the accuracy of Company data during the transfer of data from the old mapping system onto the new mapping system. Accurate data is needed to operate the system. The vendors will perform the data transfer work and the Company relies on them to produce accurate maps. Mitigation plan 2: The vendors selected to perform the data transfer have extensive experience in this field. The first mitigation step taken was to verify their experiences during the bidding selection process. The vendors provided a list of companies and previous experiences they had in data transfers. The second mitigation plan developed was to perform Proof of Concepts or POC's. A similar concern over data accuracy was identified before the start of the Phase 1 and Phase 2 of the project. Working with the vendors, the Company will provide them a small sample of the data to be transferred onto the new mapping system. The Company will provide the rules of the transfer to the vendors; once the work is completed, the work is reviewed for accuracy and completeness by the vendors and Con Edison. Performing a POC on a small sample of data helps prevent delays when the overall transfer of data is performed.
Technical Evaluation / Analysis N/A
Project Relationships (if applicable) •

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year*</u> <u>(O&M Only)</u>	<u>Forecast</u> <u>2024</u>
O&M				0	0	0
Regulatory Asset				0	0	0
Capital	0	0	0	25000	0	38000

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	0	0	0	0	0
Regulatory Asset	0	0	0	0	0
Capital (Total)	41300	43300	0	0	0
Labor	17600	19000			
M&S					
Contract Svcs.	15000	15000			
Other	5000	6000			
Overheads	3700	3300			

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Gas_IT_Projects_GOSS and Gas Application and Hardware Upgrade	
Project/Program Manager: Naquan LeSane	Project/Program Number (Level 1): 26018037
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 01/01/2025	Estimated Date In Service: 2027
2025-2029 Funding Request (\$000) Capital: \$5.2 Million O&M: \$1.75 Million	
Work Description: CECONY and O&R Gas Operations use the Gas Operations Supervisory System (GOSS) and Gas Day Operations (GDO) to monitor and control the Company's Gas Transmission and Distribution systems and track metered energy. GOSS is a Supervisory Control and Data Acquisition (SCADA) system used by Gas Control to operate the gas systems from either primary or back-up Gas Control Centers for the CECONY & O&R gas customers in Manhattan, northern Queens, the Bronx, Westchester and Orange and Rockland counties. Additionally, it is utilized to remotely monitor Company facilities and assets including the Astoria LNG station, facility tunnels, pressure gauge posts, and meters at electric/steam generating stations. It also maintains the ability to monitor and control transmission and distribution regulators, the Hunts Point compressor station, city gate and transfer stations, gas heating facilities, and remote operated valves (ROVs). Gas Day Operations (GDO) is used by CECONY and O&R Gas Operations to forecast system demand, confirm commodity contracts for transportation to and on the gas systems, manage hourly metered volumes at city-gate receipt points and large volume customer deliveries, and track supply and demand to maintain system reliability and meet contractual transportation receipt requirements. This project upgrades and modernizes OT infrastructure required to run GOSS and GDO applications, replace legacy unsupported software with current products, incorporates best practices/anticipated regulatory requirements in cybersecurity and Human-Machine interface (HMI) design via modern IT/OT infrastructure architecture and Abnormal Situation Management (ASM) display design, optimize compliance capabilities for Control Room Management via software enhancements in baseline software package not currently available, and move to standard software packages to allow for reduced maintenance costs in future years via reductions in specialized support resource requirements from the vendor. The current GOSS/GDO servers, switches, firewalls, and related equipment are End of Life (EOL) and require replacement, and operating systems/applications are reaching End of Support (EOS), creating risks in future security support and at increasing future costs. Additionally, newer products have integrated regulatory compliance tools specific to Control Room Management, streamlining compliance monitoring tools for the Gas	

Sector and removing the need for redundant systems for the same. The GOSS/GDO applications are supported by Aveva, and this project will require labor from the vendor to perform the upgrade.
Justification Summary: GOSS and GDO are mission critical systems required to support Gas Transmission and Distribution System reliability and support Gas Operations continuous monitoring and control functions without loss of application availability under any circumstances. The current hardware and software have been in continuous operation since 2015. For these systems to continue to maintain hardware reliability, remain available on a continuous basis, and incorporate advances and anticipated regulation for network cyber security, both front-end workstation and back-end infrastructure must be validated or updated current software, hardware, licensing, and network architecture.
Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act Modernization of GOSS and GDO applications to modern application software and required associated hardware supports Gas Operations risk avoidance strategies for cybersecurity ERM.

2. Supplemental Information

Alternatives Due to application availability requirements, there are no alternative solutions to upgrading these applications due to support and equipment requirements driven by 3rd Parties, vendors, and anticipated regulatory actions.
Risk of No Action Risk 1 End of Support of applications and supporting software vendors (i.e. Microsoft, Aveva), resulting in escalating maintenance costs for extended support and eventual non-compliance with cyber-security mandates due to unsupported and unpatched vulnerabilities. Risk 2 End of Life hardware support and maintenance may cause eventual equipment failures, jeopardizing system availability for continuous monitoring, control, and commodity inventory of Gas Transmission and Distribution Systems. EOL equipment may not be available for purchase to replace failed components, and new hardware not validated by vendor may contain incompatibilities with existing software. Risk 3

Compliance risks as Control Room Management, Sarbanes-Oxley, and Cybersecurity regulations evolve to incorporate modern best-practices, and increased costs to carry multiple systems for necessary compliance measures and documentation.
Non-Financial Benefits Modernization of hardware and software platforms will take advantage of recent industry evolutions, improving reliability and security for the system and network as a whole. Upgraded systems will provide more in-depth detail and compatibility for anticipated cyber security requirements, as well as include integrated tools to manage Control Room Management and Sarbanes-Oxley requirements to ensure regulatory compliance.
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) 2. Major financial benefits 3. Basis for estimate The funding for this project was determined based on the previous system upgrade as well as current corporate infrastructure standards that require hardware and software upgrades. Extended O&M Funding based upon annual maintenance agreement with Software Vendor.
Project Risks and Mitigation Plan Risk 1 Datacenter readiness for equipment installation. Mitigation plan Identify temporary location for equipment installation and to implement without hardware redundancy.
Technical Evaluation / Analysis
Project Relationships (if applicable)

3. Funding Detail (\$000)

"A discrepancy was noted in the dollars requested for this program after the revenue requirement was calculated. This will be corrected at update."

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M	-	\$254,254	\$288,328	\$295,778	-	\$270,729 YTD
Regulatory Asset						
Capital						3,100,000

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		\$250K	\$750K	\$750k	
Regulatory Asset					
Capital (Total)		\$3.0M GDO Customization, GDA Interfaces, Pre- Acceptance Testing, Project Allowances Acceptance Testing	\$1.4M Project Allowances, Final System Acceptance, Full system P2P	\$700k P2P Carryover, Enhancement Bundle	
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

Customer Energy Solutions 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Grid Edge Renewable Laboratory (GERL)	
Project/Program Manager: Jared Trumpetto	Project/Program Number (Level 1): L1-25508535 (Grid Edge Technology Environment)
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: Q1 2023	Estimated Date In Service: Q4 2029
2025-2029 Funding Request (\$000) Capital: \$31,147 O&M: \$14,400	
Work Description: New York is at the forefront of efforts to harness the value of distributed energy resources (DER). Con Edison alone has deployed over 600 MW of customer-owned solar through 67,000 systems, 47 MW of customer-owned energy storage, over 7,500 installed electric vehicles (EV) plugs through the PowerReady program, and over 30,000 clean heat projects across its service territory. The adoption of DER is critical in meeting New York's carbon reduction goals while providing direct benefits to the public. The Grid Edge Renewable Laboratory (GERL) project will evaluate new clean energy technology integration by using software and computer hardware for monitoring, control, process management, and data analytics applications. The lab will feature 1) grid-edge devices such as solar, battery, and EV charging technologies, 2) a simulated control center, and 3) Supervisory Control and Data Acquisition (SCADA), and Internet of Things (IOT) monitoring and control devices. The GERL project will help prepare for future needs and capabilities of DERs and Con Edison's engagement with them by leveraging a simulated environment that will allow for testing and development without impacting grid operations. Con Edison has identified and initiated construction on an initial GERL location at The Learning Center (TLC) in Queens that will serve as a Connected Community hub and is continuing to identify GERL growth opportunities at TLC and other Company locations. The GERL lab is envisioned as a pivotal asset to support and advance New York State's ambitious energy and electrification goals. The lab will provide critical research, testing, and validation capabilities that align with state and federal mandates (refer to Justification Summary Section) while complementing existing initiatives such as the New York Power Authority (NYPA) Advanced Grid Innovation Laboratory for energy (AGILE) Lab. The AGILE Lab primarily focuses on state-wide utility transmission and distribution (T&D) system real-time grid simulations and advanced modeling. GERL will also focus on areas including technology deployment and integration for grid modernization, supporting technologies such as energy storage, microgrids, smart grid technologies, demand response, the electrification of transportation, fleets, and smart buildings applications. By serving as a complementary facility, GERL will not duplicate efforts but instead fill essential gaps and de-risk the implementation of grid-edge energy solutions across Con Edison's and New York State's energy systems. Additionally, as part of increasing the GERL's capabilities, Con Edison can strengthen partnerships with national	

research labs and universities by tapping into their additional cutting-edge facilities, broadening our testing capabilities. Con Edison will also engage with local community stakeholders to confirm our efforts align with the needs and values of the community. Additionally, any findings or results from the GERL will be shared with other utilities and community stakeholders to support the broader energy transition.

In the short term, the GERL will offer essential testing, development, and optimization capabilities for grid edge elements that align with Con Edison's objectives of modernizing the grid, enhancing resiliency, and supporting New York's clean energy transition. GERL is a critical element of securely bringing distributed resource capabilities into Con Edison's managed control center environment. This approach will significantly mitigate the risks associated with deploying and ensuring the interoperability of DER advanced technologies within Con Edison's service territory. Furthermore, by sharing lessons learned and testing results with other utilities across New York state, GERL will play a pivotal role in accelerating deployment and enabling the monitoring and control of grid edge resources statewide. This is a similar role to that which Southern California Edison (SCE) is playing for major investor-owned utilities (IOUs) within California.

Justification Summary:

The GERL lab is a critical asset in Con Edison's strategy to support and enable New York State's ambitious climate and energy initiatives. The GERL lab mitigates risks associated with deploying new solutions in the field by providing a controlled environment for testing and validating emerging technologies. It allows for Con Edison to effectively contribute to the state's goals for renewable energy, electrification, and grid resiliency. The GERL will create a complementary and robust ecosystem to advance New York's clean energy goals alongside other labs within the state, providing comprehensive support for the state's energy transition. Continuing to build the GERL lab and increasing its capabilities will support Con Edison's commitment to accelerating the clean energy transition and helping New York achieve the clean energy goals established in the Climate Leadership and Community Protection Act (CLCPA). It will also enable Con Edison to continue to align with and advance New York State Public Service Commission (PSC) Orders (such as Case 23-E-0070 and Case 18-E-0130), the NY-Sun Initiative, the Shared Renewable Program, and more.

The lab's work directly supports key objectives in (1) scaling the hosting capacity of the distribution grid, (2) preparing the system for new markets, (3) improving the DER ownership experience, (4) lowering the long-term cost of the energy transition, and (5) maintaining system reliability and resiliency. During the 2023-2025 rate period Con Edison made initial investments in GERL focusing on enabling benefits and solving challenges in the next 3-5 years. GERL efforts during the 2023-2025 timeframe primarily addressed the first two areas of benefit, while the benefits related to the latter three items will be unlocked following the deployment of additional foundational investments, across the GERL and other Company initiatives.

1. Scaling the hosting capacity of the distribution grid

As DERs proliferate, a robust monitoring and control system is essential for cost-effective scaling while maintaining cybersecurity standards. The SCADA Distributed Network Protocol (DNP3) system, primarily used for communication between a master station and remote terminal units/intelligent electronic devices, is burdensome to third party DER development. As such, it is not suited for smaller and more widespread DER deployment, necessitating exploring alternatives using the GERL facility.

The CLCPA sets ambitious mandates for renewable energy integration, energy storage deployment, electrification of buildings and transportation, and more. Utilities are expected to continually refine their hosting capacity analysis to better plan and manage infrastructure investments while meeting these state

mandates. Robust monitoring and control capabilities are essential for expanding the hosting capacity of the distribution grid. These capabilities provide real-time insights into grid conditions, allowing for dynamic management and optimization of power flows. They also enable the implementation of advanced grid services, crucial for integrating higher levels of DERs. By allowing efficient and reliable grid operations, these systems support the seamless integration of renewable energy sources. By providing a controlled environment to test and validate advanced grid technologies and advanced monitoring and control schemes for smart inverters, microgrids, and grid-edge solutions, the GERL will help validate that these technologies can effectively unlock the capacity inherent in the conservative planning margins used in conventional static hosting capacity analysis. This is critical in scaling New York State's distribution grid to meet the ambitious renewable energy targets under the CLCPA.

To date, Con Edison has acquired and begun testing of a software to enhance grid visibility and assist in unlocking hosting capacity. Additional funding will facilitate further testing, verification, and training on this software solution, enabling engineering teams to better understand available capacity. This software will be tested, and training will be conducted within the lab using actual DERs within the GERL's Connected Community hub, providing hands-on experience. Ultimately, the GERL lab enables Con Edison to effectively contribute to the state's clean energy goals while maintaining operational reliability and cost-effectiveness.

2. Preparing the system for new markets

The New York Independent System Operator (NYISO) Capacity Market Overhaul and various NYPSC Orders, such as the Order on Distributed System Implementation Plans (Case 14-M-0101), the Order Establishing Energy Storage Goal and Deployment Policy (Case 18-E-0130), and the Order Adopting Modifications to the Value of Distributed Energy Resources (Case 15-E-0751), aim to modernize the electricity market framework to support the integration of DERs and promote clean energy. These initiatives enhance market competitiveness, grid reliability, and help achieve New York's ambitious climate and energy targets.

The Federal Energy Regulatory Commission (FERC) Order 2222 permits DER owners to participate in the wholesale market, which benefits DER owners but increases communication complexity between utilities, DER customers/aggregators, and the NYISO. The GERL lab will support these efforts by providing a controlled environment to test and validate new tools, technologies, and processes, such as advanced grid management technologies, energy storage systems, and dynamic grid modeling. It will support the testing and validation of aggregated DERs, the development and refinement of control algorithms, and the simulation of market participation. Additionally, the GERL lab will offer training and capacity building while facilitating collaboration among utilities, aggregators, technology providers, regulatory bodies, and RTOs/ISOs.

The GERL team has made progress in identifying appropriate plug-and-play testbeds to prepare the grid for emerging markets, aligning with the objectives of FERC Order No. 2222, the NYISO Capacity Market Overhaul, and various NYPSC Orders. In collaboration with the National Renewable Energy Lab (NREL) on Department of Energy (DOE) FOA 3331 (STRIVE), Con Edison is proposing to research, evaluate, and demonstrate a secure, resilient, and equitable Distribution System Operator (DSO) model that can effectively integrate and aggregate behind-the-meter DERs. To do so, GERL will be deploying RTDS (Real-Time Digital Simulator) technology to simulate various grid scenarios, enhancing operator training and preparedness for new market structures. The RTDS testbed allows for real-time testing of DER aggregation strategies, advanced control algorithms, and market participation models.

3. Improving the DER ownership experience

To drive deep DER adoption in its service territory and support customer empowerment, Con Edison is focused on helping our customers take control of their energy choices and accelerate clean energy goals. Con Ed can do so, in part, by piloting and testing new technologies, such as smart inverters, and other means of voltage management (e.g., Volt-Var control, fixed power factor), bulk system support (e.g., voltage ride-through, frequency ride-through), and communication and interactivity (e.g., configuration, real-time feedback) in the controlled GERL environment. The lab offers a controlled setting to test various DER ownership models, including customer-owned, third party-owned, and community-owned systems, under real-world grid conditions. This enables Con Ed to develop internal guidelines on the necessary monitoring and control capabilities to leverage these assets effectively. By evaluating the technical and economic performance of these models, identifying optimal configurations, and determining the most efficient deployment strategies, the GERL lab contributes to enhancing the overall DER ownership experience.

By testing and training employees on Distributed Energy Resource Management System (DERMS) software in the upcoming GERL simulated control center, Con Edison can combine these tools with our asset repository to plan, interconnect, register, and operate customer DERs more effectively. Additionally, the lab will provide an opportunity to test and validate the cybersecurity of grid-edge resources integration to utility systems.

4. Supporting a more cost-efficient energy transition

The transition to renewable energy sources, along with the rising load from traditional sources and increased electrification—particularly in the transportation sector—will increase costs due to necessary grid upgrades. However, a more standardized flexible interconnection strategy can further enhance hosting capacity and help reduce these costs, supporting a more cost-efficient energy transition.

In the lab, Con Edison can address this by developing and testing advanced control strategies, such as coordinated dispatch of DERs and energy storage systems, to mitigate peak demand and improve overall grid efficiency. Once validated in the lab, these strategies can then be applied at scale to real-world grid operations.

5. Supporting system reliability & resiliency

Once fully established, the simulated control center ecosystem of the GERL lab will be pivotal in supporting system reliability and resiliency by providing a platform for the comprehensive testing, simulation, and validation of advanced grid technologies ahead of their deployment. The lab's capabilities in microgrid testing, grid-edge technology validation, and real-time scenario simulations are crucial for addressing the challenges posed by increasing electrification and DER penetration. By rigorously assessing how these technologies perform under stress and their ability to stabilize the grid, GERL can help utilities and technology developers refine and coordinate their solutions before deployment thereby improving overall grid robustness.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The GERL lab is instrumental in advancing Con Edison's clean energy and climate resilience goals by supporting the deployment and optimization of cutting-edge technologies. It facilitates the integration of renewable energy and flexible demand into the grid through the testing and validation of solutions like energy storage systems, microgrids, and advanced grid management tools, supporting New York's CLCPA mandates for reducing greenhouse gas emissions and Con Edison's Clean Energy Commitment to achieve 100% clean energy by 2040. Additionally, GERL plays a crucial role in

enhancing grid resilience by developing innovative strategies to support Con Edison's November 2023 Climate Resilience Plan, keeping the grid flexible and reliable in the face of climate change. By enabling rapid testing and adaptation of decarbonization technologies, GERL can empower teams across Con Edison to meet both near- and long-term sustainability and resilience objectives.

Impact of GERL in Supporting Risk Mitigation at Con Edison

This project supports dynamic distribution system management and optimization to enable the smart grid of the future and the Company's role as a Distributed System Platform (DSP) provider. For a more detailed list of risks that the GERL project will help address, please refer to Section 2, Supplemental Information, Risk of No Actions subsection.

2. Supplemental Information

Alternatives

Alternative 1: The first alternative for Con Edison is to rely heavily on external stakeholders, solution providers, and vendors to drive business requirements for flexible DER interconnection and management and to continue to evaluate DERs on a case-by-case basis. This would create constraints on interconnection, as well as limit the technology and schema testing that could be performed due to the live nature of Con Edison's distribution network. Moreover, Con Edison would need to support workforce development through external trainings, vendor user group meetings, and standardization groups. In contrast, a controlled and proactive testing environment will help in developing a standard process (compared to case-by-case evaluation) and allow for further process improvement based on the future needs of DERs and Con Edison's engagement without inhibiting current business processes. The controlled testing environment also cultivates a supportive and inspiring environment for development of Con Edison staff as industry experts and the development of vendor products that are more closely tailored to Con Edison's reality and the NY State market.

Alternative 2: Con Edison relies solely on the industry standardization process instead of building the GERL lab, which would cause the Company to face challenges. Industry standardization often takes considerable time, involving consensus-building among stakeholders, including utilities, regulators, technology providers, and standards organizations. This process may not specifically address the unique needs and operational challenges faced by Con Edison, particularly in a densely populated urban environment like New York City with such a diverse energy infrastructure. Moreover, the standards developed through this process might lag behind the rapid technological advancements occurring in the energy sector, delaying the adoption of critical innovations needed to meet New York State's ambitious climate goals. Without the GERL lab, Con Edison would be beholden to these external processes, potentially slowing down the implementation of vital technologies that could enhance grid reliability, resilience, and efficiency.

In contrast to the above alternatives, by establishing the GERL lab, Con Edison not only accelerates the testing, validation, and deployment of new technologies tailored to its specific needs but also creates opportunities to share valuable learnings with other partner utilities and stakeholders across New York State. The lab's insights and proven solutions could be leveraged to support grid modernization efforts statewide, fostering collaboration and innovation among utilities. This collective approach would enable faster adoption of best practices and technologies across the state, helping to achieve New York's clean energy targets more efficiently.

Risk of No Action

Without near-term investment by Con Ed in a GERL solution, DER adoption will experience delays in our service territory, potentially limiting progress toward CLCPA goals.

Risk 1: Enterprise Operational and Cybersecurity Risks

Moving forward with customer or third-party owned and operated DER integration without testing in the GERL lab will result in increased utility enterprise risks such as cybersecurity threats, system malfunctions, and operational inefficiencies. These risks are amplified without an internal facility dedicated to testing and validating new technologies. The GERL lab can mitigate these vulnerabilities by providing a platform for comprehensive testing, including cybersecurity resilience and system performance under various conditions. This ensures that grid operations remain secure, efficient, and adaptable to emerging challenges, reducing the reliance on external experts, and enhancing overall grid reliability.

Risk 2: Limited ability to enable new market participation.

Alongside capabilities developed by the NYISO and DPS Staff, Con Edison has been building out initial capabilities to enable market participation as laid out by FERC 2222. However, the build-out of enterprise level capabilities to support broad market participation as envisioned by the NYISO will be needed to fully realize the vision of FERC 2222. In conjunction with IT/OT (Informational Technology/Operational Technology) solutions tackled by the Enterprise DERMS project, GERL will allow for testing of technologies and schema that will enhance options for a standard flexible interconnection offering process to scale.

Risk 3: Limits to technology and vendor qualification and integration

The absence of a dedicated testing facility can create challenges in the qualification and approval process for new technologies and vendors as they are integrated into the DERMS platform. While equipment may conform to UL and other industry standards, Con Edison's unique grid characteristics and DERMS integration requirements necessitate rigorous in-house validation for seamless compatibility and optimal performance. Without this testing, there is a risk of deploying unproven solutions that could compromise grid reliability and increase the potential for operational failures. The GERL lab mitigates this risk by providing a controlled environment to thoroughly evaluate and validate the viability of new technologies on our specific grid, safeguarding both the reliability and resilience of our system.

Risk 4: Lack of Internal Expertise Development

Without the GERL lab, Con Edison would face challenges in not knowing how to operate DER technologies and realize their benefits, including the related equipment and software platforms. There would be a missed opportunity for Con Edison to develop important internal expertise in emerging technologies, clean energy, and grid edge technology topics. This would result in increased dependence on external subject matter experts, who may be unfamiliar with our system, our customers, and our markets, which could slow down the response to technical challenges and lead to higher operational costs. Further, the GERL lab will also be utilized as a training center for Con Edison's staff, including control center operators, to be trained on DER operation and management.

Non-Financial Benefits

In the near term, access to the GERL facility for testing and pilot demonstrations will improve customer experience, enable participation in the wholesale markets, and encourage collaboration with community and vendor stakeholders, for an equitable renewable transition.

The GERL lab offers numerous non-financial benefits that extend beyond direct technological advancements. One key advantage is its role in workforce development and training. The lab will serve as an educational hub, providing hands-on experience with emerging technologies for Con Edison employees. This will not only strengthen the Company's internal expertise but also contribute to the broader goal of future-proofing the energy workforce.

For customers, the GERL lab can enhance engagement by helping with the design and deployment of new customer programs and technologies that encourage adoption of clean energy technologies while

leveraging their benefits. The lab can encourage greater participation in clean buildings and transportation programs and other initiatives by demonstrating how these innovations work and the tangible benefits they offer. This increased customer engagement can lead to better program outcomes. Additionally, the lab's work on improving grid reliability and integrating renewable energy sources will directly benefit customers by supporting a more resilient and sustainable energy supply.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Basis for estimate

The needs and uses cases of the GERL is rapidly evolving and changing and will continue to be developed as part of planning processes. Furthermore, Con Edison's GERL needs differ from those of other utilities due to our unique network configuration. Given these uncertainties, several sources were drawn from to generate the investment cost estimate:

- Vendor quotes for specific GERL components:
 - Various Simulators such as
 - Grid, Digital, PV, Battery, EV
 - Various DER components such as:
 - Chargers (L1, L2, DC Fast Charge), Solar Panels, batteries (home and utility sized), AMI 2.0 meters
 - Smart Home Devices such as:
 - Water heaters, appliances, smart panels, thermostats.
 - Other devices:
 - Load banks, protective relays, inverters, communication devices, metering.
- Previous similar efforts undertaken by other utilities (e.g., Duke Energy, Commonwealth Edison)
- Three additional personnel: 2H Manager, Two 2L Sr. Specialist
 - To oversee lab construction and expansion.
 - Run testing at lab locations.
 - Run training for various software deployments.

Project Risks and Mitigation Plan

Risk No.

Mitigation plan

Risk 1: Cost overrun: Project execution could be delayed resulting in cost overrun

A Project Management Office (PMO) role will oversee the project's progression and identify, communicate, and mitigate potential negative impacts in a proactive and timely manner.

<u>Risk 2:</u> Technology availability: The required technologies may not be fully developed.	Collaborate with technology developers, set realistic timelines, and stay flexible to integrate emerging technologies as they mature.
<u>Risk 3:</u> Equipment delivery delays: Delays in receiving essential technologies can disrupt the project timeline	Establish strong vendor relationships, include buffer time in project schedules, and diversify suppliers to reduce dependency on a single source.
<u>Risk 4:</u> Construction challenges: Unexpected construction issues could arise, such as site conditions or regulatory hurdles	Conduct thorough site assessments and regulatory reviews, engage experienced contractors with a strong track record in similar projects, and work closely with local permitting agencies.
<u>Risk 5:</u> Cybersecurity risks: Integrating new technologies could expose the lab to cybersecurity threats.	The project will include cybersecurity as a core aspect of technology selection and development and regularly update security protocols and defenses. Additionally, throughout the lab's development, the team will heavily engage the Cyber team so that the lab design (and later its utilization) follows the strict cyber security guidelines within Con Edison.
<u>Risk 6:</u> Operational integration challenges: Integrating the lab's outputs with existing Con Edison operations may be complex.	The project will involve operational teams from a very early stage, conduct pilot programs to test integration strategies, and ensure continuous feedback loops to address issues as they arise.
Technical Evaluation / Analysis To explore ways of improving the DER participant experience, Con Ed will continue to track the average customer time spent in the interconnection process, the accuracy of the interconnection cost estimate, and the average final customer interconnection cost-per-kW of project capacity. Additionally, as FERC 2222 is rolled out, Con Ed will internally track the percent of DER enrolled and participating in the wholesale market. Con Edison will also track and collect data to allow intelligent assessment of the distinct value of the GERL project, based on identified use cases. Potential outcome measurements for these use cases are as follows: • Developing Meaningful Relationships with Stakeholders and Customer Engagement Impact: The number of partnerships with stakeholders and associated projects will be tracked and analyzed to confirm that the GERL achieves expected engagement. Additionally, the lab will survey internal and external stakeholders to gauge their satisfaction with its contributions and assess the increase in customer participation in new programs due to demonstrations and showcases conducted at the lab. • Actualizing Learnings: Outcomes of GERL projects will be tracked, including noting pilots that become full scale projects or programs and approved customer-facing technologies. • Lab Utilization Rate (% per Month): The percentage of time the lab is actively used each month will be tracked. A high utilization rate indicates that the lab is a valuable resource for ongoing projects. • Number and Diversity of Technologies Tested: The number and types of new technologies tested in the lab will be tracked, reflecting its role in innovation and technology validation. • SME Development and Training Sessions: The number of subject matter experts (SMEs) developed and training sessions conducted will be tracked, indicating the lab's contribution to workforce development.	

Project Relationships (if applicable)

The Grid Edge Renewable Lab is a critical component of Con Edison's Distributed System Integration Plan (DSIP) and Electric Long-Range Plan. It will be seamlessly integrated with the Enterprise DERMS Integrated Grid Management Visualization and Optimization (IGMVO) initiative. By leveraging GERL in conjunction with IGMVO, Con Edison can explore advanced monitoring and control strategies for managing DERs, optimizing their integration into a DERMS, and enhancing their visualization in a control center environment.

The combination of physical DER equipment and software within GERL will provide invaluable insights into DER operations and their impact on the grid, offering real-world data and lessons learned that will be essential as we implement a DERMS and advance through the energy transition. Additionally, GERL will serve as a proving ground for testing the functionality and reliability of our DERMS before full-scale deployment, while providing a dedicated training space for employees to gain hands-on experience with the complexities of DERMS operations.

In conjunction, the customer-centric capabilities built out by DERMS and GERL will complement other DER customer programs Con Ed is investing in, such as electric vehicle managed charging programs.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M				\$0		\$0
Regulatory Asset						
Capital				\$113		\$2,250

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	\$0	\$1,500	\$2,100	\$4,800	\$6,000
Regulatory Asset					
Capital (Total)	\$2,250	\$7,283	\$7,955	\$6,695	\$6,964
Labor	\$290	\$835	\$485	\$485	\$645
M&S	\$700	\$1,500	\$3,250	\$2,500	\$2,500
Contract Svcs.	\$750	\$2,000	\$1,000	\$1,000	\$1,000
Other	\$275	\$1,214	\$1,326	\$1,116	\$1,161
Overheads	\$235	\$1,734	\$1,894	\$1,594	\$1,658

*The test year runs from 10/1/2023 to 9/30/2024

Customer Energy Solutions 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Integrated Grid Management Visualization Optimization (IGMVO)	
Project/Program Manager: Jared Trumpetto	Project/Program Number (Level 1): 27645411
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: Q1 2026	Estimated Date In Service: Q4 2029
2025-2029 Funding Request (\$000) Capital: \$150,977 O&M: \$26,620	
Work Description: New York is at the forefront of efforts to harness the value of distributed energy resources (DER). Con Edison alone has deployed over 600 MW of customer-owned solar through 67,000 systems, 47 MW of customer-owned energy storage, over 7,500 installed electric vehicles (EV) plugs through the PowerReady program, and over 30,000 clean heat projects across its service territory. ¹ Customer adoption of these technologies has been rapidly growing and will need to continue to accelerate in each of these areas to reach the goals of the Climate Leadership and Community Protection Act (CLCPA). Additionally, ongoing proceedings with the New York Public Service Commission (PSC) on topics such as addressing operational flexibility, managing EV charging, proactive planning for large loads, deploying energy storage, and supporting distributed technologies, will continue to drive the need for a more flexible and dynamically managed grid. ² Concurrently, the efforts of the New York Independent System Operator (NYISO) are offering DER and aggregators expanded opportunities to provide – and be compensated for – wholesale services in alignment with the Federal Energy Regulatory Commission (FERC) Order 2222. ³ The objective of the IGMVO project is to advance DER connection to the grid by expanding the capabilities of current technology. The IGMVO project continues the progress in grid connection by facilitating DER coordination with traditional grid assets, maximizing DER value to the grid by using DER when needed, and facilitating compensation to DER owners commensurate with the value they provide to the grid.	

¹ Con Edison's Clean Energy Update, <https://www.coned.com/en/about-us/media-center/clean-energy-update>, accessed August 2024.

² Dockets include 24-E-0165 ("Grid of the Future"), 22-E-0236 ("Alternatives to Demand-Based Rates for Commercial EVs"), 24-E-0364 ("Proactive Planning Proceeding"), 18-E-0130 ("Energy Storage Deployment Program").

³ NYISO DER & Aggregation Participation Model, <https://www.nyiso.com/der-aggregations>, accessed September 2024.

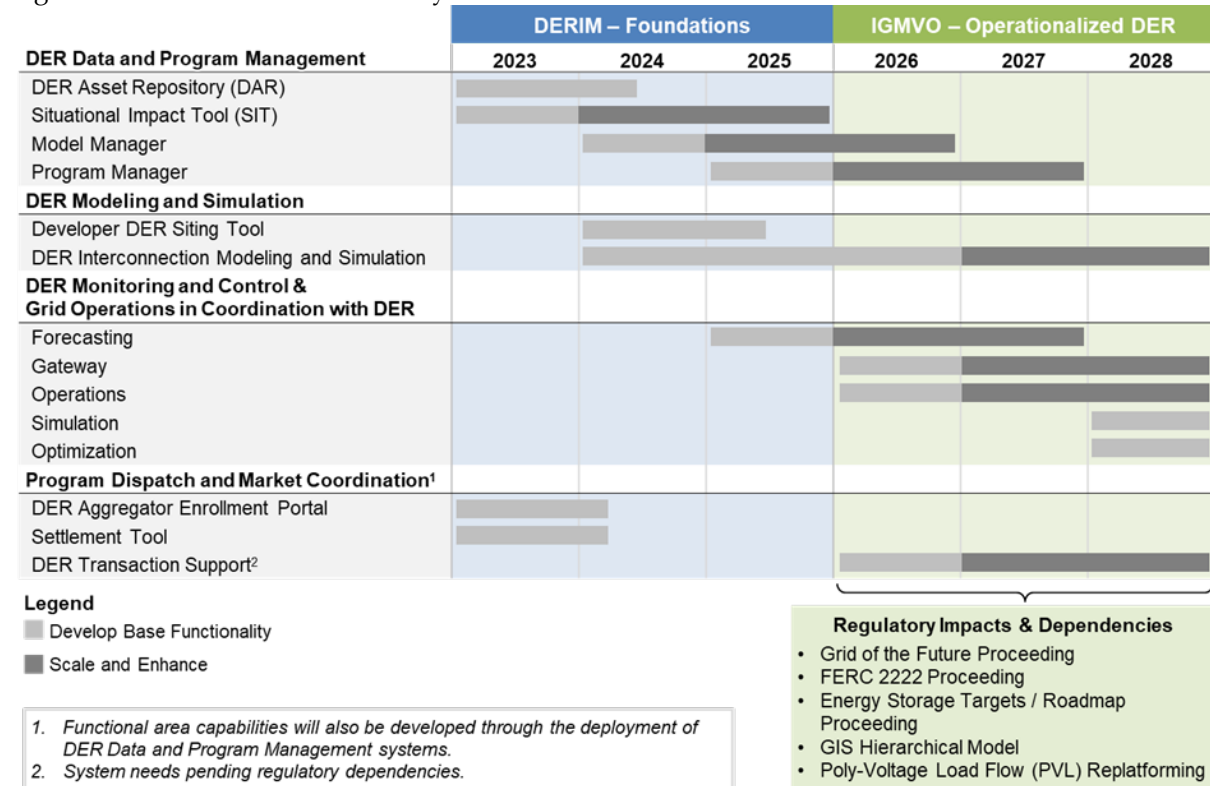
This project builds off the work completed to date in support of work in a previous whitepaper, called Distributed Energy Resource Integration and Management (DERIM), which began in 2023. DERIM enhanced the accuracy and quality of DER data, consolidated it into a system of record (the DER Asset Repository (DAR)), established a foundation for reporting automation, and made the data available to internal users. Additionally, previous DERIM work supported the launch of the NYISO's DER participation model with tools that enable aggregators to enroll resources and estimate the situational impacts for market-participating resources. Through 2025, work under the DERIM project is also testing the suitability of commercially available distribution planning software with DER-inclusive load flow models for the unique scale and complexity of Con Edison's network and non-network topology. Finally, Con Edison established an ongoing partnership with a software provider to develop their modular, enterprise-scale DER Management System (DERMS) software for base functionality, with a plan to scale as use cases become more complex.

The IGMVO project will expand on these capabilities and create new ones with scalable and cyber-secure enterprise operational technologies, in five interrelated functional areas:

- DER Data and Program Management
- DER Modeling and Simulation
- DER Monitoring and Control
- Grid Operations in Coordination with DER
- Program Dispatch and Market Coordination

The capabilities in each of these functional areas will be built in a phased manner through interrelated modules and systems. These elements work in concert to deliver desired business results (outlined in the Justification Summary section below) in a series of use cases. In general, the capabilities in DER Monitoring and Control and Program Dispatch and Market Coordination are more advanced (and more distant on the roadmap), while Modeling and Simulation work is nearer term. All capabilities rely on a foundation of high-quality data. A visual representation of the modules and the relationship between them is shown in the following graphic.

Figure 1. DERMS Functional Area System Timeline



The IGMVO project components, while currently distinct, will evolve into a unified system integrated with other Con Ed systems to create a new operating paradigm. An overview of the capabilities to be built in each functional area between 2026 and 2028 are described in the lists below:

DER Data and Program Management

- Develop accurate and accessible grid model data for reporting to authorized third parties
- Enhance the DER database system of record with a hierarchical model and additional parameters
- Record DER telecommunication pathways and enable information exchange using industry standard communication protocol(s) for DERs
- Develop a system to manage programs, including tracking DER compensation structures for energy products (i.e., tariffs) and contractual constraints
- Identify and track when changes occur in the customer account and/or the connected DER
- Enhance tracking of customer DERs participation in Con Edison DER programs, including through aggregators
- Perform measurement and verification (M&V) for DER programs as needed for performance incentives and compensation

DER Modeling and Simulation

- Assess in-house PVL software architecture and capabilities to inform DER interconnection and planning study needs
- Assess and scale commercial off-the-shelf distribution planning software to supplement in-house tools in support of DER hosting capacity and load flow studies
- Enhance load flow application capabilities to identify grid constraints
- Automate hosting capacity map updates based on load flow and interconnection studies

- Provide developers with more information in the hosting capacity maps to identify sites that are suitable for potential interconnection projects
- Begin development of forecasting module, which establishes short-term and near-term operational forecasts and assessment of load curves using a common data source
- Develop base functionality for DER siting tools

DER Monitoring and Control

- Enhance options for flexible interconnection offering and standardize process to scale
- Transition from autonomous DER actions based on configuration (set and forget) to using participating DER as a dispatchable resource available to operators
- Develop base functionality for tracking and visualization of geospatial DER asset position and contractual constraints
- Demonstrate DER-level and aggregated grid topography views of DER for operations groups
- Develop base functionality for curtailment and activation of DER to address grid constraints
- Develop base functionality for smart inverters to autonomously respond to grid conditions
- Develop base functionality for real-time DER control actions
- Enable DER performance validation to support DER programs and/or market settlement
- Develop integrations with third-party grid edge aggregators

Grid Operations in Coordination with DER

- Enhance grid visibility with integrations between the Geographic Information System (GIS), Model Manager module, and Distribution Management System
- Enhance updates of current day dispatch schedule and new DER events based on the latest network conditions and forecasts
- Demonstrate operational forecasts for DERs (e.g., solar photovoltaic (PV), battery storage)
- Identify telecommunication pathways and establish communication protocols for DER monitoring and control
- Establish base functionality for Volt/VAR management, with autonomous inverter actions based on inverter configuration
- Develop decision capability and aggregator notifications for when DER must be derated
- Investigate day-ahead analysis functionality (e.g., DER forecast data for switching studies)
- Investigate grid optimization capabilities, including the deployment of tools that display real-time situational awareness of the full grid conditions/DER
- Investigate including DER injection in power flow analysis

Program Dispatch and Market Coordination

- Enhance DER transaction capabilities, including with third parties and energy markets
- Enhance and expand grid services⁴ provided to the distribution system through DER programs
- Develop base functionality to safely record, store, and share DER-related data with authorized third parties and aggregators
- Develop base functionality to identify the DERs participating with different aggregators that are directly participating in NYISO market with their aggregation(s)
- Develop base functionality to track DER compensation structures and contractual constraints
- Coordinate real and reactive power flows across the transmission / distribution system interface where the coordination is between the operator and the NYISO

⁴ U.S. DOE Grid Modernization Laboratory Consortium Interoperability Strategic Vision, March 2018 PNNL-27320, <https://gmlc.doe.gov/sites/default/files/resources/InteropStrategicVisionPaper2018-03-29.pdf>, accessed September 2024.

The work to deliver these capabilities consists of:

- Configuring new enterprise DERMS modules and load flow models
- Integrating new systems with existing systems (e.g., Program Manager module integrated with existing Demand Response Management System (DRMS))
- Transforming and mapping data for use in DER-related systems
- Testing that new functionality meets acceptance criteria
- Refining existing (e.g., DER interconnection) and developing new business processes (e.g., control room-based dispatch of DER)
- Training operational and programmatic personnel on new system features and capabilities

Justification Summary:

The IGMVO platform of systems is a key enabler of New York State's clean energy objectives. It provides a suite of tools that will (1) enable greater connection of DER, (2) provide operational capabilities to manage a more distributed grid, and (3) facilitate DER value pathways for customers, aggregators and developers to be compensated for the grid services these resources provide. The capabilities built through these systems address current challenges and yield benefits.

Accelerating and Growing the Connection of DER

Achieving the goals of the CLCPA requires, among other things, increasing the number and capacity of DER hosted on Con Edison's distribution system. In some parts of the Company's system, particularly the overhead portions of the service territory (e.g., Staten Island and Westchester County), there is not sufficient hosting capacity to accommodate additional DER interconnections without costly upgrades. The Company publishes hosting capacity maps to direct customers and developers which show locations where projects are less likely to require costly upgrades. However, given the generalized modeling assumptions used for the maps, there can be discrepancies between the indicative hosting capacity and the actual capacity identified during the interconnection study process. Further complicating matters, the complexity of interconnection studies increases as more projects are added to the interconnection queue. Changes to proposed projects, for either generation or load, can trigger the need for re-study and add to the overall timeline for interconnection. Visibility to queued projects and project status changes is currently a manually driven process to extract data from several source systems.

The capabilities provided through the IGMVO will improve the interconnection process in several ways to enable projects to interconnect more quickly. First, the Modeling and Simulation capabilities provide a model specifically developed for DER interconnection in the most hosting-capacity constrained areas of the system. Additionally, integrating these modeling tools with the queued and active DER project repository provides an automated linkage of DER data, saving time normally spent manually referencing projects. That same integration will improve the quality of hosting capacity maps and reduce the time spent preparing them. Furthermore, the launch of the Program Manager module will enable better cross-program tracking and eligibility checks during the interconnection process. Finally, the Modeling and Simulation capabilities, combined with the Monitoring and Control protections and the programmatic tracking of interconnection commitments will enable the studies needed to standardize flexible interconnection agreements for larger projects with reduced system upgrade costs (described further below).

Managing a More Distributed Bidirectional Grid

As DER buildout continues, energy flows on the distribution system will become increasingly bi-directional. At the same time, as New York makes progress toward the decarbonization goals of the CLCPA, the bulk power system will shift to more inverter-based resources. These changes will require a grid that is more flexible, and able to use DER to provide services to the bulk power and distribution

systems. There are four main challenges that limit Con Edison's management of a distributed, bidirectional grid, which are described in the numbered items below:

1. *DER Visibility*

Currently, the Company is limited in its ability to see or coordinate the activity of DER. For instance, the Company is currently unable to separate DER generation production and load, as sensors and Supervisory Control and Data Acquisition (SCADA) only measure net load (gross load minus DER generation). Near-term operational forecasts do not account for DER activity on a given circuit. Manual tracing of circuits is necessary to identify DER impacts of operator actions. The importance of accurate and DER-inclusive operational forecasts is increasing as the aggregate DER activity on the distribution system begins to have noticeable impacts on the bulk power system.

2. *DER Coordination and Scalability*

Challenges in DER coordination today include the labor-intensive and non-scalable flexible interconnection offering currently available, which defines customized operating parameters for controllable resources (primarily energy storage). These parameters are not coordinated or actively enforced, and all assets are controlled as individual SCADA points. The current SCADA system faces scalability issues when managing individual DER because it was originally designed to monitor breakers and switches, not batteries and generators. This mismatch adds computational burdens that the system wasn't built to handle, leading to performance degradation. In addition, the operational use cases for DERs are different than other SCADA devices making it inefficient to manage DERs through the SCADA system.

3. *Smart Inverters*

Another challenge relates to constraints on Con Edison's use of smart inverters. Con Edison has developed the capability to interact with smart inverters and recent changes to the Standardized Interconnection Requirements (SIR) that mandate the use of smart inverters, but the inverter configuration for these resources is generally statically set and under-utilized for grid services.

4. *DER Program Design*

Finally, DER programs are currently designed as either behavioral or active management programs. In behavioral programs, customers act based on fixed incentive structures intended to influence the customers' electricity usage. For programs that are actively dispatched, the direct load control dispatch is initiated by a program team that coordinates with, but sits outside of, a utility control center. This disconnect poses a challenge in fully operationalizing programs and integrating them into core utility operations. Managing the scale of the envisioned DER buildout and fully operationalizing DER programs to harness their grid value requires bringing them into the control room.

The IGMVO builds more granular system models to study DER impacts and operational modules to produce operational forecasts, standardize and scale flexible interconnection, dispatch DER from within the control room, and provide operators with decision support that fully accounts for DER. Within these modules, the Company will be able to maintain operational visibility into asset and programmatic attributes, operating states, and relevant grid conditions (e.g., outages and switch configuration). With this increased visibility of DER and its effect on grid conditions, the operators will be able to use an Operational Technology (OT) system to connect with assets and aggregators to dispatch DER when needed for reliability and in the longer term to optimize system efficiency and costs. These modules also enable autonomous voltage capabilities of inverter-based resources,

including Volt/VAR controls to manage reactive power providing a grid resource to maintain power quality on a more dynamic grid.

As actively managed DER assets and DER programs are integrated into the control room, they will become a more trusted resource. This will have secondary effects on the Company's ability to procure resources and services more cost-effectively for programs like Non-Wires Solutions (NWS) or Bridge-to-Wires energy storage. Collectively, the DER visibility and capabilities from IGMVO help Con Edison maintain reliability as it navigates the clean energy transition.

Facilitating DER Value Pathways for Customers, Aggregators & Developers

Through forums like the Market Design and Integration Working Group (MDIWG) and collaboration with the NYISO to implement its DER Participation Model, Con Edison has made progress to enable the participation of distribution-connected resources in the NYISO wholesale markets. These efforts will be expanded as the NYISO pursues compliance with the FERC Order 2222 and the New York Utilities compensate resources providing grid flexibility under the requirements of the New York PSC's Grid of the Future proceeding.

There are three primary DER value pathways that Con Edison is working to advance:

1. Incentive: Payment or other incentive for DER program participation and/or providing a device or giving a rebate for adoption of enabling technology
2. Performance: Payment to customers, aggregators, and/or developers based on M&V of DER performance in satisfying specific grid needs
3. Settlement: Supporting NYISO settlement for DER through:
 - Identification of customers participating in an aggregated resource
 - Assignment of aggregation to a specific aggregator resource

Challenges in compensating resources for grid services generally stem from a program-centric view that is difficult to scale to a system-wide and market-centric view. To date, programs have traditionally been developed and managed by the organization responsible for the program and its systems. This has been effective in driving enrollment in each program, but limits coordination and the use of DER optimization and orchestration across programs and organizations. DER optimization can include identification of where DER can be sited most economically and utilization of NWS to provide grid services. Currently, DER programs are not optimized or orchestrated as the programs are often limited in granularity (only to the network level) and are fixed over time (updated annually or less frequently), which may stymie participation as the actual value of a given resource diverges from programmatic compensation. Additionally, with program- and system-specific tracking, customer or developer changes in program participation drive manual efforts to adjust tracking and tariff changes. Finally, coordination of the activity of resources participating in both the wholesale and retail markets is nascent and is expected to continue to evolve as more aggregators enroll in the NYISO DER participation model.

The IGMVO modules for Model Manager, Program Manager, and ongoing enhancements to the DAR will facilitate more holistic tracking of Con Edison-managed DER programs and will support NYISO market functions, including asset review, DER asset availability, and settlement review. Coupled with the DER coordination functions above, these modules will also enable tracking of DER performance to support M&V functions that are key inputs to billing and compensation processes. As DER program participation and performance are more actively managed, program offerings will be able to send more granular pricing signals for customers and programs to take market-driven action.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

IGMVO is foundational to realizing the full benefits of energy storage, flexible demand, and other clean energy technologies. IGMVO provides the operational capabilities needed to help fulfill Con Edison's Clean Energy Commitment, specifically Pillars 1, 2, 4, and 5. In alignment with Pillar 2, empowering customers to connect DERs to the grid will assist in reducing greenhouse gas emissions by replacing energy purchased from carbon-emitting resources.⁵

Additionally, IGMVO enables the further adoption of various policy-driven clean energy technologies. Specifically, the following legislation and policies are driving the adoption of distributed generation, energy storage, and flexible demand.

- CLCPA (NYS SB6599)
- Energy Storage Targets / Roadmap (18-E-0130)
- Distributed Generation Targets
- Grid of the Future (24-E-0165)
- Managed Charging (22-E-0236)
- Load Management Technology Incentive Program (LMTIP) (22-E-0236)
- Value of DER (15-E-0751)
- Timely Interconnection of Distributed Energy Resources (24-E-0415)
- Dispatchable Emissions-Free Resources (DEFR) (15-E-0302)

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

Alternative: Continue to manage DER by operating individual programs in discrete systems of action and record (i.e., attempt to manage DER with capabilities in place today).

Reason for rejection: This could result in an inability to fully utilize available DER and in operational issues including increased reliability and outage risk. Furthermore, the inability to coordinate actions across programs has the potential to create situations where programs are acting at odds with each other, and inefficient manual analysis and action would be required to overcome that.

Alternative 2 description and reason for rejection

Alternative: Continue to operate programs on an incentive and behavior basis only.

Reason for rejection: This method limits the confidence that operators have in using these resources to their fullest grid-value providing potential. Essentially, the current program structure functions as a customer-driven load modifying resource which is less reliable than an operational resource.

Alternative 3 description and reason for rejection

Alternative: Wait until other enterprise systems – namely a utility network GIS and Advanced Distribution Management Systems (ADMS) – are in place before proceeding with DERMS.

Reason for rejection: This would significantly defer the achievement of policy goals by several years. Instead, the IGMVO sequence of modular deployment for the solutions selected can build near-term capabilities to bear while building towards longer-term functionality.

⁵ Con Edison's Clean Energy Commitment, <https://www.coned.com/en/our-energy-future/our-energy-vision/our-energy-future-commitment>, accessed September 2024.

Risk of No Action Without near-term investment by Con Edison in the IGMVO, the Company would see reduced DER adoption (as hosting capacity is consumed and customers walk away from cost-incurring projects that require infrastructure upgrades), have restricted DER management capabilities, and have a limited degree of program offerings to compensate DER for grid services. This would jeopardize state policy targets, lower customer satisfaction, and pose operational challenges to the Company to monitor and manage a more distributed system.
Non-Financial Benefits See Justification Summary section.
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) N/A 2. Major financial benefits N/A 3. Basis for estimate The costs associated with this work include contract services, IT costs, internal labor spend, software licensing and maintenance costs, material and supplies, overheads, and other costs. Generally, the basis for cost estimates applies pricing received through competitive bid processes and lessons learned from past Con Edison OT projects and best practices from other utilities revealed through peer benchmarking. As shown in Figure 1. DERMS Functional Area System Timeline, the IGMVO systems development is a continuation from the DERIM systems development. Therefore, a portion of the IGMVO O&M costs are for systems put in service during the previous rate period and is noted as such below. The basis for each cost type is outlined below: • <u>Contract services:</u> This project involves the development and integration of new software including established products and newer tools, both of which require contractor expertise to deploy. Peer utilities have provided estimates for contractor charges associated with supporting established products. For newer tools, estimates are derived from projected project timelines and fees charged by the types of vendors who typically support new software development, change management, and integration. In some cases, estimates are based on vendor statements of work. • <u>IT:</u> IT costs include capital spend for system enhancements and are based on historic spend. • <u>Labor:</u> Labor costs include spend for existing roles which support DERIM system development and 14 incrementally added new full-time employees (FTEs). Cost estimates for current roles are based on historic spend for 2L through 3H band levels, including product owners, specialists, section managers, and department managers. Estimates for incrementally added FTEs are based on historic spend for 1H through 2H band levels, including analytics and planning managers, project specialists, technical personnel, and specialists. The new roles will be critical to successfully deploying grid management systems and building new capabilities in DER interconnection, forecasting, hosting capacity, and monitoring and control. Estimated costs for software support contractors are based on historic spend. • <u>Licenses:</u> Software license costs include ongoing DERIM software licensing for DAR, Situational Impact Tool (SIT), Model Manager, Program Manager, Forecasting, DER

Aggregator Enrollment Portal, and Settlement Tool. Cost estimates for these tools are based on historic spend. New software licensing costs are based on vendor statements of work.

- **Maintenance:** Software maintenance costs include ongoing DERIM software maintenance for DAR, SIT, Model Manager, Program Manager, Forecasting, DER Aggregator Enrollment Portal, and Settlement Tool. Cost estimates for these tools are based on historic spend. New software maintenance costs are based on vendor statements of work.
- **Material and supplies:** IT equipment costs include additional redundancy and back-up for new software deployments. Equipment costs are derived from historic spend.
- **Overheads:** Overheads include allowances for funds used during construction and labor overheads and are based on historic spend.
- **Other costs:** Other costs include upgrades and enhancements to GIS and other source systems, partner system funding, and contingencies, and are based on historic spend.

Project Risks and Mitigation Plan

As with any OT system implementation, there are several applicable project risks, described below, along with Con Edison's planned mitigation.

Cybersecurity risk of communicating with third-party assets: The Company will address this risk through its existing cybersecurity policy and architecture, which broadly includes network segmentation, user access controls, and network monitoring. The Grid Edge Renewable Lab (GERL) can further mitigate system vulnerabilities by providing a platform for comprehensive testing of devices and system functionalities, including cybersecurity resilience and system performance under various conditions.

Integration risks: The Company will manage its integration risk through comprehensive testing and the use of an operational service bus to securely share data and apply out-of-the-box functionality and data standards, where appropriate. Additionally, this project will utilize Con Edison PMO best practices and procedures to minimize integration risks.

Skill and knowledge gaps: The new functionality delivered through IGMVO will require upskilling employees through training and revised processes and procedures. The project will mitigate this risk through training and simulation in GERL and dedicated change management resources during the project's implementation.

Changing DER market conditions: The modular approach to the development of the IGMVO mitigates the risk of changing market conditions. In addition, by partnering with peer utilities and industry-leading vendors, the Company will have the opportunity to shape the future of DER-related standards.

Technical Evaluation / Analysis

In developing its implementation plan for the IGMVO, Con Edison prepared supporting exhibits, including a detailed use case document and a peer benchmarking report.

Project Relationships (if applicable)

The OT systems in the IGMVO will interact with several existing and in-flight projects, including the GIS for extracting grid asset data and compatibility with DERMS, the existing SCADA system (XA-21) for coordinating controls of DER and utility equipment, the existing DRMS for coordinating the programmatic life cycle and dispatch of DR assets, Advanced Metering Infrastructure (AMI) enhancements, and the various program enrollment systems for collecting DER asset data.

Additionally, Con Edison plans to utilize the in-progress GERL project to evaluate DERMS technologies utilizing software and computer hardware for analytics. GERL will allow Con Edison to gain a deeper

understanding of the operational value of the planned DERMS capabilities and provide the ability to train employees in a simulated environment. The lab will provide an opportunity to test and validate the cybersecurity of grid-edge resources integration to utility systems.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		4,645	5,605	7,585	8,785
Regulatory Asset					
Capital (Total)		26,947	30,783	27,200	66,047
Labor		2,634	5,234	6,254	18,574
M&S		250	1,250	350	3,750
Contract Svcs.		10,800	9,300	8,000	20,000
Other		6,149	7,045	6,715	13,874
Overheads		7,114	7,954	5,881	9,849

*The test year runs from 10/1/2023 to 9/30/2024. As a new initiative, IGMVO does not have historical spend. However, its incremental O&M request supports both ongoing O&M for products put into service under the prior phase of the Company's DERMS deployment, as well as anticipated execution O&M.

CECONY Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: IT OT Tower Sustainability	
Project/Program Manager: Eugene Chen	Project/Program Number (Level 1): 27728963
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 01/01/2026	Estimated Date in Service: 12/31/2028
2026-2029 Funding Request (\$000) Capital: \$13,671 O&M: \$1,600	
Work Description: Information Technology (IT) manages approximately 500 business applications, serving Electric, Gas, and Shared Services organizations. Keeping technology current (tech assets require constant maintenance) is a vital part of operational resilience as organizations weigh the cost of maintaining technology currency against the risk involved. Technology currency refers to the latest versions of servers, databases, desktop operating systems, and applications that meet technology standards, cyber requirements, vendor compliance and PSC mandates. This document describes the work and effort needed for 40 applications within the IT Business System Delivery (BSD) Operational Technology (OT) group which will be modernized and upgraded under this project; it is expected to take 3 years with about 13 applications per year being upgraded. As part of the Consolidated Edison, Inc. Technology Modernization effort, the IT/OT (Outage Management System (OMS), Control Centre, & Geographic Information System (GIS)) tower is considering 40 legacy applications for modernization and has set up this project: IT/OT Tower Sustainability. The objectives include: - Strengthen cyber security - updating the underline technology stack of applications to mitigate potential cyber security threats - Sustain capability compliance by rebuild and upgrade applications - Adopt and incorporate the latest technologies to maintain technical currency including addition of Artificial Intelligence to help increase productivity and streamline dataflow - Improving application performance Through this project, IT aims to: - Enhance critical public facing outage applications to better serve our customers - Consistently update the technology stack of applications to mitigate potential cyber security threats	

- Improve compatibility of existing Legacy applications to enable the eGIS OneMap vision
- Enhance intake process and application to align with Corporate requirements for technical review, cyber and architecture security, and one enterprise mindset.

These applications are crucial in achieving Consolidated Edison's OneMap vision which aims to consolidate all commodities including electric, gas and steam as well as all services areas including New York City, Westchester County, Orange and Rockland Counties. The OneMap mission aims to consolidate all of Consolidated Edison's offerings on to a singular facilities map, streamlining operational functionality across the board.

Through this project Consolidated Edison will be able to modernize some of its legacy application suite, thereby providing operational and business continuity. An additional benefit is future proofing the legacy applications, thereby reducing the cybersecurity risks in a rapidly evolving cyber threat landscape.

These applications under the IT/OT Tower are categorized in 3 buckets as follows:

- 30 OMS Applications which include:
 - The IT (Business Systems Delivery) BSD Area requiring the latest upgrades to meet Consolidated Edison security and technology standards.
 - Part of our Scope includes Web applications, Databases, Load Balancer, and other others servers and services. Critical Applications in includes: the public facing Outage Map, Public Service Commission applications (EORS API, EORS FTP, Customer Served, EOP 5023) and Muni Dashboard.
 - End-to-End Integration, QA, PCS and performance testing will be required to meet our Stringent Service Level Agreements.
- 9 Legacy GIS Mapping which include:
 - The Area Profile System (APS) which needs to be modernized with new security protocol, new functionality, and make it compatible with latest mapping platform (Utility Network, etc.)
 - Advanced Mapping System (AMS) which needs modernization for compatibility with eGIS OneMap to incorporate all GIS data from different commodities and assets across multiple service areas
 - Byers Map Viewer (Byers) which needs modernization for sustainability and cybersecurity upgrades
 - 5 MicroStation applications that were built using 20+ years old MicroStation software from Bentley which need to be customized to utilize the latest infrastructure, operating system, database, and the new mapping platform: eGIS
- 1 IT Business Intake Application:
 - CREATE (Corporate Request for Evaluation and Approval of Technology) currently aligns with the corporate instruction for technical review.
 - Build out processes which align with corporate instruction and include business solutions delivery requirements, the one enterprise mindset, and consideration of the entire Software Development Lifecycle (SDLC), creating a holistic application that meets IT and business needs during every step.

These 3 buckets cover 40 legacy applications across the OMS, GIS and IT teams, which is required for the user base to perform their operational and business functions.

As the technology landscape increasingly evolves, Consolidated Edison must undertake efforts to proactively modernize our applications. Conducting a thorough business and operational review of the aforementioned applications has highlighted their crucial role in maintaining continuity for Consolidated Edison's business and to allow for seamless customer service.

Justification Summary:

This program aims to ensure enterprise application standards by modernizing outdated technology. Having multiple platforms and outdated technology increases the costs of licenses, maintenance, and support. Moreover, outdated technology exposes us to more cyber security threats. Using software that is not up to date makes us less efficient and increases our support costs. These upgrades are necessary as vendors stop supporting the current operating systems, databases, and applications and introduce new versions that offer better security and functionality.

The main reasons for this effort are:

- Adopt Secure Coding practices which are essential to help develop robust and reliable software that in turn help with the following:
 - Prevent ransomware attacks which result in loss of service for our customers
 - Reduce cyber risk by avoiding non-supported technology
 - Protects the reputation of the organization by preventing data breaches and maintaining customer trust
 - Reduces the cost associated with fixing security issues post-deployment, as addressing vulnerabilities early in the development process is more cost-effective
 - Enhances the overall reliability and stability of the software, leading to fewer crashes and downtime
- Enhance operational efficiency by keeping applications updated
- Ensure continued operation of business critical applications to keep pace with broader enterprise applications
- Adoption of AI to enhance the efficiency and effectiveness of the Maps Site in the following ways:
 - **Improved Relevance:** AI algorithms can better understand user intent and context, providing more accurate and relevant search results
 - **Speed:** AI can process vast amounts of data quickly, delivering faster search results
 - **Image and Video Search:** AI can analyze and index images and videos, making it easier to search for visual content
 - **Predictive Search:** AI can predict what users are searching for as they type, providing suggestions and auto-completions to speed up the search process
 - **Personalization:** AI can tailor search results based on individual user preferences and past behavior, making the experience more personalized

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

2. Supplemental Information

Alternatives

We must take the essential steps of improving, upgrading, changing, and securing applications in this portfolio. Otherwise, our application portfolio will face more cyber threats and lose its much needed business critical functionality while increasing the expenses of support and/or maintenance over time. Recent examples of ransomware attacks on power and utility infrastructure include Norsk Hydro and SolarWinds which faced significant financial losses and more importantly, loss of service to customers.

Risk of No Action

Risk 1

Cyber Security Risk: Using outdated technologies exposes the systems to cyber security threats. Key applications rely on obsolete technology that needs separate support resources, technologies, and infrastructure and makes the systems more susceptible to cyber attacks. Moreover, security updates are no longer available, and vendor support expires after a certain time, increasing the cyber security risk on existing code if not migrated to a new standard.

Risk 2

Increased Cost: Higher additional support costs from hardware and software vendors. Keeping older versions eventually leads to higher support costs.

Risk 3

Reduced reliability of critical business applications. Software must be modernized to ensure seamless continued operation of current enterprise applications.

Risk 4

Breach of current legacy software can result in devastating losses which include, but are not limited to, unauthorized access to PII data, loss of service and, financial loss.

Non-Financial Benefits

There are several non-financial benefits of upgrading application technology. Upgrading technology helps to enhance operational efficiency, streamline, and consolidate various applications, and decrease technology obsolescence to reduce risks. It also helps to maintain the functionality of applications to improve operational performance, lower the risk of cyber security breaches, and prevent the loss of vendor/software support for outdated technologies. Upgrading technology also helps to prevent losing vendor/software support, reducing the reliability of critical business applications.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

2. Major financial benefits

- **Lower costs:** Upgrading technology helps to lower costs by minimizing the chance of cyber attacks and application breakdowns from outdated technology.

- **Reduced expenses:** Having multiple platforms and outdated technology increases the costs of licenses, maintenance, and support. Upgrading technology helps to reduce these expenses.
- **Decreased support costs:** Keeping older versions eventually leads to higher support costs. Upgrading technology helps to decrease these support costs.

3. Basis for estimate

As part of IT's Managed Service Provider role, Cognizant evaluates IT's application portfolio to determine where technology modernization is needed. IT works with Cognizant to develop a plan for this important effort. Based on IT's Enterprise Architecture roadmap, various capabilities were identified that need upgrades and modernizations, and these capabilities affect 50% of IT's application portfolio that requires upgrades. Each application was assigned an effort category, such as simple, medium, complex, very complex, and custom, based on the number of capabilities involved and the amount of work required for the upgrade, and each category has a corresponding rate, to calculate the estimate.

Consolidated Edison has estimated a total cost of \$15.3 M over a three-year period. Consolidated Edison's goal is to modernize about 13 applications per year.

- \$13.7 M for capital.
- \$1.6 M for O&M.

Project Risks and Mitigation Plan

Risk OMS – Business Project in flight may have cross impacts to our upgrades which can delay timelines. Mitigation: Assess portfolio and dependencies during project planning.

Technical Evaluation/ Analysis

N/A

Project Relationships (if applicable)

N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2026-2028 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		<u>\$300</u>	<u>\$600</u>	<u>\$700</u>	<u>\$880</u>
Regulatory Asset					
Capital (Total)		<u>\$4,112</u>	<u>\$4,232</u>	<u>\$5,327</u>	
Labor					
M&S					
Contract Services					
Other					
Overheads					

Information Technology/Testing Center of Excellence 2025-2029

1. Project / Program Summary

Type: Project ☒ Program ☐	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☒ Operationally Required ☒ Strategic	
Project/Program Title: IT System Testing COE	
Project/Program Manager: Pavithra Rajan	Project/Program Number (Level 1): 25524252
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 01/01/2026	Estimated Date In Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: 52,232.52 O&M: 1,417.39	
Work Description: Introduction The Testing Center Of Excellence (hereafter referred to as “TCoE”) is a consolidated and centralized governance model for application testing practices, intended to be implemented across an organization. Upcoming or in-flight major enterprise application initiatives require a centralized governance model for a common sustained/repeatable process to testing, requirement, defect management, and knowledge management. In addition, to expedite testing and improve processes the Testing COE can assist with the regulatory requirements geared to improve system readiness and storm restoration capabilities leading to better customer experience. This white paper outlines the key functions of the TCoE, which include centralized testing governance, process standardization, and modernization of tools to enhance efficiency and accelerate testing cycles. It also emphasizes the establishment of a dedicated resource pool, alignment with operational and regulatory requirements, and continuous optimization through automation and innovative tools. The goal is to improve speed to market, ensure cost efficiency, and foster a quality culture within the organization. Additionally, the TCoE provides comprehensive testing services, including centralized testing governance, process standardization, and modernization of tools to enhance efficiency and accelerate testing cycles Key Objectives The TCoE's work scope is guided by six strategic objectives that align with the company's vision and goals. - Expansion and Standardization: The TCoE will standardize testing tools, processes, and governance across OMS, WMS, and GIS, and integrate these with other critical systems and business units. - Enhanced Automation and AI Integration: The TCoE will implement AI-driven tools for defect management and automated test script generation, advancing automation across all critical systems.	

- **Cybersecurity Testing Initiatives:** The TCoE will launch a cybersecurity testing program for mission-critical applications, with a structured approach for assessment, transition, delivery, and optimization.
- **System Hardening and Performance Testing Optimization:** The TCoE will undertake testing projects described in the OMS Resiliency and Sustainability and OMS System Hardening and Modernization white papers.
- **End to End Testing:** the team will continue to conduct quarterly or semiannual stress tests for system readiness and reliability, as per the NYPSC End-to-End testing Regulatory Requirement.
- **Continuous Improvement and Collaboration:** The TCoE will integrate QA early in project lifecycles to foster collaboration and develop training programs to upskill QA teams.
- **Enhanced Monitoring and Reporting:** The TCoE will expand monitoring dashboards for real-time performance tracking and implement production defect dashboards for proactive issue management.

Next Steps (2026-2029)

The TCoE has a clear roadmap for the next four years, with ambitious and achievable targets. Some of its key projects and initiatives are:

- **Refinement:** The TCoE will continue refining end-to-end testing tools and protocols.
- **Standardization and Governance:** The TCoE will further standardize processes and expand governance to additional systems.
- **AI-Driven Solutions:** The TCoE will implement AI-driven solutions for defect management and test script automation.
- **Cybersecurity Initiative:** The TCoE will launch a cybersecurity testing initiative, focusing on regression testing for security patches in gold applications. The TCoE will follow a phased approach for assessment, transition, delivery, and optimization.
- **Testing Services for OMS suite of Systems :** The TCoE will execute testing for projects in the OMS suite, including but not limited to
 - Oracle NMS Platform Upgrade:
 - Operations Mobile App Enhancement:
 - SCADA Integration Modernization
 - OUAI Platform.
 - OMS Testing in Oracle Cloud:
 - GIS Integration Expansion:
 - Customer Call Integration Modernization:
 - Operational Storm Reporting Upgrade:
 - Enhanced Weather Impact Model
 - Align 35+ OUA integrations with product and test
 - Cloud-based Oracle Field Services (OFS) Platform:
 - Power BI Cloud Transition:
 - Outage Map Enhancements:
 - Call Out System Integration:

- **Collaboration and Continuous Improvement:** The TCoE will foster a collaborative environment, integrating QA into the development process, and regularly update testing processes to stay aligned with best practices and regulatory requirements.

O&M costs for this program include the following:

- Hardware maintenance
- Tool subscription renewals
- Vendor support

Justification Summary:

The implementation and expansion of TCOE within the organization will yield several significant benefits:

1. **Improve Quality and Achieve Zero Critical Defects:** Enhance product quality and aim for zero critical defects in production by adopting preventive measures and rigorous testing practices.
2. **Cost Reduction through Prevention and Appraisal:** Reduce the costs associated with defects by emphasizing defect prevention and thorough appraisal during testing phases.
3. **Foster Quality Culture and Awareness:** Promote a culture of quality and raise awareness across the organization through standardized processes and consistent best practices.
4. **Early QA Involvement standardization:** Involve the QA team from the initial requirements phase to ensure comprehensive understanding and thorough test planning.
5. **Clear Documentation by Business Analysts:** Ensure Business Analysts provide clear and detailed documentation of requirements to facilitate accurate and effective testing.
6. **Status Reports:** Regularly publish status reports to provide transparency and track progress.
7. **Develop Test Plans and Strategies:** Formulate detailed test plans, strategies, and define various types of testing to be performed.
8. **Collaborative QA Team:** Foster close and collaborative working relationships between the QA team and project stakeholders to ensure alignment and shared objectives.
9. **Enhanced Test Coverage and Automation:** Improve test coverage through extensive and automated testing to increase efficiency and accuracy.
10. **Cloud, Mobile, and AI Integration:** Integrate cloud testing for scalability, mobile lab setups for robust mobile application testing, and generative AI for advanced analytics and test optimization.
11. **Robust Cybersecurity Measures:** Strengthen cybersecurity measures to protect organizational assets, applications, and customer data. This includes:

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

A robust OMS platform continues to be a key input to the Company's OMS Storm Hardening initiatives. Continued investments in the OMS platform will ensure that all critical systems remain operational under peak system usage. This is essential during storms of ever-increasing intensity driven by climate change.

While this project does not have a direct impact on the NYS Climate Leadership and Community Protection Act, ensuring that critical platforms such as OMS are well tested and follow established standards will help support the growth of these platforms and support the Company's response more effectively to weather emergencies thereby enabling faster restoration to impacted communities, which includes disadvantaged communities.

This project does not directly address Greenhouse Gas Emissions, however, the testing of OMS system upgrades will ensure that functionality and key features such as managing and tracking Distributed Energy Resources (DER's), are well tested.

Investments in the key areas mentioned above will also allow the Company to continue to meet and exceed its end-to-end testing requirements for the suite of OMS systems. This requirement is included in the Company's Emergency Response Plan (ERP).

2. Supplemental Information

Alternatives

Alternative 1: Decentralized Testing Model

Description: In a decentralized testing model, each application team is responsible for its own testing processes, tools, and personnel. There is no centralized oversight or standardized industry best practices/processes across the organization.

Reason for Rejection:

1. **Inconsistency:** Lack of standardized processes can lead to inconsistent testing practices, resulting in varied quality levels across applications.
2. **Higher Costs:** Individual teams procuring and maintaining their own tools and resources can lead to higher overall costs.
3. **Limited Knowledge Sharing:** Without a centralized knowledge base, best practices and learnings are not shared effectively, leading to duplicated efforts and inefficiencies.

Alternative 2: Outsourcing Testing Services

Description: Outsource all testing activities to an external service provider. The service provider would be responsible for all aspects and types of testing, including process implementation, resource management, tool selection, and the delivery of the testing.

Reason for Rejection:

1. **High Initial Costs:** Outsourcing can involve significant initial costs for onboarding and knowledge transfer, which can strain the budget and impact financial planning.
2. **Dependency on Vendor:** Heavy reliance on an external vendor may lead to challenges in managing quality and responsiveness, as control over critical testing activities shifts away from internal teams.
3. **Lack of Internal Knowledge:** Outsourcing can result in a loss of internal testing expertise and reduced control over testing processes, hindering the organization's ability to quickly adapt to changes or address issues.
4. **Leverage Existing Full-Time Employee Talent:** Full-time employees possess valuable knowledge and expertise. Leveraging their skills ensures that the organization maximizes the potential of its current workforce.
5. **Reputation and Economic Contribution:** Our company enjoys a strong reputation among employees and customers. By retaining a major portion of testing activities in-house, we contribute to job creation and economic growth within New York State, supporting local employment and community development.
6. **Offshore Resource Availability:** Offshore resources have limited availability and will not be accessible until the end of Con Edison's US business hours. This can delay the analysis and support of testing activities in the event of production defects and hinder continuous collaboration. This limitation may lead to business dissatisfaction and negatively impact customer experience.

Risk of No Action

Risk 1: Increased Defects in Production

Description: Without implementing TCOE, the organization risks an increase in defects reaching production, which can lead to customer dissatisfaction and potential revenue loss.

Mitigation Plan:

1. **Implement Partial Standardization:** Begin standardizing key testing processes and tools within critical application areas.
2. **Enhanced Monitoring:** Increase monitoring and quality checks in production to quickly identify and address defects.

Risk 2: Higher Operational Costs

Description: Failure to adopt a centralized testing model may result in higher operational costs due to inefficiencies and duplicated efforts across different application teams.

Mitigation Plan:

1. **Cost Analysis:** Conduct a detailed cost analysis to identify the areas with the highest inefficiencies and implement targeted improvements.
2. **Gradual Integration:** Gradually integrate testing processes and tools across teams to achieve economies of scale and reduce overall costs.

Risk 3: Lack of Expansion and Standardization

Description: Not expanding the TCoE within the organization to other applications poses the risk of higher costs, siloed testing practices, and a lack of adherence to standardized tools. Additionally, failing to enhance automation testing and performance testing processes can decrease confidence among customers due to potential defect leakage to production systems. Continuous cyber security threats also present a significant risk that TCoE will address by performing regression testing on critical security patches and other cyber related changes that may impact gold applications.

Mitigation Plan:

1. **Strategic Expansion:** Plan a phased expansion of TCOE to cover all critical applications in the OMS suite, GIS,WMS, and Cyber Security patch regression testing for Gold apps.. This also includes implementation of AI for increased test automation.
2. **Functional Automation and Performance Testing:** Invest in automation tools and performance testing frameworks to enhance testing efficiency and reliability, which will ensure faster and more comprehensive discovery of defects. This will lead to improved system optimization and customer experience.
3. **Cyber Security Integration:** Implement TCoE practices specifically for cyber security to ensure ongoing stability of the Gold application portfolio in light of security patches.
4. **Standardization Across Applications:** Develop and enforce standardized testing processes, tools, and best practices across applications to ensure consistency and enhance overall quality.

The implementation and expansion of TCoE across the organization are crucial to mitigating these risks and ensuring the organization's testing processes are efficient, cost-effective, and aligned with industry best practices.

Non-Financial Benefits

The Testing Center of Excellence (TCOE) offers several non-financial benefits that significantly enhance Con Edison's operations and service delivery.

- **Safety & Resilience:** Standardized testing for enhanced system safety and infrastructure resilience.
- **Efficiency & Satisfaction:** Advanced methodologies and automation for operational efficiency and will improve time to market. This will be accomplished by implementing increased automation and AI driven test practices.
- **Collaboration & Communication:** Improved interdepartmental workflows and communication through collaborative culture.
- **Regulatory Compliance:** Improvements to regulatory required end-to-end testing of OMS systems will ensure that critical OMS platforms can stand up to volume introduced by storms of ever increasing intensity driven by climate change.

These non-financial benefits contribute to a more robust, efficient, and customer-focused organization, supporting Con Ed's long-term strategic goals and regulatory commitments.

Summary of Financial Benefits and Costs (attach backup)

While exact numbers cannot be established at this time, these are the financial benefits and costs summary.

Financial Benefits of Software Testing

- **AI Automation and Skilled SMEs:** Utilizing AI automation and skilled Subject Matter Experts (SMEs) for troubleshooting instead of manual human effort with different skill sets will reduce testing cycle time enabling faster timelines to release to market.
- **Process Improvements and Reduced Overhead:** The benefits will come from testing process improvements and reduced overhead through the reduction of IT outage hours due to reduced defect leakage to production, and reduction in future project costs by streamlining current IT environments.
- **Lower Hardware and Software Support Costs:** There is potential for lower hardware and software support costs through the consolidation systems and streamlining testing infrastructure.

Basis for Estimate:

The costs for this program include employee labor, staff augmentees, System Integrator, tools/licenses, infrastructure, and vendor support for end-to-end testing.

Project Risks and Mitigation Plan

Risk	Mitigation
Major storm events and/or corporate emergencies could lead to project resource shortages and delay TCoE roadmap	Build contingency into timeline/budget, use dedicated resources where possible
Inadequate budgetary estimates to implement TCoE roadmap	Build contingency into timeline /budget, contain scope, develop project plan with refined budgetary estimates
Project resource skills sets difficult to attain	Source externally where needed
Designated resources do not have adequate training	Upskill resources, OJT, staff augmentation to fill critical knowledge gaps

Technical Evaluation / Analysis

Internal assessments and surveys were conducted across the IT portfolio to understand current state testing practices, tools in use, gap assessment and QA challenges. Knowledge management and retention in light of increased attrition of key resources is also critically important to ensure continuity and continuous improvement of testing practices.

We engaged with the Infosys vendor for best practices in test automation, AI, and an overall shift in from traditional tools to cutting edge technologies.

A review of Cyber best practices indicates a need for a cyber-centric approach to regression testing which will initially focus on the Company's gold application portfolio.

•

Project Relationships (if applicable)

This project has interdependencies on the OMS IT System Hardening and Modernization and OMS Resiliency and Sustainability projects. The TCoE project will perform testing services for these projects.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	<u>\$300</u>	\$335.7	\$742.3	\$729.4	
Regulatory Asset					
Capital (Total)	\$4,757	\$20,264	\$16,353	\$16,865	
Labor		\$4,880	\$5,516	\$6,534	
M&S					
Contract Svcs.					
Other		\$15,384	\$10,837	\$10,331	
Overheads					

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: OMS System Hardening and Modernization	
Project/Program Manager: Souvik Roy	Project/Program Number (Level 1): 23317064
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date in Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: \$57,817 O&M: \$7,397	
Work Description: Operational storm reporting for the Company is currently using the Oracle Utility Analytics (OUA) platform version 2.7, soon to upgrade to version 2.8, which will no longer be supported by Oracle by Q2 2027. The Company needs to upgrade to OUA version 2.9 by 2026 so that OUA is on the latest supported version for business continuity and data integrity. This upgrade also includes features that will be beneficial to prevent data integrity issues and to improve load performance for the company's storm reporting as OUA has an integration with the Network Management System (NMS). The Company had built an enhanced weather impact planning and forecasting model application. The Company will enhance the model for accuracy by ingesting additional data streams such as foliage data, air temperatures, wind speeds, precipitation, and other weather variables in the service territory, using multiple weather stations, including Spring Valley, Middletown, and stations part of the "NYC Micronet" project. The enhanced weather impact planning and forecasting model will improve predictions of impact of storms on The Company's equipment. The Company, in turn, can enhance prediction and allocation of crews to prevent and fix damage on The Company's equipment due to weather. The weather impact planning and forecasting model will help strengthen The Company's commitment to reliable service to customers. As part of the upgrade project, the integrated upstream Network Management System (NMS) is making changes to utilize the product standard call clues for reporting outage information. During this phase of the project, it was determined that several applications downstream of OUA would still require the traditional trouble type instead of the call clues. For this upcoming work in 2027, The Company will be making changes to 35+ integrations to leverage the product standard call clues instead of the trouble code. This will allow applications to align with the product standard implemented in both OUA and NMS. The Outage Management System (OMS) family of applications includes Oracle Network Management System (NMS), Oracle Utility Applications (OUA), Obvient Focal Point (Obvient), Outage Map, Muni Portal, and several storm applications. These applications exchange data with each other several times a day to provide a complete picture of the Company's electrical operation performance during weather	

events or during blue sky day. The Company will also send the customer outage and restoration performance data to different regulatory agencies including the Public Service Commission (PSC). The Company will implement an enterprise job scheduling application to bring synergy in the interaction between OMS family of applications.

The Company will also continue to invest in its newly implemented cloud-based Oracle Field Services (OFS) platform. This platform provides a streamlined process for onboarding mutual aid crews leading up to and during storm events. The platform includes integrations to the Outage Management System for seamless creation of these crews in the OMS. The OFS product also replaced the homegrown Site Safety Management System, providing a more robust and scalable solution to meet the requirements of this critical storm function. In the upcoming rate period, The Company will make additional investments into OFS to further enhance mutual aid onboarding and site safety workflows.

The Company will supplement its current on-premises reporting dashboards with additional reporting on the cloud starting in 2026. Power BI will become instrumental in providing additional reporting on a cloud platform which will ensure continuity with critical data to our customers and stakeholders. Changes in the technology used by The Company will ensure alignment with other utilities and allow for consistency with industry needs. This will allow for a more robust architecture and scalability, which is essential for business continuity especially during storm activity.

The Company will be making enhancements to the Outage Map platform. These enhancements will include features that are consistent with industry needs. Enhancements will include but not limited to integrating Outage Map with newly enhanced Municipal Outage Management dashboards, new Outage Map vendor. Enhanced Outage Map will provide reliable and timely updates of outages in The Company's service territory to customers.

The Company mobilizes crews during weather events and to assess/address damages post storm event. A centralized and sophisticated call out system is extremely important to inform all the required personnel for the event. The Company will enhance its call out system and integrate with OMS.

The company will new enhancements to newly built Muni Portal. Enhancements will include but not limited to several integration to the company's Outage management system, Outage Map. Several users experience enhancements including mobility enhancements will be considered.

The Company plans to utilize a System Integrator to manage and coordinate the above mentioned workstreams. This approach has been used for previous OMS projects and ensures that best practice project management and technical expertise are followed and utilized. In addition, several of the workstreams described above are interdependent and require close coordination and management.

The above program will be completed through multiple projects in phases. As each phase put in-service, the company will need to incur O&M costs to maintain in-service components along with the new capital improvements.

Justification Summary:

If the company decided to forego any of the changes outlined in this document, the outlined systems would not stay current with the latest technology, risking system stability, commitment to quality, and operational preparedness. It is essential that the company provide continuous maintenance to the systems to improve the customer experience and ensure we have the tools needed for an improved response during significant weather events.

Implementation of the Oracle Field Services (OFS) product is essential to ensure stakeholders and crews have the latest information required for business continuity.

It would be a risk to proceed without the weather impact planning and forecasting model application. This application would allow the company to strengthen the assessment on damaged equipment and better crew allocation, which would save the company money in the long term.

Ensuring we have scalable systems, and a robust architecture is critical to business continuity especially during large scale storms, which is why the company is looking to supplement the current reporting with reports on a cloud platform. This will also provide a cost-efficient solution in the long term.

As a company, we must ensure we are aligned with the product standard. Since changes have been made on NMS to use the trouble type to meet the product standard, it is essential we do the same on our downstream applications including OUA and dependent integrations.

Enhanced job scheduling will help keep synergy of data within OMS family of systems. Without this providing timely and accurate data to internal stakeholders, crew, regulatory officials, and the public is impossible.

Company's outage map is the main face to the public of company's performance during outage. Without an enhanced and working outage map, the company will not be able to deliver critical outage/restoration information to the public timely and accurately, costing reputational damage. Failure to update Outage map during a weather event in a timely manner will potentially result in substantial penalties from regulatory authorities.

Continued modernization of technically obsolete platforms will allow the Company to take advantage of modern tools and platforms that leverage the newest technologies, providing new capabilities and the ability to grow these platforms into the future.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

A robust OMS platform continues to be a key input to the Company's OMS Storm Hardening initiatives. Continued investments in the OMS platform will ensure all critical systems remain operational under peak system usage. This is essential during storms of ever-increasing intensity driven by climate change.

While this project does not have a direct impact on the NYS Climate Leadership and Community Protection Act, a robust OMS that is enhanced to include the latest standards and features utilized in the industry will allow the Company to respond more effectively to weather emergencies thereby enabling faster restoration to impacted communities, which includes disadvantaged communities.

This project does not directly address Greenhouse Gas Emissions; however, the upgraded OMS system will allow for enhanced capabilities around managing and tracking Distributed Energy Resources (DER's), their impact on the electric distribution system and safe, effective restoration during adverse weather events.

Investments in the key areas mentioned above will also allow the Company to continue to meet and exceed its end-to-end testing requirements for the suite of OMS systems. This requirement is included in the Company's Emergency Response Plan (ERP).

2. Supplemental Information

Alternatives

The Company can choose to forego investments in its OMS platform and related systems. However, this puts the Company at significant risk of not being able to achieve its stability, reliability and resiliency goals outlined in this White Paper. If the Company is not able to stay current on the OMS product version, this puts the system at risk of being exposed to existing system issues that have since been remediated in subsequent releases. OUA is the standardized Outage Management reporting Datawarehouse platform. If the company fails to upgrade OUA to the latest version supported by product vendor, it will be vulnerable to run a broken Outage Reporting application costing breakage of data services to internal dashboards for decision making, supplying outage/restoration/crew information to downstream OMS family of applications including Outage Map and the regulatory bodies like PSC and the New York City. This would add additional overhead costs as the company would be supporting an outdated version of the product, adding to the cost of overall maintenance.

Lack of investment in this space will impact on the Company's continued commitment to a robust annual 90% customer impact end-to-end test. The OMS end-to-end testing is a Key Risk Indicator (KRI) for the Company and is also written into the Company's Emergency Response Plan (ERP). Lack of investment in the OMS platforms will significantly impact on the Company's ability to execute this testing. This testing helps the Company ensure that its OMS suite of systems can withstand the impacts of major storm events of ever-increasing intensity.

Risk of No Action

See the "Alternatives" section above.

Non-Financial Benefits

- Upgraded to the latest supported version of OUA.
- Minimizes risk of vulnerability
- Compatibility with upstream system (NMS)
- Additional features that would be beneficial to prevent data integrity issues.
- Additional features that would be beneficial to improve load performance for the company's storm reporting.
- Alignment with the Network Management System product on the use of call clues
- Consistency with upstream integrations
- Removes the risk that comes with customization.
- Moving to the cloud will ensure more robust architecture, scalability, and business continuity.

Summary of Financial Benefits and Costs (attach backup)

The exact financial benefits of this project cannot be quantified at this time. The benefits will be derived from process improvements and reduced overhead through the reduction of IT outage hours due to system stability improvements, improved incident response, and reduction in future project cost by streamlining current IT environments (simplifying existing environments and leveraging reusable services), implementing better testing strategies (automating testing). There is also a potential for lower hardware and software support costs through the consolidation of multiple duplicate systems.

The basis for these estimates includes historical project costs for OMS upgrades, historical purchases, upgrade costs for OMS platforms, as well as vendor quotes for system upgrades. The estimates also include internal, and contractor labor associated with these efforts.

Project Risks and Mitigation Plan

N/A

Technical Evaluation / Analysis

The Company is committed to developing best practice outage restoration processes and information systems. These processes and systems help facilitate the correct assessment of customer outages, effective restoration planning, and timely return of service to customers. The Company continues to make significant improvements in its ability to quickly understand the number of customers impacted by power disturbances and provide customers with timely information on restoration times. These accomplishments were achieved through a series of process improvements and enhancements to the OMS suite of applications.

The Oracle product continues to be one of the leading outage management software suites and is utilized worldwide by many large utilities. Continued investments in this product space will expand the Company's ability to respond to storm events of ever-increasing intensity. These investments will also help to ensure that the Company can continue to meet annual end-to-end testing requirements for the OMS suite of systems, which is a major enterprise risk and key risk indicator (KRI) for the Company.

Project Relationships (if applicable)

This project has dependencies on the OMS Phase IV and IT System Testing COE projects. These projects in total comprise the full scope of the OMS program, though the scope of each respective project differs.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						

Capital	\$7,933,328.07	\$9,619,558.48	\$16,073,224.13	\$4,709,039.93		\$3,010,000.02

2025-2029 Request:

Total Request by Year (in 000s):

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		\$1,895	\$1,945	\$3,557	\$1,445
Regulatory Asset					
Capital (Total)	\$3,136	\$24,929	\$19,067	\$13,821	
Labor		\$3,161	\$3,747	\$4,688	
M&S					
Contract Svcs.		\$20,800	\$14,981	\$8,977	
Other		\$968	\$339	\$156	
Overheads					

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: OMS Resiliency and Sustainability	
Project/Program Manager: Eric Benezra	Project/Program Number (Level 1): 22885571
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 01/01/2026	Estimated Date In Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: \$43,646.8 O&M: \$4,120	
Work Description: The Outage Management System (OMS) Resiliency and Sustainability Project will invest in upgrades and enhancements to OMS systems used by the Distribution Control center and other operating groups to respond to electric outages . First, the Company will undertake an upgrade to current version of the Oracle Network Management System (NMS), our Outage Management System. . . Staying current with the latest version of the OMS software allows the Company to take advantage of critical fixes/enhancements and stay ahead of any vulnerabilities. Oracle’s upgrade will include enhancements enabling simpler and system use by operators to analyze customer outages, assign/dispatch crews and create restoration plans. Oracle also continues to implement key enhancements to the product that are priorities for the Company including, but not limited to, Distributed Energy Resource (DER) integration, cloud capabilities, and enhanced mobile offerings. Second, the Company will upgrade the Operations Mobile App (OMA), which is Oracle’s mobile offering and a component of the OMS application suite. New capabilities will be enabled which will allow for field crews to update job details in the OMS from the field. These include Estimated Time of Restoration (ETR) updates, crew status updates, job details, and job notes. These upgrades will provide for a more fluid processes, allowing field workers to provide updates, instead of a manual system where the field calls the control centers and the control centers update the system. Third, we will modernize SCADA integration to the OMS by implementing the Oracle Live Energy Connect (LEC) operational middleware, replacing the legacy integration which utilizes a data historian. The LEC platform is designed for operational technology (OT) based integrations and will allow for more timely and accurate SCADA operations from the field to reach the OMS. This provides operators a more timely and accurate picture of what is happening in the field from a distribution automation perspective, enabling a more seamless analysis of outage impacts and restoration planning.	

Fourth, we will invest in the Oracle Utility Analytics Insights (OUAI) cloud-based platform. This includes additional enhancements on recently implemented ETR analytics/machine learning capabilities and storm prediction modeling. The platform's license renewal will also be executed during this rate period (2028).

The Company will also pursue resiliency upgrades to its OMS by standing up the platform in Oracle Cloud. The initial investment will test capabilities of the OMS platform in the cloud by assessing its functionality and performance. Subsequently, the Company will identify key OMS integrations that are critical for operation of the OMS and work internally to architect these in a secure and resilient manner with the end goal of using this OMS cloud platform as a tertiary Disaster Recovery environment.

The implementation of the new GIS integration to the OMS will provide new opportunities to expand on existing capabilities. Planned and proposed enhancements include adding additional data points into the OMS for DERMS related integrations, new map layers from external and internal systems, and new data points related to expanded GIS capabilities which are targeted to go live by 2028.

The customer call integration to the OMS will be modernized to move off of legacy mainframe based technologies which are ending their internal and external support lifecycles. These integrations will be modernized by moving to a scalable and resilient platform which has already been implemented and proven out for other enterprise applications in Con Edison. The target technology to be used is the Azure Service Bus platform.

New and modern application monitoring tools (such as Grafana or AppDynamics) will be implemented for the OMS systems to enhance the Company's ability to detect issues and alert key support teams potentially resulting in faster response time to issues. This enhanced monitoring posture will allow the Company to ensure that its critical OMS systems are secure and healthy at all times.

The Company plans to utilize a System Integrator to manage and coordinate the above mentioned workstreams. This approach has been used for previous OMS projects and ensures that best practice project management and technical expertise are followed and utilized. In addition, several of the workstreams described above are interdependent and require close coordination and management.

Justification Summary:

Continued investments in the Outage Management System (OMS) platforms will help the Company in storms. The new damage assessment mobile app will enable new capability for field crews, improve data sharing capabilities from the field, by allowing additional data that is not possible today, and allow OMS operators to improve their response to significant weather events.

New platforms, such as LEC, and enhancements to the customer call processing integration layer, represent a shift in the Company's ability to scale IT platforms that support event response and provide more robust tools to manage the storm restoration process.

Implementation of new system monitoring platforms, utilizing industry standard tools, will allow the Company to enhance its monitoring posture and ensure that critical OMS systems remain healthy and perform to their baseline standard.

Continued modernization of technically obsolete platforms will allow the Company to take advantage of modern tools and platforms that leverage the newest technologies, providing new capabilities and the ability to grow these platforms into the future.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

A robust OMS platform continues to be a key input to the Company's OMS Storm Hardening initiatives. Continued investments in the OMS platform will allow critical systems to remain operational under peak system usage, which is essential during storms.

2. Supplemental Information

Alternatives

The Company can choose to forego investments into its OMS platform and related systems. However, this puts the Company at risk of not being able to assist customers during storms. If the Company is not able to stay current on the OMS product version, this puts the system at risk of being exposed to existing system issues that have since been remediated in subsequent releases.

The Company's Emergency Response Plan (ERP) requires an OMS 90% customer impact test annually before June 1st. If the projects outlined in this white paper are unfunded, it will significantly impact the Company's ability to continue to meet this requirement.

Risk of No Action

Please see "Alternatives" section which outlines risks of no action.

Non-Financial Benefits

A stable, reliable, and resilient OMS system is a key input to the Company's Storm response. Staying current on the OMS software and continued investment in hardening the OMS platforms (which includes continued expansion into cloud-based solutions) will allow the Company to support storm events.

Continued investments into the outage management suite of systems will also position the Company to adequately perform the regulatory required OMS 90% customer impact end-to-end testing on an annual basis. An IT portfolio with increasing complexity coupled with storm events of ever-increasing intensity requires investment into hardening the end-to-end suite of systems in this space to ensure that the systems which are most critical for storm response can support a significant customer outage.

Summary of Financial Benefits and Costs (attach backup)

The exact financial benefits of this project cannot be quantified at this time. The benefits will be derived from process improvements and reduced overhead through the reduction of IT outage hours due to system stability improvements, improved incident response, and reduction in future project cost by streamlining current IT environments (simplifying existing environments and leveraging reusable services), implementing better testing strategies (automating testing). There is also a potential for lower hardware and software support costs through the consolidation of multiple duplicate systems.

The basis for these estimates includes historical project costs for OMS upgrades, historical purchases, upgrade costs for OMS platforms, as well as vendor quotes for system upgrades. The estimates also include internal and contractor labor associated with these efforts.

Project Risks and Mitigation Plan

N/A

Technical Evaluation / Analysis

The Oracle product continues to be one of the leading outage management software suites and is utilized worldwide by many large utilities. Continued investments in this product space will expand the Company's ability to respond to storm events of ever-increasing intensity. These investments will also help to ensure that the Company can continue to meet annual end-to-end testing requirements for the OMS suite of systems, which is a major enterprise risk and key risk indicator (KRI) for the Company.

Project Relationships (if applicable)

This project has dependencies on the OMS IT System Hardening and IT System Testing COE projects. These projects in total comprise the full scope of the OMS program, though the scope of each respective project differs.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M					\$200.0	
Regulatory Asset						
Capital		\$3,292.7	\$5,004.3	\$10,712.7		\$11,226.2

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		\$733.0	\$733.0	\$1,327.0	\$1,327.0
Regulatory Asset					
Capital (Total)	\$4,013.0	\$13,420.6	\$13,247.8	\$12,965.4	
Labor		\$6,096.4	\$6,593.1	\$7,388.4	
M&S					
Contract Svcs.		\$6,489.6	\$6,458.4	\$5,413.2	
Other		\$834.6	\$196.3	\$163.8	
Overheads					

Customer Energy Solutions 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: REV-Grid Modernization (DSP)	
Project/Program Manager: Nickesha Carrol	Project/Program Number (Level 1): 21151526
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 2017	Estimated Date In Service: Ongoing
2025-2029 Funding Request (\$000) Capital: \$288,450 O&M: \$25,541	
Work Description: Con Edison ("the Company") is investing in the design and operation of the Distributed System Platform ("DSP"). Our DSP enables functionality in key areas of the electric system ("grid"), such as integrated planning, distributed energy resource ("DER") integration, grid operations, and grid services, such as market services and relationship management for customers. The DSP is a foundational driver for longer-term electrification and decarbonization goals, requiring a modern, optimized grid that not only enables bi-directional energy flow and manages the intermittency of load and supply, but also enables renewable technologies. Additionally, a core tenet of the DSP is the increase of resiliency in step with the Company's Climate Change Vulnerability Study, while maintaining the safety and reliability standards expected by our customers. DSP functionality can be categorized in three key areas (discussed below): DER integration, information sharing and market services. These functions and services address interconnection issues, increase hosting capacity and reduce curtailments, optimize grid edge operations, and create value for both DER and customers at the grid edge. Con Edison currently operates and maintains an Interconnection Online Application Portal ("IOAP") and Hosting Capacity Maps for data sharing. The Company also manages a Demand Response Management System ("DRMS") to manage aggregators, aggregations, and Demand Response ("DR") programs that provide system relief during reliability events. These investments provide the foundation for the DSP to incorporate DERs into the existing electric grid and demonstrate the Company's commitment to long term planning processes for grid modernization and DER deployment. However, incremental investment in these areas is needed to fully integrate the DER's value in the existing grid while creating the operational flexibility and resilience necessary to realize the Climate Leadership and Community Protection Act ("CLCPA") vision. Additionally, investments will drive outcomes in the following categories: integrated planning, DER integration, grid modernization, market services, and managing customer relationships.	

1) DER Integration

Interconnection Online Application Portal (IOAP)

Con Edison maintains an IOAP to facilitate timely DER interconnection processes.¹ The IOAP uses PowerClerk as the customer facing tool, as well as enhancements to the internal Con Edison interconnection case management tool, the Customer Project Management System ("CPMS"). The IOAP provides granularity and transparency to the customer during the Standardized Interconnection Requirements ("SIR") process and automates many of the screens, data exchanges and processing steps for greater customer efficiency. Additional investments in the IOAP during the next rate period will allow the Company to improve the customer experience and create additional customer efficiencies through developing automation, while supporting continued compliance with the evolving SIR process. Enhancements are focused on: administrative updates associated with the SIR, shortening timelines associated with document review, adding screening processes, facilitating engineering studies and program support. The Company will also continue to link and refine data sets across various internal systems. These activities are essential for conducting hosting capacity and grid analysis, which assists the utility in understanding current system dynamics and enables more accurate forecasting and planning for necessary grid enhancements in areas of growing DER penetration.

2) Grid Modernization

Modernization Network Protector ("NWP") Relays

Most NWPs are equipped with a non-communicating microprocessor relay ("MPR"). Non-communicating MPRs are designed to identify when a reverse power flow condition exists, such as when a fault occurs. Such instances cause the associated NWP to automatically trip, as designed, to isolate and deenergize the faulted feeder. When an NWP does not trip, the feeder remains energized, a condition known as alive-on-backfeed ("ABF"). Depending on system conditions, a feeder can remain ABF anywhere from a few cycles to hours. Troubleshooting ABF conditions delays feeder processing and poses safety concerns for customers, utility equipment, and the Company's field workers. For example, ABF conditions that follow a single line-to-ground fault can cause the voltage on the unfaulted phases to increase by as much as 73 percent. The Company's internal analysis has shown that there is a correlation between this rise in voltage and faults on the unfaulted phases, known as second faults.

The Company has been modernizing NWP relays since 2017, by providing NWP the intelligence to distinguish between distributed generation ("DG") backfeed and a fault current. As DER penetration increases, the risk to worker safety and equipment damage due to backfeed increases, and more granular distribution control becomes a priority. By modernizing the NWP relays in prioritized areas (e.g., where DER penetration is greatest or the system is most constrained) and in a pre-emptive manner, the Company is maintaining the system reliability and resiliency while integrating more DER into the electric system. This capability increases the Company's ability to accommodate cleaner generation and helps eliminate project-specific relay upgrades for DG customers, one of the more common interconnection high-cost elements, in areas where this functionality is present.

In addition to the relaying upgrades, the Company has prioritized certain locations for SCADA ("Supervisory Control and Data Acquisition") enabled communications. These provide control centers the ability to remotely monitor and operate the NWPs, allowing more dynamic ability to load and de-load specific feeders, and remote operation and control to eliminate ABF conditions where a NWP

failed to open, thereby effecting the efficiency of the local network.

To date, the Company has replaced 5,674 relays with 2,581 of these equipped with SCADA capability out of approximately 27,000 NWP in the secondary grid.

The Company plans to continue this program to address each location that is or becomes DG constrained as well as all locations with persistent ABF issues.

Smart Grid Optimization (Conservation Voltage Optimization)

Voltage data obtained from Advanced Metering Infrastructure (“AMI”) plays a crucial role in enhancing the efficiency of the electric system. By analyzing this data, it allows the Company to optimize voltage across the electric system thereby reducing energy losses. Conservation Voltage Optimization (“CVO”) is the adjustment of area substation supply voltages to a lower value while providing adequate voltage levels for all customers. CVO allows the Company to better understand load patterns and demands. This information allows for effective load balancing and management at the end-use customers, resulting in energy savings. The primary purpose of CVO is to reduce energy costs and environmental impacts while continuing to maintain acceptable voltage at all points along the distribution feeder under all loading conditions. Reduced environmental impacts include energy costs savings due to a reduction in Locational Based Market Price (LBMP), as well as greenhouse gas emission avoidance. Con Edison is continuing CVO efforts as part of the Smart Grid Optimization program.

In 2026-2028, the CVO efforts will be two-fold; (1) to maintain the energy savings achieved and (2) to develop a 4kV automated voltage schedule for our unit substations using AMI voltage and SCADA data.

The Company will develop a 4kV automated voltage schedule for 217-unit substations. Unit substations will be remotely controlled by substation taps adjustments. Currently, all unit substations provide three fixed steps to control voltage and lack the capability to automatically control voltage based on system load.

To realize further savings, the number of allowable CVO reduction steps needs to increase. Unit substations can be controlled using an analog set point that allows SCADA system to send data points to the controllers to change substation taps using the present load profile. This approach eliminates the previously used restrictive three-step process and allows for more optimal voltage limits for 4kV customers, ultimately leading to greater energy savings. Due to this change, reinforcement of the grid will be required to support an increase in CVO on the 4kV grid which would result in further energy savings. Investments in these areas will allow the requisite equipment and system upgrades needed to perform these optimized voltage operations.

3) Market Services

Demand Management Tracking System (“DMTS”)

The DMTS provides the Company with the necessary technology infrastructure to track and manage the performance of the Company’s Customer Clean Energy Program’s (“CCEP”) portfolio and streamline the payment of incentives to customers participating in energy efficiency and building

¹ www.coned.com/dg

electrification programs. Since 2020, the Company has completed integration of a number of new programs into DMTS (e.g., Clean Heat, Multi-Family (MF) Low and Moderate Income), integrated the Demand Response Management System (“DRMS”) into its approval and payment process (see below), provided energy savings calculations, and created tools for participating contractors to estimate the financial support they can receive for energy efficiency upgrades prior to submitting project applications. Additional investments will be required in the DMTS to support program expansion functionality and market development as the Company launches new programs, offers new energy efficiency or building electrification measures, and provides new kinds of program incentive structures to promote greater market engagement and customer participation. Investments will expand customer participation and improve opportunities for energy savings and demand reduction across existing and future programs. This includes enhancing incentive estimation tools and decreasing the time from application submission to project payment.

In addition, investment will be needed to incorporate cutting-edge technology to automate processes within our Demand Management Tracking System. Automation will enable us to respond swiftly to customer requests as well as streamlining and enhancing our processes. Benefits of incorporating automation to our system include:

- Increased efficiency: By automating routine tasks, the system will enable us to perform strategic activities, such as identifying trends and optimizing our operations.
- Better responsiveness: Automations will support swiftly responding to customer requests.
- Maintain data integrity: Collect and analyze data and identify patterns and trends that might be difficult to detect manually.

Demand Response Management System (“DRMS”)

Demand Response (DR) is a strategic approach utilized to manage electricity demand, particularly during periods of high usage, such as peak summer days. DR effectively lowers network peaks and alleviates operational contingencies.

DRMS supports the management of enrollment, event initiation, performance monitoring, and settlement of the Company’s DR programs. This system enables Con Edison to efficiently interact with customers enrolled in DR programs and manage peak demand.

The DRMS is the key operating tool used to support a portfolio of DR programs, which have substantially grown 200% in customer enrollment from 2022 to 2024 within the DR and Non- Wires programs that DRMS supports. As these programs grow in number and complexity, they will require enhancements as well as the flexibility to adapt to changes in program rules. Enhancements will include expanded enrollment capabilities as more residential and small commercial customers participate in aggregator enrollments, modifying the software for changes in tariff and program rules, confirming event results, and improving system performance.

Multi-Purpose DER Solution (Collar + Panel) and Pilot Program

Meter collar adapters serve as a versatile and cost-effective solution for integrating various energy sources into residential power systems. They offer a standardized connection point allowing customers to easily integrate PV systems, battery, and EV chargers. This versatility simplifies the installation process and reduces cost and compatibility issues.

The multi-purpose DER solution enhances the capabilities of a single DER application by offering a

more versatile and integrated approach. Unlike a single DER application that may be limited to one function (e.g., connecting only solar PV) a multi-purpose DER solution can support various energy sources and technologies, including battery storage, EV chargers and solar PV system. With a single solution, homeowners can reduce installation and maintenance costs. This technology makes renewable energy systems more accessible and attractive to a broader audience. Con Edison will be applying lessons learned from the NYSEDA-ConnectDER meter collar program to leverage key improvements in streamlining device installation and improve customer engagement strategies.

Con Edison has partnered with TESCO to create a collar and panel system designed to facilitate the interconnection of solar energy, battery storage, and EV charging. During the upcoming rate period, this innovative solution will be offered to interested customers through a pilot program. This program will allow participants to experience cutting-edge technologies and services firsthand, providing valuable feedback that will help shape the final offering. Customers will be able to engage with the solution in a real-world setting, enabling them to understand its benefits and functionalities.

Justification Summary:

Con Edison has created a foundational DSP that continues to integrate DER, compiles and shares increasingly complex information, and identifies areas within the electric grid where modern solutions can create the requisite system flexibility to increase hosting capacity and operate a safe and reliable electric system while accommodating increased penetration of DER. Further investment in this platform will leverage this foundation and increase the capabilities in the areas of system planning, DER integration and system operation to create more optimization and opportunity at the grid edge. These advancements continue to drive DER adoption as a core tenet of utility practice and are necessary to accelerate the transition to a more flexible distribution grid that will achieve state energy goals.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The DSP is a critical element to Con Edison delivering on our Clean Energy Commitment and reaching 100% Clean Electricity by 2040. Enabling these grid edge and customer facing tools will continue to create the system flexibility needed to transition towards a clean energy future and achieve state goals. This portfolio complies with REV order and NYS Clean Energy/CLCPA objectives.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

In lieu of our large and substantive investments, another alternative could involve changing the timing or deployment of the DSP components which would translate to smaller investments per year. This would delay the benefits of the DSP. Benefits such as adopting innovative technologies and practices, options and services related to renewable energy adoption, demand response, cleaner energy sources and savings.

Risk of No Action

The risk associated with inaction regarding the DSP portfolio can have significant implications for utilities, customers, and the overall energy landscape. Missed Opportunities for Innovation, increased grid vulnerability, loss of competitive edge, and barriers to DER integration.

Non-Financial Benefits

The DSP paves the way for increased adoption of DER and ultimately achieving the CLCPA goals which benefits customers and Con Edison. Benefits include but are not limited to reduced system emissions, increased load flexibility, growth in energy storage, system resiliency, and system reliability.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)
2. Major financial benefits

DSP investments will ultimately provide streamlined integration of DER, additional decarbonization, lower costs to customers that increases operational flexibility and resiliency:

- The SCADA upgrades provide visibility and remote functionality of the network protectors so that the Company can minimize back-feed conditions and have more insight into what is happening in the secondary grid, enabling efficient use of Company resources.
- Hosting capacity analysis aids the Company in understanding the impact of DG in the network and where the grid may need to be reinforced to meet planning needs and help to operate DG in an optimized fashion, informing system investments.

3. Basis for estimate

Program breakdown by Projects for 2025 – 2029 (\$000)

	2025	2026	2027	2028	2029
REV - DSPP					
IOAP	\$600	\$400	\$300	\$200	\$200
DMTS	\$6,000	\$8,500	\$9,000	\$9,100	\$9,200
DRMS	\$9,900	\$8,351	\$8,870	\$9,247	\$9,793
Modernizing Protective Relays	\$29,336	\$32,860	\$32,860	\$32,860	\$35,100
CVO	\$15,000	\$6,600	\$5,400	\$3,600	\$0
Reinforcement	\$15,000	\$4,800	\$3,600	\$2,400	\$0
Dynamic 4KV	\$0	\$1,800	\$1,800	\$1,200	\$0
Additional Projects:					
Connect DER	\$1,000				
Multi-Purpose DER Solution		\$1,050	\$962	\$1,080	\$1,080
Budget	\$61,836	\$57,761	\$57,391	\$56,088	\$55,374

Con Edison has over 8 years of experience in building out the DSP and its various components that helps inform our estimates. Many of these projects and programs are already in place, and the cost estimates were derived from recent experience.

Project Risks and Mitigation Plan

Risk 1: Lack of grid investments will limit the DER integration and reduce hosting capacity.
Mitigation plan: DSP investments will increase grid flexibility and expand DER interconnection capability.

Technical Evaluation/ Analysis

The DSP will include many technical evaluations and analyses that will guide the decision making for the building block programs. It is anticipated that these analyses will cover:

- Data management and analytics
- User interface and experience
- Analysis of locational benefits and costs
- Integration with emerging technologies
- Analysis of the costs and benefits of Conservation Voltage Optimization (CVO)

Project Relationships (if applicable)

Data from Con Edison's SCADA devices are housed within the Company's PI System and used for various engineering and operational purposes. This data, as well as AMI infrastructure, supports CVO efforts. Projects in the REV-DSP portfolio additionally support and are related to DCX and forecasting technologies.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M	775	923	535	2,452	5,037	4,253
Regulatory Asset	388	698	332	252		440
Capital	24,535	44,497	53,147	55,898		61,852

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	4,332	5,405	5,400	5,203	5,201
Regulatory Asset					
Capital (Total)	61,836	57,761	57,391	56,088	55,374
Labor	9,894	9,242	9,183	8,974	8,860
M&S	21,643	20,216	20,087	19,631	19,381
Contract Svcs.	18,551	17,328	17,217	16,826	16,612
Other	618	578	574	561	554
Overheads	11,131	10,397	10,331	10,096	9,967

- O&M Request ('25-'29) includes DSP MAC budgeted in Distribution Planning

Information Technology 2026-2028

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: OpNet	
Project/Program Manager: Anderson Castillo	Project/Program Number (Level 1): 27691372
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date:	Estimated Date In Service: 06/30/2027
2026-2028 Funding Request (\$000) Capital: \$30,653 O&M: \$2,400	
Work Description: Historical Context and Achievements Con Edison has consistently prioritized the cybersecurity of its Distribution Control Centers (DCC) to mitigate risks from cyber-attacks. Historically, DCC data networks were designed to operate independently of corporate networks during emergencies, a state known as "Islanded." This design ensures that DCCs (Distribution Control Center) can maintain critical operations and access vital SCADA (Supervisory Control and Data Acquisition) and Data Acquisition systems even when disconnected from the broader corporate network. Key historical achievements include: - Enhancing robust "Islanded" operations to maintain functionality during cyber incidents. - Enhancing logging, monitoring, auditing, and recovery capabilities to improve operational resilience and forensic analysis post-incident. Future Enhancements (2026-2028) From 2026 onward, the focus will shift towards security hardening upgrades and iterative improvements. This phase will further bolster the resilience and security of the DCC networks by using the following. Advanced Architectures We're enhancing network segmentation, like SafeNet, to isolate critical systems and upgrading data centers to ensure scalability and reliability. Best Practices Adopting the Zero Trust model, where the system verifies all data and security, is ensured using automation. Meaning none of the data will not be assumed to be accounted for and verified. Using automation to verify our data, combined with our defense-in-depth strategies, improves security (Multifactor Authentication) and compliance. Innovative Technologies Proactive monitoring strengthens threat detection by using trends and analytics. While energy-efficient upgrades reduce costs and support sustainability.	

Such improvements will also include moving current Control Center Applications that are dependent on the Corporate Network into OpNet.

Work Description

Security Hardening and Iterative Upgrades

Given the increasing frequency and sophistication of cyber-attacks, Con Edison will undertake several initiatives to fortify the DCCs' defenses. We're using multiple infrastructure environments (micro segmentation), which will help increase our security posture, resiliency, and compliance. Meaning if there were to be an event, and one of our environments were to be compromised or receive an outage. Con Edison will continue to provide quality services to our customers internal, external, and meet our regulatory requirements.

Key Initiatives:

1. **Architecture Assessment and Initial Enhancements: **

- On-board cybersecurity personnel for comprehensive analysis of current applications and network architectures.
- Purchase and deploy new network elements to enhance Islanding capabilities.
- Integrate existing and new applications across distribution commodities into the newly segmented or layered environment. Meaning that if Corporate for example is impacted. Our SafeNet environment will be used to maintain business continuity.

2. **Enhanced Monitoring and Access Systems: **

- Acquire and implement advanced monitoring systems to detect and mitigate security breaches.
- Improve local and remote access methods for personnel to ensure secure operations.

3. **SafeNet Project: **

- **Project SafeNet: ** This initiative represents the next iteration of the current OpNet environment, designed to be a pristine and segregated network segment. In case of a cyber-attack, SafeNet will serve as a secure and reliable backup system. It provides an isolated environment that remains unaffected, ensuring we can quickly recover and maintain critical operations without disruptions. SafeNet will enable rapid recovery and continuity of critical DCC functions during and after a cyber-attack. The project includes the development and deployment of advanced network segmentation, robust access controls, and state-of-the-art recovery protocols to ensure the integrity and reliability of the DCC's critical systems.

4. **Data Center Upgrade and Expansion: **

- **Upgrading and Expanding our Data Center: ** This project will modernize and enhance the existing and expand our data center infrastructure to support the increased demands of enhanced cybersecurity measures and operational resiliency. The upgrade will include the deployment of innovative technology, improved power and cooling systems, and advanced security controls. This will ensure that the data center can handle the increased data flow, support new applications, and provide a more robust and secure environment for critical DCC operations.

Justification Summary:

The need for enhanced cybersecurity measures is driven by the escalating risks of cyber-attacks, regulatory requirements, and the critical nature of SCADA systems for electric, gas, and steam distribution. Failure to upgrade the DCC networks could result in severe consequences, including operational disruptions. And fines associated with storm scenarios involving ERP's.

Relationship to 5-Year and Long-Range Plans and Enterprise Risk Management Strategy

This project aligns with Con Edison's long-term strategic goals and risk management strategies by:

- Enhancing the security, reliability, and resilience of critical DCC operations.
- Mitigating risks associated with cyber threats and ensuring compliance with federal regulations.
- Supporting broader corporate cybersecurity initiatives and integrating with future energy distribution technologies.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

1. Reduction of Greenhouse Gas Emissions: Our plan to upgrade and expand the OpNet is crucial for the efficient management of energy distribution, including the integration of renewable energy sources into the grid. Enhancing the reliability and efficiency of the grid management system allows us to reduce energy waste and improve how renewable energy sources, such as solar and wind, are integrated into the grid. This not only supports the state's transition to cleaner energy but also ensures a more stable and sustainable energy supply for the future. By managing these renewable resources effectively, we can maximize their benefits while reducing reliance on traditional fossil fuels., thus contributing to the overall goal of reducing greenhouse gas emissions.

2. Increased Renewable Energy Integration: The OPNET is instrumental in managing the complexity of integrating renewable energy sources, such as solar and wind, into the existing grid. These sources are variable and require advanced management systems to ensure stability and reliability of the power supply. Enhancing the OPNET supports the state's ambition to increase the share of renewable energy in the power mix, a key component of the CLCPA.

3. Climate Justice and Community Protection: A significant aspect of the CLCPA is its focus on climate justice, ensuring that the benefits of a greener economy are shared across all communities, especially those historically affected by pollution and climate change. By ensuring the resilience and reliability of the electrical distribution system, our proposal indirectly supports these objectives by providing a stable and reliable energy supply to all communities, thereby facilitating equitable economic growth and resilience against climate-related disruptions.

4. Support for Clean Energy Initiatives: By funding the lifecycle management, system expansion, and cybersecurity enhancements of the OPNET, we are laying the groundwork for future clean energy initiatives. This includes the ability to manage distributed energy resources and demand response programs more effectively, both of which are vital for reducing reliance on fossil fuels and meeting the CLCPA's renewable energy goals.

In summary, our proposed plan for the OPNET not only addresses the immediate operational needs of our energy distribution system but also embodies the spirit of the CLCPA by contributing to the development of a more resilient, efficient, and equitable energy future for New York State.

2. Supplemental Information

****Alternative 1: Maintain Current Architecture****

Maintaining the current architecture involves continuing with existing Islanding capabilities without further enhancements. This approach is inadequate as it fails to address the evolving and sophisticated nature of modern cyber threats. Consequently, this leaves critical systems vulnerable to breaches, potentially leading to significant operational disruptions and non-compliance with regulatory standards. Thus, this alternative is not recommended due to its inability to provide robust protection against emerging threat vectors.

****Alternative 2: Implement Basic Security Upgrades****

Another alternative could involve implementing only basic security upgrades without a comprehensive overhaul of the system architecture. While this might improve security marginally, it would not be enough to counteract advanced persistent threats or sophisticated cyber-attacks. Basic upgrades could provide a false sense of security and might not meet regulatory compliance, leaving the DCCs still at considerable risk. This approach is also not recommended due to its limited scope and effectiveness.

****Alternative 3: Outsource Cybersecurity Management****

A third alternative is to outsource cybersecurity management to an external provider. While this could leverage external expertise and potentially reduce internal workload, it introduces new risks such as loss of control over sensitive systems and dependency on third-party reliability and response times. Moreover, integrating third-party services with existing DCC operations could be complex and costly, making this option less favorable in ensuring seamless and robust security.

Risk of No Action

Failing to enhance the current Islanding architecture poses significant risks. Critical systems would remain highly susceptible to increasingly sophisticated cyber-attacks, jeopardizing operational continuity and the security of energy delivery. This vulnerability not only increases the potential for prolonged outages and data breaches but also risks incurring substantial regulatory fines due to non-compliance with cybersecurity standards. The lack of action could lead to severe financial, operational, and reputational damage for Con Edison, undermining its ability to provide reliable service.

Non-Financial Benefits

Sustainability and Environmental Responsibility: By implementing newer equipment that is energy-efficient, the organization can help reduce its carbon footprint, aligning with global sustainability goals and demonstrating corporate social responsibility. This can enhance the organization's image and appeal to environmentally conscious stakeholders.

Summary of Financial Benefits and Costs (attach backup)

1. **Cost Savings:** Upgrading to more efficient and modern technologies can lead to significant cost savings in the long run. These savings come from reduced energy consumption, lower maintenance costs, and decreased need for physical hardware through virtualization. Additionally, streamlined operations and automation can reduce labor costs associated with manual processes.
2. **Reduced Downtime Costs:** Modern, resilient infrastructure can minimize system downtime, which in turn reduces the financial losses associated with operational interruptions. Downtime can be costly, not just in lost productivity but in stake holder's confidence. Ensuring high system availability helps to mitigate these risks.
3. **Improved Scalability:** The proposed plan is designed with flexibility in mind, enabling the infrastructure to grow and adapt to increasing demands without requiring major new investments. By implementing modular systems and future-ready technologies, we can expand capacity as needed while keeping costs manageable. This approach ensures that the infrastructure can accommodate evolving operational needs, such as increased data flow or new applications, without the need for extensive overhauls or disruptions. It also allows us to respond quickly to changes in technology or regulatory requirements, ensuring long-term efficiency and resilience.
4. **Meeting our regulatory requirements, thus not being fined.**

Project Risks and Mitigation Plan

1. Scope Creep

Risk: Changes or expansions in project scope during execution can lead to extended timelines and increased costs.

Mitigation: Establish a clear project scope at the outset. Implement a strict change management process that assesses the impact of any proposed changes on the timeline and budget before approval.

2. Underestimating Costs

Risk: Initial cost estimates may be too optimistic, leading to budget shortfalls. Mitigation: Conduct thorough upfront planning and budgeting, including contingency funds for unexpected expenses. We will implement systematic controls to regularly review and update cost projections as the project progresses. This structured approach ensures accurate budgeting, helps identify potential overruns early, and allows for timely adjustments to keep the project on track financially.
3. Technological Challenges Risk: Encountering unforeseen technological issues can delay project milestones. Mitigation: Engage in comprehensive pre-implementation testing and pilot programs to identify potential technology issues. Keep abreast of technological developments and maintain flexibility to adapt the project plan.
4. Vendor and Supply Chain Delays Risk: Delays in vendor deliveries or supply chain disruptions can hinder project progress. Mitigation: Develop strong relationships with reliable vendors and consider multiple sources for critical components. Establish clear contracts with defined delivery timelines and penalties for delays.
Technical Evaluation / Analysis
Project Relationships (if applicable)

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2026-2028 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		759	800	800	
Regulatory Asset					
Capital (Total)		15,933	8,625	6,095	
Labor		3,250	3,250	3,250	
M&S		12,583	5,275	2,745	
Contract Svcs.		100	100	100	
Other					
Overheads					

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Storm Response Technology Advancements	
Project/Program Manager: George Czerniewski	Project/Program Number (Level 1): 27312078
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2025	Estimated Date In Service:
2025-2029 Funding Request (\$000) Capital: 18,004 O&M: 3,350	
Work Description: The identification, development and use of multiple types of leading-edge technology will reduce the time between the start of restoration, the time when field crews can safely begin storm restoration operations, and when service is restored to customers. Critical to the response is the ability to quickly capture the full breadth of the storm's impact and infrastructure damage. This will allow the Company to accurately define the resource needs and confirm all material needs to effectively restore all customers. The Company will explore several technology-supported processes to expedite damage assessment and ultimately lead to right sizing crewing, addressing material needs, and increasing overall productivity. These technologies are described below. • Assess damage using unmanned aerial vehicles (UAVs), infrastructure monitoring using overhead sensors, expediting the creation of priority work packages using aerial imagery combined with machine learning. • Purchase 10 drones in 2026, 5 drones in 2027 and conduct pilot programs with satellites and high altitude robot in 2026 and 2027. Expected capital costs are \$1,100K in 2026 and \$1,100K in 2027. Expected O&M costs are \$70K total between 2027 and 2029. • Acquire and integrate information on the status of overhead distribution transformers into the Outage Management System (OMS). • Purchase and install 610 units in 2026 build integration into Outage Management System in 2028. Expected capital costs are \$1,784K in 2026. Expected O&M costs are \$300K total between 2027 and 2029. • Build a state of the art distribution system event simulator to better prepare employees to operate the systems effectively and efficiently during major storms. • Purchase computer hardware in 2026, design, build and test program in 2027 and deploy in 2028. Expected capital costs are \$3,130K in 2026, \$3,130K in 2027 and \$2,000K in 2028. Expected O&M costs are \$550K total between 2027 and 2029. • Utilize self-service technologies to reduce onboarding times for mutual assistance resources. During major storm events, restoration support resources must be verified and	

documented to ensure safety, productivity and billing accuracy. Similar to airport kiosks, multiple individuals can verify their presence and check themselves in at portable kiosks strategically placed at staging areas and onboarding locations. Efficient onboarding implies that crews can be dispatched to pending jobs resulting in reduced outage times, reduced costs and a better customer experience.

- Purchase 20 units in 2026 and 25 additional units in 2027. Expected capital costs are \$250k in 2026 and \$300K in 2027. Expected O&M costs are \$575K total between 2026 and 2029.
- Provide global positioning system (GPS) devices, to be installed in all non-Company owned mutual aid field crew vehicles to improve job dispatch.
 - Purchase 800 units in 2026 and 2027 along with associated hardware and connectivity requirements. Expected capital costs are \$300K in 2026 and \$310K in 2027. Expected O&M costs are \$10K per year starting in 2027.
- Employ an electronic mobile application that can connect material supply vehicles with restoration crews requiring materials in the field.
 - Purchase 300 ruggedized tablets and associated equipment in 2026. Design, develop, test and implement new application and training by year-end 2026.
- Develop and deploy modern and robust weather modeling impact application.
 - Benchmark and evaluate existing weather modeling impact processes in 2026 and design, develop, test and implement new system from 2026 to 2028. Expected capital costs in 2027 are \$500K and \$600K in 2028. Expected O&M costs are \$150K total between 2027 and 2029.
- Hire seven (7) additional management employees to support these technology initiatives at an average salary of \$107k per year per employee spread across capital and O&M (see Basis for Estimate Section for specific details).

Justification Summary:

Through development and implementation of industry-leading storm response processes and deployment of leading-edge technologies, the Company will have the foundation for continuous analysis of Con Edison's weather-related outages and present potential opportunities to improve outage responses. Specifically, weather modeling and impact analysis are essential factors required to right size our response resources necessary to achieve desired restoration outcomes. Con Edison intends to develop and deploy a modern and robust weather modeling impact application. This new application will be a fully integrated platform that will analyze various inputs (i.e., historical outage events, weather data, vegetation management, etc.), with the intended output of the number of outage events expected from the storm impact. This information will be used to aid in optimizing resource requirements needed to achieve a desired estimated time of restoration for the event.

Also, this application will store weather and related data that will be used to train a machine learning based model to drive continuous improvements. Incorporating additional weather stations will provide more granular weather data to correlate with actual damage. This weather station data will then be an input to the machine learning model to further drive improvements by deriving damage impact in more targeted areas of the service territory. This level of detail will allow for strategic staging of crews and deployment of material laydown areas creating greater response efficiencies.

In summary, storm response technology advancements will lead to reduced customer outage durations and costs. The increasing impacts during an extreme event (e.g., hurricane with extreme wind gusts and storm surge) demand correspondingly large emergency response efforts that may exceed those experienced historically. Such events also tend to play an outsized role in shaping the public's perception of climate change vulnerability and how institutions should address its unique challenges.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Impact on Greenhouse Gas (GHG) Emissions

The primary goals of the programs and projects included in the Climate Vulnerability and Resiliency Plan, including the Storm Response Technology Advancements program, are to withstand, absorb, or recover from the impacts of future climate changes on Con Edison's electric system. While none of the programs are focused on reducing GHG emissions, some of the programs could have small but positive impacts on Con Edison's overall GHG emissions, and none of the programs should negatively impact Con Edison's overall GHG emissions.

All of the programs that prevent or reduce the number of "truck rolls" required to assess, operate, or restore the electric system (i.e., the number of physical trips made by operators, technicians, and other field personnel to physical field locations) will reduce Con Edison's overall GHG emissions by reducing vehicle emissions associated with each field trip prevented. Technology Advancements will likely reduce overall GHG emissions by eliminating mutual assistance long-distance trips in utility trucks, by assigning work to field crews based on location proximity, and by eliminating individual crew trips to warehouses to pick up material. Actual program reductions in GHG emissions from reductions in physical trips to the field depend on the number of trips avoided, the miles driven per trip, the type of vehicle, the type of fuel burned, and the condition of the vehicle.

Impact on Disadvantaged Communities

The resilience strategies included in Con Edison's Resiliency Plan have been chosen in alignment with our Resiliency Framework that provides guidance for developing a comprehensive set of adaptation strategies to mitigate future climate change risks. This comprehensive set of strategies includes investments that enable Con Edison's electric system to prevent climate change impacts by hardening infrastructure, mitigate the impacts from outage-inducing events by minimizing disruptions to customers, and respond rapidly to disruptions by reducing recovery times and costs.

While the programs included in the Plan are largely focused on withstanding climate changes and avoiding outages, most programs also enable Con Edison to limit outage impacts on customers (i.e., absorb outage impacts), and restore service more quickly than would otherwise have been possible (i.e., recover quickly). Many of the investments proposed to strengthen Con Edison's ability to withstand extreme climate conditions will also, naturally, significantly reduce the risk of outages during "blue sky" conditions.

Disadvantaged communities (DACs) typically have fewer alternatives during energy system outages and are more at risk from climate change. Because of this lack of alternatives, resilient and reliable energy service is an important priority for the communities and for Con Edison. Due to the size of Con Edison's electric system and the population density in the City, almost half of Con Edison's system serves at least one DAC. The company has committed to tracking investments that benefit DACs specifically and to measuring and monitoring system performance in DACs and non-DACs. If this tracking shows that current investment prioritization somehow treats DACs unfairly, then the Company will look to modify how investments are prioritized to correct identified imbalances.

The Company has also formed an Environmental Justice Working Group under an executive committee and plans to release a finalized Environmental Justice Policy Statement in 2023 to apply an equity lens to resilience-driven investments. Key components of the upcoming policy statement include:

- Operations will not disproportionately burden DACs.
- Con Edison will work to understand DAC concerns.
- Clean energy investments will benefit DACs.
- Con Edison will provide opportunities for employment in the clean energy future.

These equity considerations will help inform resilience plan investments moving forward.

Impact on 5-year and long-range plans (10-year)

The Storm Response Technology Advancements program supports Con Edison's integrated strategy, included in the January 2022 Long-Range Plan, focused on four strategic objectives related to Clean Energy, Climate Resilience, Core Service, and Customer Engagement. Con Edison's Climate Resilience strategic objective aims to increase the resilience of the energy infrastructure to adapt to climate change. Furthermore, Con Edison sees the role of utilities as changing from providing, "Universal access to energy that is safe and reliable" to providing, "Universal access to energy that is safe, reliable, and *resilient* (able to prevent, mitigate, and recover from events.)" (emphasis added)

The Storm Response Technology Advancements program directly supports the Company's goal of recovering from outage events quickly.

2. Supplemental Information

Alternatives

An alternative would be to not pursue advanced technologies associated with storm response. However, this approach was not chosen because it would not take advantage of continually evolving technological advances in this industry that are critical to enhancing response efforts. This would cause the Company to miss out on industry-leading technology approaches that will lead to more efficiently reducing the duration and costs of extreme weather event-related outages.

The Climate Change Vulnerability Study concluded that Con Edison's distribution system is vulnerable to risk of damage from extreme weather events like those that have been experienced in recent history. The Study also confirmed that a growing body of scientific evidence supports the conclusions that projected climate changes project these extreme storm events to be likely to increase in frequency and intensity in the future. Numerous evaluations following actual events have also revealed that the increased frequency of these types of events tends to erode people's ability to cope with and recover from the impacts and that disadvantaged communities are the least able to recover.

The proposed Storm Response Technology Advancements program will provide advanced support capabilities for Con Edison's communities and customers that currently are not available (see discussion under Non-Financial Benefits). Without these capabilities, Con Edison and the communities they support could experience further extended outage periods in cases of severe storms with extensive damage.

Risk of No Action

The Climate Change Vulnerability Study concluded that Con Edison's distribution system is vulnerable to risk of damage from extreme weather events like those that have been experienced in recent history. Modeling performed by climate science experts with input from Con Edison subject matter experts determined that the electric system is most vulnerable to climate-induced changes in temperature/humidity and sea level rise. The Study also confirmed that a growing body of scientific evidence supports the conclusions that projected climate changes project these extreme storm events to be likely to increase in frequency and intensity in the future. Numerous evaluations following actual events have also revealed that the increased frequency of these types of events tends to erode people's ability to cope with and recover from the impacts and that disadvantaged communities are the least able to recover.

The proposed Storm Response Technology Advancements program will provide advanced support capabilities for Con Edison's communities and customers that currently are not available (see discussion under Non-Financial Benefits). Without these capabilities, Con Edison and the communities they support could experience further extended outage periods in cases of severe storms with extensive damage.

Non-Financial Benefits

The Storm Response Technology Advancements program and associated capabilities will allow the Company to more effectively and efficiently deploy restoration field crews thus increasing customer satisfaction during major storms. This will also build trust and stronger relationships with the elected officials throughout the service territory since restoration information will be acquired and communicated in a more accurate and timely fashion.

Summary of Financial Benefits and Costs

1. Cost-benefit analysis

Con Edison has consistently adapted to the ever-evolving technological landscape, with a primary focus on enhancing customer service and resiliency. Our use of technology to improve our ability to respond to system outages safely, effectively, and efficiently has also demonstrated this commitment to leveraging the best technology available.

- **Outage Management System Evolution:** The Company's use of technology to improve outage responses began with the implementation of an Outage Management System, designed to minimize disruptions and enhance customer service. We have made continuous upgrades to ensure alignment with business needs and develop a more robust solution to meet industry demands.
- **Outage Prediction and Data Utilization:** Recognizing the significance of weather prediction in our operations, we continue to develop and refine our outage prediction and forecasting tools. The goal is to continuously improve preparedness for storm response and planning. We are also using technology platforms like Advanced Metering Infrastructure (AMI) to gain a deeper understanding of our system's performance under a broad range of conditions as well as enhancing customer outage communication via automated validation using AMI data.
- **Transition to Data-Driven Operations:** Further efficiency improvements will occur as operations shifts from manual processes, such as using pen and paper for damage assessment when responding to storms, to the use of modern tools like iPhone Apps that are fully integrated and transmit real-time damage information from field capture to our outage management system.

The Company is continuing to ensure that our customers benefit from our use of advanced technology including current initiatives such as:

- **Predictive Maintenance for Customer Impact Mitigation:** To minimize customer impact during storms, we invested in upgrading system isolation equipment. Future goals through this program include using technology to monitor equipment health, offering early warnings of impending failures and/or actual damage events to aid in further reducing costs, enhancing system reliability and improving outage response, leading to reduced outage durations.
- **Machine Learning and Artificial Intelligence:** With a planned implementation of Machine Learning and Artificial Intelligence promising to drive data-driven efficiency in our preparedness and response to weather events, currently in the early stages, Con Edison is actively collaborating with experts, including Brookhaven National Labs for outage and wind gust modeling and the University of Albany for applying the NY Mesonet to utility outage modeling. As part of our initial work with the NY Mesonet, our aim is to use NY Mesonet data and AI/ML to improve local forecasting tools. This will help the company optimize mobilization strategies and be better prepared to respond to impactful weather events.

The Storm Response Technology Advancement program is proposed to continue the Company's focus on leveraging technology to respond to system outages safely, effectively and efficiently. Each of the technologies included will enable reductions in overall outage times and restoration costs, increasing overall resiliency given projections of increasingly more frequent and intense storms.

Use of unmanned aerial vehicles (UAVs) such as drones or high-altitude robots to perform damage assessment will speed system restoration by allowing assessment of areas that may not be accessible by vehicles due to post-storm conditions. Additionally, UAVs can provide aerial photographs that will aid in the preparation of work packages. Similarly, implementation of technology like airborne sensors (like pole-top and cable height sensors) and transformer monitoring systems will provide critical information on the system status, without the need for crews to be dispatched to the field to assess status conditions. These capabilities will provide better information on system conditions to outage managers sooner, allowing more effective and efficient outage planning. Using technology to obtain information increases crew safety by reducing the risks associated with exposure to unsafe physical environments post-storm to obtain the information needed to effectively restore the system.

Many of the proposed technologies will enable digital data capture which, by integrating digital data streams into systems used for outage planning and management, will reduce planning time and enable more efficient restoration management. Digital data may also enable future use of artificial intelligence to expedite damage assessments and planning even further. Similarly, advanced weather modelling will enable more precise storm timing and intensity forecasting, also enabling the company to predict and plan for restoration resources.

Although it is not possible to estimate the extent of the financial benefit of these resiliency improvements at this time, reductions in the amount of time required to restore the system to normal operations undoubtedly result in reductions to total outage costs. However, the benefits of avoided outage time are significant for customers and the local economy.

2. Basis for estimate

Planning estimates for the proposed scope are below.

Storm Technology Advancements - Capital Costs by Year (\$M)

Component	2026 Cost (\$M)	2027 Cost (\$M)	2028 Cost (\$M)	Totals (\$M)
UAVs and Airborne Sensors	1.100	1.100	0.000	2.200
OH Distribution Transformer Monitoring System	1.784	0.000	0.000	1.784
Distribution System Event Simulator	3.130	3.130	2.000	8.260
Self-service technologies for onboarding	0.250	0.300	0.000	0.550
GPS for Mutual Aid Trucks	0.300	0.310	0.000	0.610
Storm Material Delivery Application	2.000	0.000	0.000	2.000
Outage documentation and analysis	0.000	0.500	0.600	1.100
Management Support Resources	0.750	0.450	0.300	1.500
Grand Total	\$9.314	\$5.790	\$2.900	\$18.004

Storm Technology Advancements - O&M Cost Estimate By Year (\$M)

Component	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029	Totals
UAVs and Airborne Sensors	0.00	0.015	0.040	0.015	0.070
OH Distribution Transformer Monitoring System	0.03	0.075	0.100	0.100	0.300
Distribution System Event Simulator	0.00	0.050	0.250	0.250	0.550
Self-service technologies for onboarding	0.03	0.050	0.250	0.250	0.575
GPS for Mutual Aid Trucks	0.00	0.010	0.010	0.010	0.030
Storm Material Delivery Application	0.00	0.025	0.050	0.050	0.125
Weather Modeling Application	0.03	0.025	0.050	0.075	0.175
Management Resources	0.03	0.300	0.450	0.750	1.525
Totals	\$0.100	\$0.550	\$1.200	\$1.500	\$3.350

Project Risks and Mitigation Plan

N/A

Technical Evaluation / Analysis

The tools and systems used to manage outage restoration continue to become more complex. This requires infrequent users (those that support storm response (i.e., Electric Ops – Cell Leads) through their system emergency assignment) to maintain a higher level of proficiency to effectively fulfill their response role. A dynamic distribution system event simulator will support the efforts to increase role proficiency. This simulator will be designed and used for Distribution System Operators to hone their skills and, more importantly, help Cell Leads, who manage mutual aid during storm response, to develop and maintain proficiency. Availability of qualified and proficient individuals in these key emergency response roles provide essential support for mutual assistance crews and reduce the demand on main switching desk resources in the Control Center. Simulation training will also enable the training of additional operators to support the Control Center switching desk and support increased safety and efficiency in execution and in granting permission to operate system equipment. (See the associated supplemental detail/work paper, at the end of this document – “Distribution System Event Simulator” – for additional details on the plan for developing the distribution system event simulator.)

Satellite imagery, unmanned aerial vehicles including high altitude robots, and other remotely operated devices can be used to provide aerial assessment of storm damage. Traditional, in-person assessment of system damage through physical observation and manual entry of specific damages can be very time consuming, especially during major events. Progress is often hampered by road closures, flooding, or other conditions that delay the inspection progress. Instead, Con Edison and O&R will explore using remotely piloted and controlled aerial devices equipped with cameras to capture imagery of damage to supplement traditional damage assessment. Then, using AI/computer vision for evaluation, high-resolution images can be electronically overlaid on baseline images taken before

the storm to identify specific damages and create electronic work packages. Use of these remote aerial assessment tools combined with digital technology may significantly reduce the time needed to identify restoration work in heavily damaged areas.

Digital assessment of storm damage to the distribution system will also be provided through a pilot installation of circuit fault detection devices (with communication capabilities) on overhead distribution transformers with notifications of transformer status ultimately integrated into the OMS and into a dashboard for status monitoring. Additional sensors could be added to transformers and poles to sense and report other damage assessment information such as leaning poles or downed circuits, and to report critical operational information such as transformer voltages, loading and temperatures. Without the additional information on transformer status provided by sensors such as these, crews may be dispatched to complete field work on a circuit only to find they do not have the required skills and/or equipment when they arrive, leading to additional delays in the time to restore service to the circuit.

The Company is also evaluating the installation of self-service kiosks. These kiosks will expedite the onboarding process of mutual assistance contractors. Similar to airport self-service kiosks, employees can check in when they arrive and possibly print out a temporary ID card that can be used for specific items (invoicing, materials, expenses, etc.).

The Company plans to use additional technological applications that will reduce the time needed to restore the distribution system to normal. This will be achieved by increasing field crew efficiency, through opportunistic assignment of open outage events to crews and by enhancing the efficiency of the storm material delivery process.

Global positioning system (GPS) devices will be evaluated for installation in all non-Company owned mutual aid field crew vehicles. Positioning data from the vehicle will be integrated into a graphical view, identifying open outage events in the Outage Management System that are near the field crew's location. Crew locations and open outage events from OMS will be displayed on a dashboard with the recommended assignment of work crews. These assignments will be recommended automatically based on field crew qualifications and proximity to the outage area. The incorporation of this GPS technology will potentially reduce crew travel time on subsequent job assignments resulting in more efficient restoration times and costs.

Additional field crew efficiencies will be realized from the deployment of an electronic mobile material application (i.e., similar to a mobile phone application or "app") that can be used to identify a "material truck" (already in the field) that is stocked with the material needed to complete assigned outage work and route it to the outage site, much like personal ride-share services are viewed, selected and routed to someone's location. This innovative application focuses on maximizing crew wrench time by confirming which of the "material trucks" in the field at any given time has the material needed and is closest to the field crew's location prior to automatically dispatching the truck to deliver the material, avoiding potential crew inactivity while they wait for required materials to be delivered to their location from warehouses or storage locations.

Project Relationships (if applicable)

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M	0	0	0	0	0	0
Regulatory Asset	0	0	0	0	0	0
Capital	0	0	0	0	0	0

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	0	100	550	1,200	1,500
Regulatory Asset					
Capital (Total)		9,314	5,790	2,900	0
Labor		750	450	300	0
M&S		2,195	1,350	600	0
Contract Svcs.		4,000	2,442	1,250	0
Other		40	100	25	0
Overheads		2,329	1,448	725	0

Customer Energy Solutions 2026-2028

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset						
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic							
Project/Program Title: Transforming Outage Management with Advanced AMI (Advanced Metering Infrastructure) Integrations							
Project/Program Manager: Tony Zhu	Project/Program Number (Level 1): 27730264						
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)							
Estimated Start Date: 01-01-2026	Estimated Date In Service: 12-31-2028						
2025-2029 Funding Request (\$000) Capital: 35,914 O&M: 21							
Work Description: This program funding request for Transforming Outage Management with AMI Integrations enhances resiliency and operational excellence by investing in the AMI foundational technology and leveraging smart meter data to enhance outage management capabilities. While smart meters were being deployed during the AMI Project from 2016 - 2023, operators used the early versions of the outage management applications to check the current status of the meter and control the switch of the meter as needed. To continuously improve resiliency and operational excellence, enhancements to our outage management applications and tools are necessary to fully automate and streamline multiple processes, increase performance, and together with the separate request submitted by the Outage Communications team and in compliance with federal telemarketing regulations, will enhance customer communications, bringing additional benefits to our customers. The projects included in Transforming Outage Management with Advanced AMI Integrations and a brief description of their respective enhancements & integrations are described below:							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 65%;">Project Name & Brief Description of Enhancements & Integrations</th> <th style="width: 35%;">Specific Customer Related Benefits</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"> <u>AMI Fortification (CES)</u> - The new integration of Outage Management System (OMS) with Itron's Outage Detection System (ODS) will enable faster pings, on-demand voltage reads, and request of switch statuses - A new queue will be created that other applications can call to perform pings, retrieve voltage reads, or retrieve switch statuses </td> <td style="padding: 5px;">Operator response to reported outages will be improved due to expanded functionality that provides faster communication with the smart meter, voltage data from the meter, and the current state of the disconnect switch in the meter.</td> </tr> <tr> <td style="padding: 5px;"> <u>Native Restoration Validation and Auto Ticket Closure (CES)</u> - The restoration validation process will be enhanced to request on demand voltage reads through ODS </td> <td style="padding: 5px;">The operator's response to smaller outages occurring within a larger outage will be enhanced by looking at voltage data at the smart</td> </tr> </tbody> </table>	Project Name & Brief Description of Enhancements & Integrations	Specific Customer Related Benefits	<u>AMI Fortification (CES)</u> - The new integration of Outage Management System (OMS) with Itron's Outage Detection System (ODS) will enable faster pings, on-demand voltage reads, and request of switch statuses - A new queue will be created that other applications can call to perform pings, retrieve voltage reads, or retrieve switch statuses	Operator response to reported outages will be improved due to expanded functionality that provides faster communication with the smart meter, voltage data from the meter, and the current state of the disconnect switch in the meter.	<u>Native Restoration Validation and Auto Ticket Closure (CES)</u> The restoration validation process will be enhanced to request on demand voltage reads through ODS	The operator's response to smaller outages occurring within a larger outage will be enhanced by looking at voltage data at the smart	
Project Name & Brief Description of Enhancements & Integrations	Specific Customer Related Benefits						
<u>AMI Fortification (CES)</u> - The new integration of Outage Management System (OMS) with Itron's Outage Detection System (ODS) will enable faster pings, on-demand voltage reads, and request of switch statuses - A new queue will be created that other applications can call to perform pings, retrieve voltage reads, or retrieve switch statuses	Operator response to reported outages will be improved due to expanded functionality that provides faster communication with the smart meter, voltage data from the meter, and the current state of the disconnect switch in the meter.						
<u>Native Restoration Validation and Auto Ticket Closure (CES)</u> The restoration validation process will be enhanced to request on demand voltage reads through ODS	The operator's response to smaller outages occurring within a larger outage will be enhanced by looking at voltage data at the smart						

○ Automatic validation of meter voltage upon outage job restoration will enable additional analysis and evaluation of conditions • OMS will automatically request on-demand reads for single service outages through ODS ○ An outage to a single electric service will be automatically evaluated using requests to the meter and then be closed out based on the AMI responses ○ Single service AMI tickets with low voltage on-demand reads will be recategorized into a non-outage event • The OMS web configuration system will be updated to provide users the capability to make configuration changes. These configuration changes will allow the users to adjust timings, voltage thresholds, and activate/deactivate the new functionality.	meter upon outage restoration. Furthermore, the restoration process for customer outages will automatically verify partial power conditions, providing an improved response.
<u>Enhanced Communications for Predicted Customers (CES)</u> • Business intelligence layer will be enhanced to ping and retrieve voltage reads automatically to confirm outages for predicted customers prior to sending Estimated Time of Restoration and daily outage files to the messaging vendor, Message Broadcast • Support will be provided to the Outage Communications team to develop new messages (text, audio, email) to customers offering new options for customer responses • New user interface will allow operators to toggle this functionality, with the option to temporarily disable all proactive communication to predictive customers	The customers' outage experience will be improved because communications will be sent to all customers affected by an outage whether or not the customer reported the outage, as permitted by regulations.
<u>AMI Refined Outages (CES)</u> • Customer lists and customer counts in OMS will be automatically updated based on AMI meter ping/voltage responses ○ New integration to automatically check the AMI meters of all customers in a new grouped outage ticket • A new integration with the OMS will be developed to automatically create an OMS outage event to track the customers affected by AMI load management	The visibility and messaging of customer outages will be more accurate since every smart meter will be assessed for communication and adequate voltage.
<u>Advanced AMI Load Management (CES)</u> • New integration to load meters via batches for expedited execution of load management • New integration with Message Broadcast to communicate to affected customers automatically without manual intervention • New user interface for electric real-time demand data for affected population • New user interface for complex load management schemes • New user interface for automated communications to customers	Cascading outages to customers will be minimized with improved load management capabilities and communications will be more prompt to affected customers with automation.

<u>Critical Customer Communication Enhancement (IT)</u> • The Business intelligence layer will compile all necessary customer information to send to Message Broadcast to initiate customer communications • Message broadcast will create a new Application Programming Interface (API) to receive critical customers accounts from a Business Intelligence layer • A new integration between the custom filter and Business Intelligence layer will allow critical customers accounts to be sent messages developed by the Outage Communications team when outages are detected through AMI • New page will be created to manage which customers will be treated as critical customers for communications purposes ○ New option will create ad-hoc critical customers for the integration ○ New toggles and levers will enable users to adjust rules related to the processing of these outages	Critical customers and other essential customers, determined by the Company, experiencing an outage will receive automated messaging regarding the outage whether or not the customer reported the outage, as permitted by regulations.
<u>Support Tool for Outage and Restoration Management STORM Enhancements: (CES)</u> • New integration will bring network transformer voltage and current data to the Support Tool for Outage and Restoration Management (STORM) application • New enhancement will display Remote Monitoring System (RMS) Supervisory Control and Data Acquisition (SCADA) data on maps within STORM • New integration bypassing Meter Data Management System (MDMS) will load event data into the STORM meter details page • New integration will display hierarchical data in STORM voltage heat map screen (service box, pole, transformer etc.) • New integration will display transformer location in the STORM application	Operator response to reported outages and power quality conditions will be improved due to expanded functionality that brings geographical mapping of relevant electrical structures and telemetry into a single view.
<u>Customer Call Validation: (IT)</u> • New enhancement of customer-facing outage reporting applications with real time AMI information will provide a more seamless and streamlined experience to the customers ○ When a customer is reporting an outage through the Interactive Voice Response (IVR), web, text, or mobile app, the customer's AMI meter will be checked for power and Customer Operations will be able to provide messages to the customer, advising on the next steps accordingly • All of the following systems will be integrated with AMI ping and voltage capabilities: ○ IVR ○ Digital Customer Experience (DCX - web and mobile app) ○ Message Broadcast	Customer reports of outages will be validated through the smart meter at time of report, and customers with customer-sided issues will receive immediate feedback. Operator response to outages will be improved due to reduction in false outage reports.

- All tickets generated will append the AMI information retrieved by the customer sided applications which were taken at the time of the customer call - New reporting will track the number of uses, AMI performance, AMI responses and the number of tickets created/avoided	
<u>Service Level Outages: (CES)</u> - The AMI to OMS integration logic will change to begin ingesting outage messages from a single service to pass through to the OMS automatically. Based on analysis of the causes for the outage messages, there may be limitations in providing the functionality for all customers. - Communication will be sent to the customer prior to generating an outage ticket as part of the separate request submitted by the Outage Communications team	Response to outages will be improved due proactive outage reporting detected by the smart meter for many more customers. These customers will also receive automated messaging, as permitted by regulations.

Justification Summary:

AMI is a critical foundational system of the outage management process and the operation of the electrical distribution system. Since the implementation of AMI pings, system operators have been provided with AMI data to enhance their outage restoration processes and provide valuable updates about our customer's service. Operators are now able to analyze an outage to troubleshoot issues without dispatching crews, have more accurate outage counts and better knowledge of nested outages. These tools have helped to avoid tens of thousands of truck rolls and allow us to be more efficient in the restoration process since it is only necessary to utilize crews on validated outages.

Currently, the AMI/OMS integration is unable to automatically validate a variety of other critical outage concerns, including but not limited to:

- side off (partial power)
- low or high voltage calls
- identify a disconnected meter
- customer-reported single service outages

External tools and manual analyses are used by operators to fill the gap to identify these other critical outage concerns, which is subject to potential human error.

AMI has also become a tool to execute load management plans to mitigate a variety of emergency conditions in our distribution system. Currently, our capability is built to solve smaller overload conditions. Through this rate case request, additional functionality will allow us to increase the capability to solve for larger system event use cases.

Below is a summary of each project and the value each will bring to outage management. The separate capital request submitted by the Outage Communications team addresses the customer communications aspect of these enhancements:

Project Name	Outage Management Value
AMI Fortification	The AMI Fortification Project is a key foundational technology for advancing integrations with our smart meters. Providing the OMS capability for real-time voltage requests and real-time load side switch status requests will greatly enhance the outage management process. The real-time voltage requests will be made to ODS to retrieve on-demand voltage data at the meter, revealing all phase voltage measures connected to the meter. This will make it

	apparent if the customer is experiencing a side-off condition and a low/high voltage condition without sending troubleshooters to the location wasting resources and slowing the customer's issue resolution. The load side switch status will also be integrated into the OMS to help identify customers who may be calling in an outage that is really an intended switch operation. The integration into ODS will remove reliance and impact of performance of the Meter Data Management System (MDMS) fortifying the AMI-OMS integration. Currently, the MDMS handles all billing integrations as well as the ping integration, which means that billing load can slow down the real time ping requests for troubleshooting. Having pings take longer or even fail due to loading in the MDMS brings forth a risk of sending crews to the location because we are unable to verify the meter's status. All AMI-OMS integration activities will be sourced through ODS with this change, as opposed to relying on both ODS and the MDMS.
Native Restoration Validation and Auto Ticket Closure	The AMI Restoration Validation Engine (ARVE) is an application that can automatically identify nested outages and provide customers with appropriate restoration messages, but there is no capability to validate partial power conditions. The streamlining of the ARVE integration directly in the OMS will provide a process to reduce risks and delays. Eliminating other applications reduces the risk of failure or slowdowns to those applications. This project will incorporate voltage read capabilities of the OMS system to its fullest by allowing all processes to be handled through the OMS and provide a solution to validating partial power conditions. The Auto Ticket Closure project will help the operators during high volume events by effectively handling single-service outages through automation. Automatically restoring single outages will help reduce the number of outage tickets, but also help ensure that the customer is notified quickly. Single ticket outage noise is a significant contributor to customer restoration delays at the end of storms because resources that could be spent on restoring customers must instead be spent determining which customers are still out of service. By automatically closing the ticket after AMI validation that power has been restored, we will reduce the work done to process the ticket.
Enhanced Communications for Predicted Customers	The Enhanced Communications for Predicted Customers project will provide the required technology infrastructure to enable communication to customers confidently predicted to be out of power by the OMS. Proper communication to our customers while they are experiencing outages is a critical part of the outage restoration process. The main system that tracks outages is the OMS, and the events created in the OMS are used for all downstream communications with customers. When outage calls come into the OMS, it performs predictions on which of our devices are out and subsequently, which customers are affected. Once a device is predicted out, the OMS assumes all the customers fed by that device are affected by the outage, including ones that have not reported the outage. Currently, we only provide communication to customers that have reported their outage. These customers are receiving communications for ETR (Estimated Time of Restoration) changes and restoration messages. Prior to

	communicating, the system would utilize the AMI meters to verify that the customer is truly out. This is accomplished by either looking for an outage event or pinging the meter. Using the AMI system along with the predictive model of the OMS helps ensure that we only communicate with the customers we know are experiencing an outage. Once this is implemented, the capability will exist to communicate with all customers that experience an outage, not just the ones that report it. The Outage Communications team has a capital request for this rate period to utilize the expanded AMI capabilities outlined in this project to improve predicted customer communications during outage events.
AMI Refined Outages	The AMI Refined Outages Project will automatically refine the affected customers through a vendor product change and enhancement to the existing outage prediction and grouping technology. The integration will require services that perform two-way communication with the AMI meters and then process those results to refine the customer list. The result will be a much more accurate view of customer impact of an outage. Additionally, a new enhancement in the OMS will enable operators to successfully track any future load management events in the outage management system (OMS). Today any calls from the customers affected will come to OMS as individual events. As a result of the current grouping logic in OMS, these events will be grouped as outages without any indications that they are related to utility load management. This new enhancement will bring visibility of these events into the OMS. It will help control center operators to allocate resources to restore outages more efficiently. Furthermore, any calls coming from customers affected event will be grouped to the main event in OMS. Also, new capability will be implemented to redirect/export Non-outage calls. This will provide greater focus on the actual outage work and the non-outage calls are seen by proper personnel, fostering operational excellence.
Advanced AMI Load Management	The Advanced AMI Load Management project will help mitigate the Corporate Risk of Large Scale Electric Customer Outage by allowing the ability to more efficiently process load management plans in a shorter duration. The ability to reduce the demand in an area quickly, while maintaining critical loads, can be enough to prevent a network from needing to be shut down. In network distribution areas, there are not many isolation points that allow the Company to directly control the demand of the customers. After appeals and voltage reduction, the reduction of demand can only be done by isolating customers physically. These isolation moves have to be done on-site, cannot be done quickly and require significant effort to restore after the event has ended. Through smart meter technology, load management can be done remotely. The increased throughput of these operations will make it more effective in more scenarios. Advancements will also be made to tools to enable development of more complex schemes to limit impact to customers. For customer messaging automation, a user interface will be created to utilize the real-time meter operations to generate messaging to an external system that contacts the customer.

Critical Customer Communication Enhancement	This project provides technology infrastructure enhancements to allow for automated communication to notify critical customers of a detected outage on their smart meter and provide proactive outage management for these customers. A new integration will be created between the OMS and the Business Intelligence layer to compile all necessary customer information to send to vendor, Message Broadcast, to initiate customer communications about the potential outage. Message Broadcast will create a new API that allows us to send messages to customers as the outages occur. This new API will not rely on the 15-minute cycle times the Message Broadcast currently has. A new User Interface will be created to allow the control center control to manage the critical customers communication enhancement. The interface will also allow the operators to control all available configurations in the custom filter.
Support Tool for Outage and Restoration Management (STORM) Enhancements	The STORM application has become an essential tool for outage management operations within the Company's Control Centers and this project will integrate additional views for users. The project will add transformer telemetry to the map-views so that operators can quickly assess discrepancies in power at the customer versus in the street. Additionally, distribution structures will be integrated into the maps to provide a system-level overview of the area around the customer's meters. Additional data will be added to show power quality events, such as voltage sag and swells, at the meter along with views of AMI gas meters.
Customer Call Validation	The Customer Call Validation project will integrate our customer-facing outage reporting systems with AMI to provide a better customer experience. The integration will require multiple customer-facing applications to initiate ping and/or on-demand read calls to the specific customer meter to assess the current status of the customer's service. Ping responses will signal that the meter is responding and that the customer does not have a full outage. On-demand voltage reads will confirm power is adequate on all phases of the customer's service. Providing this information to the customer will greatly improve the customer experience while removing unnecessary work by our operators. The customer will no longer need to wait for an operator notification that the electric issue is within the customer's responsibility. This power verification process will be scaled and performance tested to handle storm-level volumes. The information provided can also help customers troubleshoot or bring to their attention internal issues with their home's electric. The reporting for all power verification attempts will be comprehensively outlined for auditing and tracking. This will be readily available data that users will use for reporting and measuring performance of the system.
Service Level Outages	The Service Level Outages Project will expand automated outage creation to single service outages detected by smart meter events. Since 2022, the Company has leveraged AMI technology to create area outage tickets when

	multiple related electric meters are affected. This project will work towards providing the same functionality of automatic outage creation even when a single service is detected then automatically communicate to those customers prior to responding to the outage with a truck roll. The Outage Communication team has a separate request that directly benefits from the technology improvements of this project. This improvement verifies if the outage is actionable (requires Company response) or not (requires customer electrician work). This will allow the Outage Communications team to leverage, as part of a separate capital request, improved messaging to customers. The communication also ensures that we have a point of contact with a customer to provide access to the premise for any necessary restoration work. Most single service outages require access to the premise because the service ends within the customer's property. Providing the contact point and ensuring that it is an actionable outage will improve the efficiency and speed of our restoration effort while keeping the customers updated throughout.
Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act Transforming Outage Management with Advanced AMI Integrations parallels the Company's sustainability strategy and the Clean Energy Commitment to invest in a reliable, resilient, and innovative energy infrastructure. Innovating with applications that leverage the smart meters allow the Company to optimize field resources, reduce truck rolls and the associated vehicle emissions. The reliability of the grid powered by renewable energy propelled by the CLCPA will improve through these smart meter-enabled advancements in the Outage Management Systems. Additionally, these technologies will be essential for handling outages that relate to extreme weather events, which are predicted to increase in frequency in the future. The Corporate Risk of Large Scale Electric Customer Outage would be further mitigated with these projects by leveraging the AMI system to support the operators in troubleshooting during major storms. With this funding support, further operational improvements for emergency dispatchers would become available through added meter data that will be directly integrated with the OMS, allow for automation and reduce manual work by operators that are subject to potential human error. In addition, these performance-tested system integrations like the OMS, will enable a more cybersecure technological stack providing islanding capability. The AMI Refined Outage and Service Level Outage project will accurately determine the number of affected customers to help the Company improve accuracy in tracking electric outage (Customer Average Interruption Duration Index (CAIDI) and System Average Interruption Frequency Index (SAIFI) outage performance metrics). The current logic in OMS often overpredicts the size of the outage. By using AMI real-time on-demand-meter reads, the Company will accurately determine which customers are affected by the outage and will adjust the affected customer counts in OMS. Additionally, the Service Level Outage project will create outages without customer-initiated calls. We expect more accurate SAIFI and CAIDI reporting numbers as a result of these projects. The Customer Call Validation project will provide the customer immediate feedback when a reported outage is a customer-sided issue, allowing operators to focus on more critical system issues. In an affluent community, customers may have resources to have an electrician quickly address an issue even as simple as the reset of a breaker, while the Disadvantaged Communities would rely on the utility to respond then provide that advice. This project will assess these issues immediately and allow the Company to proactively reach out and inform our customers when there is a likely scenario of a	

tripped customer breaker, providing for a better overall customer experience. The Enhanced Communications for Predicted Customers project will further the customer experience because the Company will proactively have customer outage information and engage all customers, regardless whether they reached out to us or not. The validation through smart meter technology will ensure that there is proper grid visibility to operators and customers even if customers haven't called us. Overall, these two initiatives will provide much quicker response times and provide customers with more accurate information about their outage and restoration.

The Advanced AMI Load Management project enables expanded functionality to manage demand in an expeditious manner which will reduce the risk of large scale electric outages that could lead to a network shutdown. By being able to quickly reduce demand prior to equipment failure, the electric distribution grid will be more resilient for the clean energy future. The increase in electric demand from the CLCPA and electrification will create additional risk for the distribution grid that can be mitigated through this technology, and it must be able to operate quickly.

2. Supplemental Information

Alternatives

The Company could integrate to the AMI Advanced Metering Manager (AMM) application that currently provides webservice and event data to downstream systems. This alternative does not provide the same level of performance as integrations with the ODS because it would be a shared application between the OMS and the Meter Data Management System (MDMS). When the MDMS is making large scale requests to AMM, those requests may impact the performance of conflicting requests from the OMS. The risk of these performance impacts, especially in major storms, is the reason that this alternative is not recommended.

Communication for predicted customers without utilizing AMI was active in the past and rejected due to ineffectiveness. In these cases, we run the risk of communicating with customers that are not experiencing outages. We also overcommunicate with these customers since we send them ETR messages as well as restore messages. In the past, the overcommunication was a point of complaint for our customers and it is preferred to turn the system off instead. This is why this alternative was not chosen.

The option to update custom applications to improve ARVE and handle auto-ticket closure is far too expensive to maintain and is deemed impractical. This alternative has additional risk because of its complex architecture and the process is still being performed by external systems and would still rely on multiple applications for the process. Each additional application adds delay and risk of failure. Having multiple applications handle these automated functions will also introduce the need to increase performance of those applications and increase their maintenance requirements. This alternative was not chosen due to the complexity of the design which adds additional risks.

The alternative investigated for the Advanced AMI Load Management was to increase connections and threads to the AMI HES web services. The increase of threads will be capped due to the limitations in the number of consecutive web service connections at the Head End System (HES) and will have impact to billing as the HES performance degrades with the volume. The design of these web services is not optimized for performance or bulk operations. As a result, this option is not recommended for the project..

The alternative approach of handling outages related to load management would be to design a new system, outside of the OMS, that would track them. A number of new integrations would be required to support this system including outage map visibility, customer messaging, and the connection to our most secure networks. As a result, the cost of such system would be much higher when compared to the proposed enhancement in this white paper and it would make the tracking of load management outages prone to human-error. In addition, the time frame would be much longer to develop a completely new system. As a result, this option is not recommended.

Risk of No Action

Project Name	Risk of not implementing project
AMI Fortification	○ The risk of no action is a less comprehensive OMS, which may lead to incorrect assessments of outage calls. The dispatcher is more likely to miss the scenario where a customer was disconnected for non-payment and unnecessarily roll an emergency response truck to respond. The dispatcher may also mistakenly treat as a partial power situation as a non-outage because the OMS will show that the meter is responsive. ○ The other risk will be that cybersecurity events leading to islanding will limit access to AMI data. There will be an operational blindness to meter read data requiring increased unnecessary truck rolls.
Native ARVE and Auto-Ticket Closeouts	• With no Action, we will still utilize the current ARVE process which have the risk of slowdowns or failure due to system loads. • During high volume events, we will still have the pain-point with the single outage tickets. • If there is no action, then we will continue manual analysis of outages reported by customers only. This lends itself to potential missed and delayed outage response. • By not automating a lot of the processes, we are still reliant on the operators to manually handle each job and each customer to call in every outage. This will reduce productivity, response/restoration times, and result in less efficient use of emergency response personnel.
Enhanced Communication for Predicted Customers	• We will only be communicating with customers that contact us. This standard does not provide the elevated customer experience of communicating with all customers that are experiencing an outage.
AMI Refined Outages	• Electric Outage Overprediction Risk: The OMS will continue to overpredict the size of the electric outages and all “downstream” applications will continue to display overestimated number of affected customers in their platforms. • By not automating a lot of the processes, we are still reliant on the operators to manually handle each job and each customer to call in every outage. This will reduce productivity, response/restoration times, and result in less efficient use of emergency response personnel

Advanced AMI Load Management	- Large Scale Electric Outages risks are increased if no action is taken as load management with smart meters is limited to smaller use cases due to its performance limitations. Logistics Risk: We will continue to generate many outages tickets related to load management events and will allocate significant resources of tracking those jobs in OMS. Electric Outage Overprediction Risk: The OMS will continue to overpredict the size of the electric outages and all “downstream” applications will continue to display overestimated number of affected customers in their platforms.
Critical Customer Communication Enhancement	- This project provides technology infrastructure enhancements to allow for automated communication to notify critical customers of a detected outage on their smart meter and provide proactive outage management for these customers. - A new integration will be created between the OMS and the Business Intelligence layer to compile all necessary customer information to send to vendor, Message Broadcast, to initiate customer communications about the potential outage. - Message Broadcast will create a new API that allows us to send messages to customers as the outages occur. This new API will not rely on the 15-minute cycle times the Message Broadcast currently has. - A new User Interface will be created to allow the control center control to manage the critical customers communication enhancement. The interface will also allow the operators to control all available configurations in the custom filter.
STORM Enhancements	- The AMI data helps control center operators and engineers to determine the voltage levels/outage on the service level. However, it would still require users to go to other (SCADA) systems to gain additional knowledge about the voltage condition. This process makes it extremely difficult for users to analyze AMI data and SCADA data coming from two different systems in two separate applications. - This also can contribute to the potential error while analyzing voltages in two separate systems.
Customer Call Validation	The automation will ensure that all customer outage calls will go through the power verification process prior to requiring emergency response personnel to address. The customer’s experience is at risk as well since the customer may wait for an emergency response personnel on an issue that could be addressed through the customer’s own action.
Service Level Outages	We will still be relying on customer calls for single service outages.

Non-Financial Benefits

- Improved cybersecure stance for AMI-OMS integrations
- Provides customers faster response to reach out to electrician for issues that is not within Con Edison's responsibility
- Reduces load on the MDMS system
- Improved tool to reduce demand in extreme emergencies
- Improved customer experience
- Enhanced customer messaging
- Improved accuracy in CAIDI and SAIFI reporting
- Easier process of handling load management events in OMS
- Ability to act on non-outage tickets in the system outside of the OMS
- Automate manual process to ensure efficiency and reduce human errors

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

2. Major financial benefits

3. Basis for estimate

The cost estimates are based on historical cost for similar forms of integration work and historical hourly rates applied to the expected work scope of each project.

Tentative funding individual workstreams (\$000)

Capital (\$000)

Project Name	2026	2027	2028
AMI Fortification	1,096	1,096	
Native Restoration Validation and Auto Ticket Closure		1,095	733
Enhanced Communications for Predicted Customers	1,756		
AMI Refined Outages		2,180	2,060
Advanced AMI Load Management		1,375	16,349
STORM Development	805	805	805
Service Level Outages			2,523
Critical Customer Communication	191	382	
Customer Call Validation	2,663		
Total	6,511	6,933	22,470

Project Risks and Mitigation Plan

Risk: There is uncertainty in the Itron ODS timeline to include the ability to request on-demand reads for all phase voltages at a meter. The Company will ensure there are contract provisions to ensure that this functionality is delivered in time to meet the needs for this project.

Mitigation: Company will also be able to implement a limited on-demand read, that exists today, to obtain voltage on channel voltages, and then modify the integration in the future to handle the remaining voltage measures upon interface availability.

Risk: Integrations onto the business intelligence layer and AMI systems adds more processing load to that application.

Mitigation: Major storm performance is a risk, and this risk will be minimized through performance testing prior to go-live. Timing studies will be performed in order to ensure adequate performance.

Risk: There will be a great deal of additional volume to message broadcast that could create performance degradation, resulting in tardy messages to customers.

Mitigation: There will be coordination with the messaging vendor to ensure adequate performance.

Risk: Itron development of applications to support load management is still a work in progress, currently being tested in Itron's labs. The application is not fully tested in a production scenario.

Mitigation: Partner and participate in Itron's development in a preliminary stage and pilot the application before continuing into a full project.

Risk: The critical part of this enhancement development is work that will be completed by Oracle team. In the past, some of the issues related to OMS development took a long time to resolve by Oracle team. As a result, this proposed integration may face the same issues that can affect the project go-live date.

Mitigation: To address this risk, the requirement gathering process for this project will start in 2024. The critical requirements will be provided to Oracle team in advance of starting development work.

Risk: The cyber security threat is one of the risks that can potentially affect the implementation of one of the enhancements.

Mitigation: Cyber security teams will review system architecture of the new integrations.

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

Outage Communications Program

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		21			
Regulatory Asset					
Capital (Total)		6,511	6,933	22,470	
Labor		2,823	2,375	4,899	
Contract Svcs.		901	1,966	9,133	
Other		1,332	1,445	5,584	
Overheads		1,455	1,147	2,854	

Energy Management 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Adapt2 Battery Storage Scalability Enhancements	
Project/Program Manager: Howard Kosel /Jenny Ng	Project/Program Number (Level 1): 27696077
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 03/01/2026	Estimated Date In Service: 12/31/2026
2025-2029 Funding Request (\$000) Capital: 702 O&M: 267	
Work Description: Presently, Energy Management uses Adapt2, an advanced electric nomination and scheduling system. Adapt2 supports managing participant transactions, including bids, offers, auctions, contracts, awards, settlements, and invoices across all North American ISO markets. These transactions typically represent over a billion dollars annually, which can increase significantly depending on the market price of energy. Market rules are evolving as the regulatory landscape transitions to renewable energy. To adapt to these changes, Energy Management needs to enhance this application's functionality to support the bidding of grid-scale batteries and other distributed energy resources reliably adequately, and efficiently. This enhancement is critical for successful implementation of regulatory-mandated programs in the near term. The bidding of distributed energy resources is notably different than the existing traditional electric generating assets. The Adapt 2 tool requires additional modules to augment existing functionality to reliably and accurately bid assets into the marketplace. The core components of Adapt2 include Market Link, Front Office, Back Office, and Plant Portal with over 2,500 market participants. This project is looking to develop and configure additional modules to enhance functionalities, which consists of the following: Dashboard Builder: A robust analytics tool that provides a customizable interface for monitoring and managing market activities and key performance indicators such as bid submissions and generator offers in real-time. Offer Calculator: A sophisticated tool for formulating generation bids and offers, allowing dynamic querying of asset models and execution of strategies for single units or entire fleets. Profit and Loss (P&L) Reporting: Delivers real-time and scheduled P&L calculations, integrating data from SCADA and trading systems to provide comprehensive financial insights. Accelerator: An advanced bid formulation toolkit that enables users to create templates for various ISO transactions, ensuring rapid and accurate submissions.	

Justification Summary:

The transition to renewable energy and the evolving regulatory landscape necessitates enhancements to Energy Management's current systems to manage a growing fleet of energy storage resources. The implementation of Adapt2 is crucial for adapting to these changes and ensuring efficient and compliant operations in the wholesale energy markets. This project is required for management of multiple energy storage resources, to develop and implement an offer strategy, and to track and monitor asset performance and P&L.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The primary driver of the Adapt2 enhancements is to optimize our growing fleet of energy storage resources, which are critical to reducing New York's reliance on fossil fuel generation. This also helps the company meet its Clean Energy Commitment and support New York State's environmental initiatives (e.g., Climate Leadership & Community Protection Act).

2. Supplemental Information

Alternatives

Build the capability in-house utilizing Microsoft Excel and our current Adapt2 functionality. This would require additional FTEs and is subject to human error and these transactions would be time sensitive requiring real time information.

Risk of No Action

Risk 1: The risk of not implementing the required Adapt2 modules would leave the Company without the technical tools required to effectively manage a fleet of energy storage resources. Energy storage resources are a crucial asset to the clean energy transition. They serve as a tool in the evolving landscape of clean energy resources.

Risk 2 : The risk of not implementing would lead to the underutilization of the asset portfolio which provides system reliability and offsets customer costs.

Risk 3: The risk of not implementing would lead to the continuation of manual reporting processes which is subject to human error

Non-Financial Benefits

The Adapt2 enhancements will ensure the energy storage resources are offered into the wholesale market in compliance with NYISO and FERC regulatory requirements. P&L tracking will help enable effective communication of the benefits to our customers. The anticipated benefits of this project include enhanced operational efficiency, strategic asset management, increased efficiency, reduced human error, and improved audit processes.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

2. Major financial benefits
3. Basis for estimate
The estimate was prepared in partnership with IT, discussions with the company that helped develop Adapt2, and analyzing historical capital costs for similar projects.
Project Risks and Mitigation Plan
The risk of going over-budget and project delays will be mitigated by utilizing Energy Management's project management operating model including governance meetings and leveraging tools to monitor and proactively mitigate project risk.
Technical Evaluation / Analysis
Project Relationships (if applicable)

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						<u>247</u>
Regulatory Asset						
Capital			<u>905</u>	<u>1,437</u>		

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M			85	89	93
Regulatory Asset					
Capital (Total)		702			
Labor		32			
M&S					
Contract Svcs.		589			
Other		65			
Overheads		16			

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: AutoCAD Phase 2 (Engineering Software & Equipment Upgrade)	
Project/Program Manager: Donal Fortune	Project/Program Number (Level 1):
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 1/3/2025	Estimated Date In Service: 12/31/2029
2025-2029 Funding Request (\$000) Capital: 2,600 O&M:	
Work Description: Autodesk is the maker of Computer-aided design software. Company engineers and designers rely almost exclusively on these products for CAD work. The CAD (Computer-Aided Design) Program requires periodic upgrades of software and hardware to keep up to date with current technology. Autodesk's licensing scheme follows a subscription format that entitles its clients to access all future releases of its software for a determined period. The funding requested in the five-year capital plan includes the upgrade and replacement of wide format plotters, 3D scanners, CAD laptops, and various other hardware and software as well as future projects required to support operational needs.	
Justification Summary: The CAD group of the Engineering Management Administrative & IT Support is responsible for supporting over 100 CAD laptops/workstations and other equipment used by designers and engineers throughout the company for Computer-aided design work. Upgrading the Autodesk collection of software products and our equipment affords our users the latest technologies and allows them to keep up with industry standards and increase productivity. Additionally, productivity improvements are expected to be achieved through better software functionalities and hardware. For instance, 3D design will improve efficiency and facilitate collaboration across our departments. One of the key construction projects benefiting from this program is the Brooklyn Clean Energy Hub project. Not being able to support the engineering organizations would adversely impact daily operations as well as ongoing and future Clean Energy Commitment projects.	
Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act Not being able to provide CAD support will adversely impact CECONY. Our Engineers and Designers rely on these Computer-aided Design software to create and modify drawings.	

2. Supplemental Information

Alternatives

Taking no action would increase the cost of maintaining older equipment (plotters, scanners, and CAD workstations/laptops) and put Central Engineering at risk of not being able to support operational needs, CERC, Continuity of Operation activities, and result in loss of productivity.

Risk of No Action

No action on these items would deprive the company of access to software updates from Autodesk. Central Engineering would not be able to support Con Edison users as it relates to CAD software and hardware and keep pace with industry standards, our contractors, and our A/E vendors. In addition, the cost of maintaining older equipment (plotters, scanners, and CAD workstations) would be enormous and harm productivity.

Risk 1

Failure to fund this program will result in Designers and Engineers working with obsolete and inadequate equipment. More importantly, 3D design is resource-intensive and requires equipment capable of supporting the software adequately. Without the proper equipment and support, the future goals of the organization will be stifled.

Risk 2

Failure to fund this program will result in Designers and Engineers working with obsolete and inadequate equipment. By not maintaining certain standards of hardware and software the likelihood of a reduction in the quality of Engineering work product increases.

Non-Financial Benefits

Productivity improvements are expected to be achieved through better software functionalities and hardware. For instance, 3D design will improve efficiency and facilitate collaboration across our departments. Not being able to support the engineering organizations would adversely impact daily operations as well as ongoing and future Clean Energy Commitment projects.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Basis for estimate

N/A

Project Risks and Mitigation Plan

N/A

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	400.0	550.0	550.0	550.0	
Labor					
M&S					
Contract Svcs.	\$375.0	\$525.0	\$525.0	\$525.0	
Other	\$25.0	\$25.0	\$25.0	\$25.0	
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

CECONY / Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Budget System Enhancements	
Project/Program Manager: James Quackenbush	Project/Program Number (Level 1): 20613824
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 01/2015	Estimated Date In Service: Ongoing
2025-2029 Funding Request Capital: \$6,500,000 O&M:	
Work Description: This program represents an ongoing investment in the continuation of the Company's move from the legacy Hyperion Planning (HP) suite of planning and budgeting applications to the newer Enterprise Planning and Budgeting Cloud Service (EPBCS) technology platform. EPBCS was successfully implemented in 2020 and first utilized for the 2020 planning cycle. Through implementation and based on user experience we continue to implement enhancements to the tool to provide additional reporting capability, better integration of actuals and forecasting processes, data maps and data governance processes. The enhancement work is expected to continue through 2029. Investment is needed to integrate updates and processes that result from the Oracle Human Capital Management (HCM) project and potentially through the Oracle EBS cloud migration project additional configuration changes and modifications to the application will also be necessary for ConEd to benefit from Oracle EPM Enterprise features in EPBCS.	
Justification Summary: The major portion of the Budget Systems Enhancement program consisted of moving from on-premise Hyperion Planning to cloud based Oracle ePBCS (enterprise planning and budgeting). This initial conversion was part of the road map of the Oracle Strategic Agreement. Several enhancements were identified during the initial project, and additional enhancements continue to be identified as people use the system more and become more comfortable with the data and process. The current projects involve migrating to the enterprise license format of ePBCS, which has the benefit of moving to an unlimited license (users) and unlimited environment structure, which will enable future growth of the system and user base without incurring additional costs. Moving to the enterprise license also will address significant performance issues in the current planning and budgeting system by unlocking additional capabilities embedded in the new structure (e.g. scripts where data updates made at one planning intersection do not require a refresh of all planning elements which reduces data aggregation time). On-going enhancements will continue to build the link between the rate case process and budget from both a filing perspective and an on-going reporting perspective which has the potential to allow more efficient updates as financial data changes through settlement negotiations and can	

eliminate manual reporting processes for rate case exhibits and/or joint proposal reporting requirements. Additional justification discussed under the risk of no action section.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Moving to the enterprise environment and enabling additional functionality that comes in that environment will allow us to better support and more efficiently develop budgets, forecasts and rate requests.

2. Supplemental Information

Alternatives

Alternative 1

Do not invest in upgrades and enhancements, develop workarounds to integrate new or updated data loads that will not leverage the new features and efficiencies the enterprise license provides.

Risk of No Action

Risk 1 – No action would impede the ability to provide accurate and timely forecasts

If the upgrade to enterprise license is not performed, ePBCS could experience further performance issues. Currently the application refreshes require a full day to complete preventing users from accessing the system during those times. The application is prone to breakage during monthly updates and poor performance due to unused artifacts and associated overhead. Some automations are broken and have been manually executed for months. As data maps and underlying processes change through the implementation of the HCM project and Oracle EBS cloud project, the integrations to the budget system must be maintained. The alternative would be to maintain these changes offline and manually map data and workflows into ePBCS.

Failure to be able to accurately forecast and budget various planning items such as O&M, Capital, net plant, and depreciation would significantly impact the Company's ability to plan for future budget years and submit rate case projections.

Non-Financial Benefits

Implementing the enhancements will provide for better reporting and analysis, which will improve communications and dataflow between departments within Finance as well as between Finance and Operations. It enables an effective and efficient budget and forecasting process for the Company and avoids the use of many offline calculations and/or manually updated spreadsheets to produce accurate and reliable financial projections.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Basis for estimate Historical enhancement work during the 2021-2024 time period.
Project Risks and Mitigation Plan N/A
Technical Evaluation / Analysis N/A
Project Relationships (if applicable) Oracle EBS cloud migration – some enhancement work could result from that implementation impacting integrations for actuals into the budget system

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital	4,278	1,876	1,241	1,741		1,000

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	\$500	\$1,500	\$1,500	\$1,500	\$1,500
Labor					
M&S					
Contract Svcs.	\$485	\$1,450	\$1,450	\$1,450	\$1,450
Other					
Overheads	<u>\$15</u>	\$50	\$50	<u>\$50</u>	<u>\$50</u>

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Central Operations Battery Monitoring Systems	
Project/Program Manager: Michael Stackhouse	Project/Program Number (Level 1):
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2023	Estimated Date In Service: 12/31/2027
2025-2029 Funding Request (\$000) Capital: 935.0 O&M:	
Work Description: There are over 250 battery banks in Central Operations including Steam and Substation that are used for emergency DC power for the control, operation, and indication of critical assets. This project is funding Steam Operations installation and commissioning of the 51 battery banks. These batteries are currently maintained in accordance with applicable Engineering specifications and NERC requirements at the East River Generating Plant. The required battery maintenance is time consuming, requiring mechanics to perform a test to capture voltage, impedance and strap resistance and the battery health data is only collected during maintenance activities. Unfortunately, the current Preventative Maintenance schedule collects data quarterly which doesn't grant us enough data points to perform trending analysis to identify problems pro-actively. On our sealed valve regulated lead acid batteries, there have been incidents due to hydrogen gas pressure build up causing catastrophic failure of battery cells. With real-time condition data, Con Edison can pick up anomalies specifically on float current, voltage, internal resistance where intervention can eliminate these incident recurrences on the DC systems. A recently completed battery monitoring Research & Development project has demonstrated that the use of this equipment eliminates periodic maintenance requirements and will provide real-time battery health data that can be instrumental in avoiding failures of the DC system. During recent NERC audits, there were findings found on Steam Operation's maintenance and data collection practices. This project will install battery monitoring systems on selected batteries in steam operations along with the configuration of an already installed centralized monitoring software system, AVEVA Pi that can be utilized to access and monitor battery condition data and generate automated alerts accordingly. Battery monitoring system installations will be prioritized based on regulatory compliance concerns, O&M cost avoidance of approximately \$220,000, age of existing battery, etc.	
Justification Summary: Installation of battery monitoring systems will lead to O&M cost avoidance of approximately \$220,000 and will identify degrading battery conditions thereby improving reliability of these critical assets. In addition, condition monitoring systems meet all NERC requirements thereby eliminating	

the risk of non-compliance. During our 2016 NERC audit, there were findings found on Steam Operation's maintenance and data collection practices.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Department.Substation Operations.Equipment Failure. Monitoring of the DC system will identify issues in advance of failure. Loss of the DC system results in loss of control and indication of critical assets with potentially serious consequences to reliability.

Department.Substation Operations.Regulatory Compliance. Monitoring of the DC system will identify issues in advance of failure. Loss of the DC system results in loss of control and indication of critical assets with potentially serious consequences to reliability.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

Do nothing. Continue to inspect batteries and gather inspection data manually.

Risk of No Action

Risk 1

Risk 2

Risk 3

Do nothing. This alternative is not recommended as battery monitoring technology is cost effective and readily available.

Non-Financial Benefits

Battery monitoring systems increase safety because they eliminate the requirement for periodic maintenance and inspection. Reliability is also improved as continuous monitoring enables much faster identification of battery degradation. Regulatory compliance is improved as monitoring systems meet all battery inspection requirements eliminating the risk of missed inspections or insufficient data collection, analysis, and retention.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

2. Major financial benefits	
3. Basis for estimate	
Project Risks and Mitigation Plan	
Risk 1	Mitigation plan
Risk 2	Mitigation plan
Technical Evaluation / Analysis	
Project Relationships (if applicable)	

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						551.0

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	288.1	335.0	335.0		
Labor	40.0				
M&S					
Contract Svcs.	203.1	290.0	290.0		
Other	25.0	25.0	25.0		
Overheads	20.0	20.0	20.0		

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Central Operations Tableau to Power Bi Migration (Const)	
Project/Program Manager: Franklin Alvarez	Project/Program Number (Level 1): 25496807
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date:	Estimated Date In Service:
2025-2029 Funding Request (\$000) Capital: 900 O&M: 0	
Work Description: Information Technology has recommended the new visualization tool to be used for end user will be Microsoft PowerBi. This will require the migration and creation of a new visualizations in the Power Bi environment. The migration will be from the legacy Salesforce Tableau visualization environment to the Microsoft Power BI environment. This will include creation of the new data sources, database servers, gateways, visualizations, and SQL code. The current Construction visualizations have been evaluated for potential conversion to PowerBi. The goal is to have Construction's visualizations migrated by year end 2026. We will deliver documentation and tools to other individual organizations in Central Operations during 2025-2026 for their use in their organization's migration. Construction will use the visualizations will be used in conjunction with the new Maximo Work Management system (CworX) deployed in August 2024. The new environment will require hardware purchases to setup on premise databases servers, file servers and gateway environments. We will need to purchase SQL server licenses for the on-premises servers. The data sources will include all the new Maximo on premise databases, Learning Center data for compliance, and the employee data warehouse. We will be creating new SQL code and scripts to assist in the creation of the new visualizations. The project will include Information Technology, programming contractor services and the Construction business group.	
Justification Summary: The goal is to avoid the cost of the perpetual Salesforce Tableau licenses in May 2025. Note May 2025 is when the renewal for the Salesforce Tableau licenses is due. The PowerBi upgrade will enable Construction to realize reduction in clearing cost charges of \$325k per year starting in June of 2026 This cost reduction will increase to 550k of clearing reductions starting in 2027 once deployment is completed at the end of 2027.	

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Supports One Enterprise System. Power BI in Office 365

Risk 1: Major Storm	Risk 1 Description: Tableau Reports are used for supporting storm outage events. The current environment has not built in redundancy in case of the computer environment failure.

2. Supplemental Information

Alternatives

The alternative is to remain on the Tableau environment and incur increased maintenance and license costs for a non-supported platform.

Continue running reports on a platform which may be non-supported by the vendor Salesforce and local Information Technology support by 2025. It is important to be on the latest supported secure versions This will enable Con Edison to minimize potential Cyber risk and downtime in the older environment. The cost increase will start on the renewal in 2025.

Risk of No Action

N/A

Non-Financial Benefits

Building expertise with the approved visualization tool (Power BI). This will build core competence in the business areas for use of the new supported tool.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Total Cost (\$000)

All Previous Actuals (530) + Cur. Yr. Sanctioned Forecast (450) + Next 3 Years Est. (1,100)
= Total Cost (2,080)

4. Basis for estimate

Cost derived by historical costs of contractor resources.

5. Conclusion

Migrating off Tableau will enable the Company to adopt the new enterprise architecture standard for reporting and minimize potential cyber risks. The existing Sales Tableau standard is trending down in the road to eventually being phased out over the next few years across the enterprise.

Project Risks and Mitigation Plan N/A
Technical Evaluation / Analysis Supported by Information Technology and Enterprise Architecture group.
Project Relationships (if applicable) CworX (Maximo)

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year*</u> <u>(O&M</u> <u>Only)</u>	<u>Actual</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital				453		77

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	400	500			
Labor					
M&S					
Contract Svcs.	400	500			
Other					
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Connected Vehicles - Enterprise Vehicle Telematics	
Project/Program Manager: Michael P Trongone	Project/Program Number (Level 1): 27708281
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: Q2 2025	Estimated Date In Service: Q2 2026
2025-2029 Funding Request (\$000) Capital: \$17,859 O&M: \$3,968 ¹	
Work Description: The Company currently has a fleet that includes approximately 4900 vehicles. The Company currently leverages a telematics technology solution to primarily support GPS asset tracking, with limited data and reporting capabilities. Through this project, the Company will advance the use of this technology solution with a more comprehensive product that will provide the Company increased data for analytics that can lead to improved driver behavior and vehicle operating trends. The scope of the project includes purchasing and installing new devices that will provide telematics for the entire fleet as well as the installation of AI-powered cameras in all light and heavy duty vehicles. Also included is the 5-year software subscription necessary to access telematics data, reports, and dash camera information. In order to ensure that the future technology solution meets the company's business needs and long-term vision solution, the Company intends to conduct a phase 0 evaluation with at least three established vendors. The phase 0 evaluation includes installing telematics devices and AI-powered dashcams in approximately 50 vehicles. The phase 0 evaluation is at no cost to the Company This project aligns with the company's commitment to safety and aims to implement an improved technology solution that supports improved driver behavior and reduces motor vehicle collisions. The proposed solution will assess driver behavior via a dash camera and vehicle telematics. It will provide real-time, in-cab coaching to actively influence corrective driver behaviors and prevent motor vehicle collisions from occurring. By partnering with an established supplier, the Company will also be able to explore using telematics data to gain insights and make business decisions that will improve efficiency. For example, access to real-time data and reports will help improve operations dispatch tools and optimize travel routes and improve response times. Customizable alerts will also be developed to provide real-time information to drivers and managers that can aid in reducing vehicle emissions from idling as well as fuel efficiency.	

¹ A discrepancy was noted in the dollars requested for this program after the revenue requirement was calculated. This will be corrected at update.

Once the pilot evaluation is completed and a product is selected, the telematics and AI-powered dash cam solution selected will be installed in all new and existing light and heavy-duty vehicles. All existing light and heavy-duty vehicles will be retrofitted with the new solution over a 12-month period from 2026 through 2027. The heavy equipment consisting of forklifts, backhoes, etc. will have the telematics devices only installed. This whitepaper requests funding for this installation; the implementation of a new software solution to support the associated fleet and asset tracking, telematics and reporting and analytics; and required resources to support both the initial implementation, ensure enterprise-wide adoption and long-term success.

Justification Summary:

The company currently uses:

1. FTS IntelliHub- Provides GPS location services.

The Company currently pays cellular usage fees to support the FTS IntelliHub GPS. The current GPS tracking system has limited functionality in areas such as historical reporting. FTS IntelliHub can only pull reports on vehicle location. It does not record any Telematics information such as odometer readings, fuel usage or vehicle diagnostics accurately. This system is unable to provide the necessary information to drive future business decisions in the various operating groups across the company.

AI-powered cameras would also be a critical tool in our effort to improve safety and reduce potential Motor Vehicle Collision's (MVC's), leading to avoided O&M cost to repair vehicles and litigation cost (estimated at ~\$4.2 million annually). With the evolving AI technology, the camera system would provide real-time driver coaching, to influence corrective behavior, potentially reducing MVC and injuries.

Utilizing a telematic and AI-powered platform that provides all critical data and vehicle information would help advance the Company in key business objectives providing that benefits the company as a whole and our customers.

Beyond added visibility into vehicle operations, these new technologies can provide robust management tools to aid in the company's commitment to safety and clean energy initiatives. Data-rich reports and analytics will not only help operational efficiency, but they will also provide trends to better understand driver behavior and enable the development of programs that will aid in corrective actions to reduce motor vehicle collisions. Customizable push alerts can also be created to alert operators of safety, traffic and environmental infractions which will be reported to responsible groups for review. Telematics data will be considered for use with evaluating fleet right sizing and our EV replacement goals.

In addition, vehicle location data can be used for integration into various systems to allow for development of reports and visibility of crew outage response status, providing enhanced customer outage experience.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This project would align with the company's clean energy goals and initiatives.

- The telematic data captured in new platform would provide greater visibility into vehicle idling trends, combined with robust analytics to aid in developing programs and initiatives that would lead to reduction of unnecessary idling, resulting in substantial adherence to statewide idling law Subpart 217-3 and reduce environmental pollution
- Real-time telematics providing accurate vehicle GPS location will allow the use of this information to develop reporting and integration into systems that will create the ability to inform customers of crew arrivals as they work on restoration of related customer outages. This will provide assurances to customers that crews are actively working on repairs and restoration to their outage.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

Remain on the current platform Intellihub. This solution does not provide the level of data both telematics and video, required to meet business objectives. It does not provide insight into driver behavior at the level of detail that would be provided from an in-dash camera. For example, front end collisions would be accurately depicted with an in-dash camera to identify responsibly to ease ligation. Additionally, advancements in AI, fundamental to many new platforms would provide real-time driver coaching. This is an important aspect to influence corrective driver behavior to reduce Motor Vehicle Collision's. .

This is rejected due to less functionality such as:

- Limited custom reporting
- Limited driver behavior data
- Unable to provide on the spot driver coaching

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

Risk of No Action

Risk 1

The current FTS IntelliHub system has limited capabilities and does not allow for the Company to use the platform to meet new and emerging business objectives. This includes improving driver behavior to aid in reduction of motor vehicle collisions, new programs and initiatives to reduce vehicle idling and enhanced customer outage and appointment communications, specifically on crew arrivals using real-time GPS locations. If the project were not conducted or an upgrade not funded, the Company would not be able to advance in these areas and remain with an inadequate solution to meet these desired business objectives.

Risk 2

Operate without realtime driver coaching resulting in the ability to maintain or decrease MVCs or injuries to the public and employees.

Risk 3

Non-Financial Benefits

- Increased safety and fleet maintenance
- Improved customer outage and appointment experience by providing updates and notifications on crew arrivals.
- Improved workflows and communication among departments
- Stronger relationships with community or with regulators
- Aid in driver coaching to reduce MVC

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

2. Major financial benefits

Utilizing dash cameras with AI integration to provide real-time driver coaching will allow us to take timely corrective action. This combined with advanced driver analytics derived through vehicle telematics, would provide insight into driver trends allowing the development of programs that lead to reduced motor vehicle collisions (MVC), resulting in fewer repairs and litigation costs. Historically we have incurred ~ \$340K annually in vehicle repair costs combined with ~ \$3.8 million in litigation costs. Leveraging this technology, we aim to reduce MVC's and in turn associated litigation costs. This is a new program and it is difficult to translate into savings as each event is different.

Data-rich reports will be considered for use with evaluating the fleet size and avoiding additional vehicle purchases where possible. These reports may also provide insight for prioritizing vehicles that can be replaced with an EV.

3. Basis for estimate

Estimates are based on prices from current contracts for the existing systems and estimates based on vendor quotes for the proposed solution.

Project Risks and Mitigation Plan

Risk 1

Mitigation plan

Due to the Company responding to various emergencies including major weather-related events, vehicles may not be available for installation when required. Vendor will be asked to provide flexibility with resource scheduling to accommodate vehicle availability but impacts to overall schedule and timeline is possible.

Technical Evaluation / Analysis

Project Relationships (if applicable)

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M		\$162	\$128	\$15		\$455
Regulatory Asset						
Capital						

2026-2030 Request²:

Total Request by Year:

	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>	<u>2030</u>
O&M		937	1,000	1,000	1,000
Regulatory Asset					
Capital (Total)	17,769	89	0	0	0
Labor	910	50	0	0	0
M&S	0				
Contract Svcs.	15,762	0	0	0	0
Contingency	829	13	0	0	0
Overheads	269	27	0	0	0

O&M includes 5 FTEs for overall management and support of telematics and camera solution and IT support for system integrations and report development.

² A discrepancy was noted in the dollars requested for this program after the revenue requirement was calculated. This will be corrected at update."

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Construction Technology Improvements (*)	
Project/Program Manager: Franklin Alvarez	Project/Program Number (Level 1): 25496811
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 01/30/2022	Estimated Date In Service: 7/31/2028
2025-2029 Funding Request (\$000) Capital: 2,000 O&M:	
Work Description: Construction will be performing technology improvements which include the upgrades to the Construction field documentation, payment, and oversight inspection process. The upgrades are related to our technical environment that changes yearly based on the changes and growth of the Construction business. Included is the upgrade of field collection devices for inspectors. Survey related equipment for the mapping of the company's assets in a digital landscape. This will include server upgrades, field devices upgrades, safety process enhancements and fraud prevention initiatives.	
Justification Summary: Currently, there is no other method or funding available for the organizational Server/ Storage / Field upgrade necessary to support the Construction business. Capital upgrades and work need to be charged to a POET capital account. Construction contractors are paid for excavation work completed in the trenches. This information is measured by hand and agreed upon by contractors and Con Edison employees. The automation will capture accurately measurements, and the safety setup for excavations. This will reduce the possibility of fraud and safety related issues.	
Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act	
Risk 1: Departmental Construction Major Storm	Risk 1 Description: Damage Assessment function is moving to digital non paper format. We will have upgrades necessary for this function. Storage requirements will increase. The risk is the inability to storage information based on lack of storage and new business capacity requirements. This processing for reporting and monitoring of events.

Risk 2 Name: Corporate ConEd Regulatory and Compliance Fraud	Risk 2 Description: The captured field information is stored electronically from field devices. The stored information is used for validation and monitoring of payment accuracy. It is important have transparency to payment process patterns.

2. Supplemental Information

Alternatives	
<u>Alternative 1 description and reason for rejection</u> Do not provide upgrades to server environment unless project related. This would introduce potential noncompliance for operating system levels, performance issues on servers. Inability to store information electronically based on records retention requirements. Processing inefficiencies would spike based on volume and system auditing needs.	
Risk of No Action	
N/A	
Non-Financial Benefits	
Storage for Digital payment process. In addition, we will be able to keep our operating systems current. Deployment of software for fraud prevention and site safety review. The additional funding is requested for Construction's Quality Assurance (CQA). The CQA group has reviewed using Light Detection and Ranging (LIDAR). This technology is a remote sensing technique that uses a laser to measure distances and create 3D models of the Earth's surface. This technology will be used to electronically monitor the payment process for fraud protection. LIDAR will provide digital documentation to proper safety setup for field excavation.	
Summary of Financial Benefits and Costs (attach backup)	
1. Cost-benefit analysis (if required)	
2. Major financial benefits	
3. Basis for estimate	
Project Risks and Mitigation Plan	
Risk 1	Mitigation plan
Risk 2	Mitigation plan
Technical Evaluation / Analysis	
Project Relationships (if applicable)	

Enter text here. When complete, remove instructions below. Enter "N/A" if this section does not apply.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year*</u> <u>(O&M</u> <u>Only)</u>	<u>Actual</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital			283	377		364

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	650	500	500	200	150
Labor					
M&S					
Contract Svcs.	650	500	500	200	150
Other					
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology/ BP&T 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: : CPMS Customer Data Self-Service and Data Governance and Compliance Modernization	
Project/Program Manager: Hla-Htay, Cherry, Lucas, Reginald	Project/Program Number (Level 1): 27708289
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: Q1 2026	Estimated Date In Service: Q4 2028
2025-2029 Funding Request (\$000) Capital: 22,605 O&M: 6,500	
Work Description: This request outlines the 5-year program for utilizing new technologies along with better data management to improve customer satisfaction, promote self-service, boost Energy Services Representative (ESR) efficiency, simplify the case lifecycle, support present and future initiatives to align with the Company's "Clean Energy Transition", and meet data management requirements imposed by legislation. The implementation of the initiatives and technologies outlined here will also elevate our customer-focused tasks and automate manual functions, thus reducing human error, speeding up service delivery to our customers, and complying with mandated data management requirements. These technologies, which began with the integration of the Automated Virtual Assistant (AVA) inquiry categorization Natural Language Processing (NLP) model into the Customer Inquiry process, can greatly improve the provision of embedded knowledge to customers and employees in the relevant context and through suitable channels. The further adoption of advanced technologies outlined with this request can also enable the use and management of the data stored in the Customer Project Management System (CPMS) and Project Center (PC) systems to better support and meet Con Edison corporate goals as well as comply with required mandates. The noted initiatives being pursued with this program will be described in detail in the following sections, these include the following: ▪ Business Intelligence and Decisioning Models, Location and Meter Network enhancements ▪ Customer Inquiry model improvements and Chat Features (Case Inquiry and Service Specification Reference) ▪ Annual Review of Records, Destruction Policy and Privacy Readiness, Data Governance controls	

- Clean Energy and Electric Technology Empowerment

In all the efforts noted here the level of effort and costing required to accomplish each initiative will include internal business and IT costs as well as any edge system interface expenses that are identified.

With these initiatives, we will include the review and improvement of internal CPMS/Project Center processes related to each initiative which will help streamline user action in the CPMS and Project Center systems where process bottlenecks and unnecessary process repetition exists today. Additionally, as part of any of the initiatives where user training is required, we will look to further leverage Machine Learning (ML) technologies to improve and accelerate the training process. We are looking at incorporating an optimized training capability which leverages a conversational flow to understand what level of training a user requires, optimizing the training flow in a natural way that eliminates unneeded training and focuses on where the training would be helpful. This training capability can in the future be extended to other ESD training requirements at Con Ed. With each of these efforts as part of the primary initiatives the planning and cost will fall within the individual efforts.

Business Intelligence and Decisioning Models, Location and Meter Network enhancements

Our goal for this initiative and funding request is to enhance the CPMS/Project Center Customer Intelligence and Business Decisioning models framework defined in the last rate case cycle, expanding its capabilities with additional content, and enabling broader capabilities for enhanced functionality in CPMS and Project Center, reporting, and user self-service access. Along with these improvements supporting better impact and reach we also need to be prepared for new and future legislative mandates. These efforts will help us speed up the case flow and enhance the customer experience with model and process improvements, better mapping technologies for auto-routing/scheduling appointments, proactive notifications, video inspections, chat features for quick answers, optimized training, and data management compliance that meets the privacy and reporting standards.

Customer Inquiry model improvements and Chat Features (Case Inquiry and Service Specification Reference)

This feature funding request aims to make improvements to the machine learning model supporting categorization of Customer Inquiries, to incorporate support for a case inquiry chat capability, and to add a Service Specification reference tool for ESRs to use in answering specification questions.

Customer Inquiries are messages entered by Con Edison customers into Project Center for questions related to their cases, these then flow into CPMS for the ESR to address. The ESR responses then flow back to Project Center for the customer to view and continue the dialog as needed. The machine learning AVA system reviews these Customer Inquiries before the ESR opens them and attempts to categorize the customer questions, providing a templated response based on the case state and question category which the ESR can use to ease their case research requirement in answering customer questions. This initiative starts with improving the AVA model accuracy, so the Customer Inquiries are better categorized overall

and improve the granularization of the responses to further ease the ESR effort in providing responses.

The extension of the question/answer process into a chat form is the next step in improving responses for customer questions. This capability housed in the externally facing Project Center application would let external customers pose questions and get answers to case-related questions more easily and quickly without the need for input from the ESR, which saves the ESR's time and increases customer satisfaction with immediate responses to questions.

The incorporation of a chat function for answering queries about gas and electric Service Specification standards is the next feature to be added. The Service Specifications are currently found in the Con Edison Blue Book for electric service and Yellow Book for gas service standards. These two Service Specification standard books are online in PDF form, where Energy Services Representatives must manually search for the standard detail when a related inquiry arises. The representatives also depend on the Business Process & Technology, Subject Matter Experts group to guide them to the right sections in the Blue and Yellow books to answer questions. This reference tool could avoid the significant time spent on researching these questions, both by the ESR who receives the inquiry and by the BP&T SME who finds and/or verifies the answer. System provided responses would also be immediate, accurate, and consistent.

Annual Review of Records, Destruction Policy and Privacy Readiness, Data Governance controls

The efforts related to this request for funding involve addressing the requirement to conform to policies and legislation on CPMS and Project Center record retention and destruction, as well as supporting customer data privacy requirements. Additionally, we will look at implementing frameworks for data management and governance, including Data Stewards and a Data Governance Review Board in coordination with the enterprise related effort to assure we follow the requirements for data safety and privacy in managing data in CPMS and Project Center. With laws and policy mandating how data is managed currently in place and more coming in the near term the establishment of these frameworks is an immediate necessity.

Clean Energy and Electric Technology Empowerment

This initiative aims to fund existing and new projects that support the Company's "Clean Energy Transition". As the state promotes/mandates more electric based technologies customers will apply for these electric services through Project Center to meet their needs. Project Center is the system where external customers request new or additional gas and electric service. Project Center then connects to the CPMS which is the internal system that handles customer project management details and where the project is managed by Con Edison employees. Currently, the incorporation of supporting frameworks for these requirements within Project Center and CPMS are tedious and coding intensive efforts, this project will work to improve the implementation of new frameworks as part of implementing these Clean Energy related requirements. In the cases where a requirement change is mandated by legislation, with these enhancements Con Edison will be able to quickly pivot to incorporate the requirement.

Justification Summary:

Business Intelligence and Decisioning Models, Location and Meter Network enhancements

As part of the initiative to enhance the CPMS/Project Center Customer Intelligence and Business Decisioning model's framework we need to enhance the data content and better enable its adoption. Additionally, we will be looking at mapping the process flows within CPMS and Project Center systems to assist in the model's optimizations as well as data element identification for inclusion in the models. A process mining tool will be utilized to accomplish this process mapping. The models defined so far are not being utilized to the original intent. Improvements with content for internal and external data will drive greater adoption. Energy Services Department and other departments will be able to use this data to optimize business processes and promote case workflow progression. The existing Customer Intelligence and Business Decisioning models and related unified data structures concept and components will be enhanced incorporating advanced analytics technologies that are newly available to achieve these goals more efficiently.

The interfaces that exist between CPMS/Project Center and other Con Edison internal systems were mostly built in the initial days of the CPMS system implementation (2012), with some updates and additional interfaces added since. There has been a growing need to further enhance these while adding important connections between these systems. Providing access to CPMS/Project Center detail for other systems can easily be accomplished via the Customer Intelligence and Business Decisioning models, while other system detail can be added to these models to provide their detail back to CPMS/Project Center. We will also enhance the external system interfaces, such as the Con Ed accounting system, CC&B, and the Work Management System (WMS), to provide better case state identification and more efficient proactive alerting when internal and external factors may affect a case. Another extension of the unified data structure and model capabilities will be to perform advanced analytics to increase awareness of trends within the data, helping to identify and measure case lifecycle risks, errors, and pain points which will increase the ability to address elements that have historically caused delays or extra, unnecessary work.

To meet legislative requirements, we need to better manage the data in the CPMS and Project Center systems as we improve their capabilities. We will also use Customer Intelligence Business Models to enhance the content value and support data privacy and management policy. This will involve using Data Governance concept components as defined by the Strategic and Digital platforms group to improve data quality, security, and privacy. Additionally, through this initiative we will look to better follow all cyber security and software upgrade requirements to protect the data in the CPMS/Project Center systems.

In support of the enhancements for the Advanced Metering Infrastructure (AMI) team, we will be looking to utilize internal and external interfaces to identify open cases within a perimeter or geofence allowing visibility to all cases and Con Ed or City/State agency activity within an area. Additionally, CPMS cases can also be shown driving better coordination of appointment planning. Additional changes in CPMS supporting display of Account Number and Account Address will be made. The concern and need for this feature addition is for

multimeter accounts with multiple buildings, e.g., New York City Housing Authority (NYCHA).

With this effort we are looking to improve several points related to electric meter communication. This includes meter placement for meter network communication and communications on meter status between internal systems. This effort will require the development of appropriate training materials and classroom content for ESR's for when they're working a case involving meter placement.

This initiative will be phased in the following manner and the related costs are provided:

Business Intelligence	(\$000)
Phase 1 - 2026	
Process Mining	1,900
D4ML Training	578
Training and Dashboards	291
Total RY1	2,769

Phase 2 - 2027	
Data Security Improvements	1,100
CPMS Enhancements	518
Locational Mapping	900
Training and Dashboards	241
Total RY2	2,759

Phase 3 - 2028	
Data Security Enhancements	39
Total RY3	39
Maintenance	1625

A significant capital investment will be needed in implementing the new features with the Business Decisioning models and process mining, as well as the building of new Customer Inquiry models. Additionally, capital will be applied to development of tools and enhancements required for new mapping and network visibility capabilities. The O&M costs for this initiative will also be significant for maintaining these new features and for labor around the related reporting and training.

Customer Inquiry model improvements and New Chatbot Features (Case Inquiry and Service Specification Reference)

The Customer Inquiry process using the AVA model for providing categorization and response templates is reasonably accurate today, however there is a lot of room to utilize improved Machine Learning methodologies to provide better results when the customer questions are a little more complicated or otherwise harder to interpret. The experience to

date with the AVA system has shown there is a significant variability in the question phrasing, such that model improvements will vastly improve the category identification and response templates provided to the ESR. As the Con Edison business expands into new technologies the need for these improvements is immediate. We will follow the current corporate policy of not providing nonhuman responses to external customers, and we will consult with Corporate Affairs and deploy this feature within the limits of policy.

The importance of providing the Service Specification chatbot capability is also necessary, with turnover of the ESR staffing and the related loss of business expertise the need to provide an accurate and consistent Service Specification reference which the ESR would use for responses to customer questions becomes necessary. Expansion of this chat capability into other forms of internal documentation, such as Electric Operation Procedures (EOP's) and meter specifications, tariffs, Code requirements, and internal Customer Service Procedures (CSP's), is also being considered and would utilize this technology. This would further improve the knowledge availability for Con Edison employees.

These chat features will use a combination of a large language model for NLP recognition and specialized models trained on the appropriate content allowing the models to best understand the questions received in their relative context. Representative training for using these chat capabilities will utilize the optimized training capability which provides a natural and conversational means of learning that will reduce training time and improve user understanding of the material.

This initiative will be phased in the following manner and the related costs are provided:

Model Improvement/Chat Features	(\$000)
Phase 1 - 2026	
Energy Services internal chatbot	1,281
Training and Reporting	209
Enhance inquiry response	600
Equipment	500
Total RY1	2,590

Phase 2 - 2027	
External chatbot	1,458
Enhance inquiry response	323
Training and Reporting	169
Total RY2	1,950
Maintenance	1625

The bulk of the expense of this effort will be with development of new features which will primarily be capital, the O&M cost will be for maintaining these features on an ongoing basis.

Annual Review of Records, Destruction Policy and Privacy Readiness, Data Governance controls

Currently, the CPMS/Project Center systems do not manage records retention and data privacy in any form other than a rudimentary and manual archival process for case data older than about ten years. A capability for managing effective and automated records archival and retention expiration purging of case data will be necessary and will conform to data retention policy being identified. With the pending requirements to purge customer personal data upon request via the Universal Consent process we also need to build the capability to support this data removal. Energy Services is currently working with the Privacy and Data Subject Access Request (DSAR) Team to identify and comply with upcoming state legislation for customer data management.

In support of these points, we will need to build components to migrate data into an archive database on a schedule, then additional schedules to purge that archive data based on retention periods defined by policy. We also need to build a means for records rolling off the archive database to be legal hold reviewed for further retention based on requirements. Controls managing these purges, archives and retentions must be built to easily address any changes in the related policies. Besides adhering to corporate policy these improved data storage management changes will provide storage volume requirement improvements.

Along with the data retention and privacy requirement implementations we will also look to build into the records management process a Data Governance process encompassing methodologies to track the ownership and usage of CPMS/Project Center data. We will identify data stewards and a Data Governance board to assist us in definition of storage/retention policies, data security and privacy management, etc. This board will also establish requirements for interfaces and other API connections and reporting for examining case content.

This initiative will be phased in the following manner and the related costs are provided:

Annual Review and Privacy	(\$000)
Phase 1 - 2026	
Internal Data Review	912
Interconnect with One Trust	1,200
Requirements for Server	843
Equipment	1,000
Total RY1	3,955

Phase 2 - 2027	
Build API's	1,455
Build infrastructure for archival server	1,000
Reporting Dashboards	650
Equipment	300
Total RY2	3,405

Phase 3 - 2028	
Archiving	50
API Enhancements	50
Equipment	300
Total RY3	400
Maintenance	1625

A significant capital investment will be needed on implementing the new features with this initiative as applied to development of tools and enhancements required for the Retention/Destruction and Privacy capabilities. The O&M costs for this initiative will also be significant for maintaining these new features and labor around the data stewardship and governance board.

Clean Energy and Electric Technology Empowerment

With the initiative to support the Clean Energy and Electric Technology Empowerment the requirements involve improving the existing method for adding case types and case classes to support these requirements in the Project Center and CPMS systems. Improving the capability to expand the supporting frameworks will allow the systems to much more easily conform to any new requirement that comes up, legislated or business driven. These changes will also improve internal and customer communication, integration with other systems, and user interface changes in the Project Center application to display relevant information. The current architecture makes it difficult to add these components without redesigning and modifying the applications, so the enhancement will reduce the technical challenge of making related system changes.

This initiative will be phased in the following manner and the related costs are provided:

Clean Energy/Electric Empowerment	(\$000)	Notes
Phase 1 - 2026		
3 New Case Types	914	\$305k per case type
Training & Process Development for new cases		Included in cost above
Phase 2 - 2026		
interconnect to DOB	535	
interconnect to internal systems	379	
Training for New features		Included in cost above
Total RY1	1,828	
Phase 3 - 2027		
Connect CPMS to cell phone calendar notifications	1,036	
Front end address and cell phone validation in Project Center	609	

Training for new features	183	
Total RY2	1,828	
Phase 4 - 2028		
2 new case types	636	\$305k per case type
Reporting and Training	68	
Phase 5 - 2028		
New CPMS Interconnect	309	
Reporting and Training	68	
Total RY3	1,081	
Maintenance	1625	
As new Case Types are required for supporting Clean Energy and Electric Technology improvements, these each will require capital expense to build, including new API requirements for interfacing with outside systems. The maintenance for these new Case Types will be an incremental addition to the existing CPMS/Project Center O&M.		
Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act The projects noted in this funding request will impact greenhouse gas emissions in multiples ways, as well as meeting the goals set forth with the Clean Energy Commitment and Climate Change Resilience and Adaptation Plan. There will be significant improvements in customer communication and optimization of site visit planning. These efforts will also go a long way toward improving customer access to electrification opportunities provided by Con Edison. Additionally, there will be reductions in compute resource requirements by Con Edison employees and customers with better access to case detail, and improved performance and efficiency within the related systems. The enhanced customer communication and optimized project planning improvements, as well as access to more cost effective solutions for electrification will also benefit disadvantaged communities in the Con Edison service areas. The projects here support the Corporate Digital Customer Experience (DCX) initiative, which aims to enhance the external customer's experience by using and simplifying web technologies. It also supports the cost optimization initiative, which tries to lower costs while keeping a +1 Customer Experience. These efforts will be interconnected with the Company's own Privacy Readiness Program and the Data Governance Office. These efforts are also connected to the Pega Systems modernization effort, which will update the Pega platforms that can better meet the needs of the CPMS application, and the efforts outlined here.		

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

It might be possible to reach these goals with other methods, such as using spreadsheets and visual analytics for data analytics, existing interfaces, and keeping the current ESR centric system for answering customer questions. These methods would need more database and reporting resources to manually get and analyze the business intelligence described above and find solutions, but they have labor cost and results quality/consistency issues. Training would go forward in its current form without utilizing content and focus optimization, which would still have the trainee required to attend instruction that they are already familiar with and nonrecognition of areas where additional focus is needed.

Risk of No Action

Risk 1

Increased errors as case count increases with the increasing customer new business and construction loads.

Risk 2

Declining customer satisfaction due to increasing expectations as customers get used to new customer services with other companies, especially regarding increased case transparency, increased customer self service functions, quicker problem resolution, and decreased case lifecycle time.

Risk 3

Increasing Representative (ESR) and Clerical Staff headcount to manually maintain existing levels of service.

Risk 4

Non-compliance with legislative mandates can lead to penalties from government/regulatory authorities.

Non-Financial Benefits

Implementation of the program described above is expected to provide substantial increases in customer satisfaction by managing the customer data to comply with policy and avoiding case errors and decreasing case lifecycle time. This program will also allow compliance with legislated mandates as they come up. Customers will have more transparency in case status, and control over case progression (Customer Empowerment). All technologies will be designed within the guidelines of IT, Strategic Applications and Data Governance offices, and the DCX initiative and the design will allow scalability so that it could evolve into an enterprise solution.

The following to be developed in conjunction with IT:

Enabling Technologies

- Generative Artificial Intelligence (GenAI)/NLP/ ML:
- GenAI and Knowledge Buddy
- Case Management/Live Data
- Data Analytics – to measure & monitor business performance & cost management.
- Predictive & Behavioral Analytics

• User Experience / Digital Experience • Robotic Process Automation/Chatbots • Decisioning coming with predictive and adaptive analytical models. • Workforce Management and Field Automation (Enhanced Mobile Capabilities) • Customer Self Service – Web/Portal/Mobile • Knowledge Management/ Content Management System
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) N/A 2. Major financial benefits N/A 3. Basis for estimate N/A
Project Risks and Mitigation Plan N/A
Technical Evaluation / Analysis N/A
Project Relationships (if applicable) The data pooling, modeling and governance boards will work in conjunction with the Company's Privacy Readiness program, to ensure that all customer data in CPMS is protected.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital				1,200		2,000

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		2167	2167	2167	
Regulatory Asset					
Capital (Total)		11,142	9,942	1,520	4,587
Labor		11,142	9,942	1,520	4,587
M&S					
Contract Svcs.					

Other					
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

Environment, Health, & Safety 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: EH&S Control Desk Application	
Project/Program Manager: Stanley Lewis	Project/Program Number (Level 1): 27730138
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2026	Estimated Date In Service: 2027
2025-2029 Funding Request (\$000) Capital: \$500 O&M: \$150	
Work Description: The work consists of the planning, training, and deploying of a decision-making software for use at the company-wide EH&S Control Desk to appropriately categorize spill events and notify external regulatory agencies, including NYSDEC, NYCDEP, and the National Response Center (US Coast Guard and EPA). Selection of the software to the technical requirements described herein and to the best financial value will also be part of this project. The software will likely be a software-as-a-service (SaaS) product, hosted by the vendor's cloud-based platform. The SaaS model essentially provides turnkey and transparent, software and hardware, application use to the customer. There would be no limit to the number of users that are allowed to access this software, but only several users would have administrative level access allowing for changes to the rules within the software. Ongoing expenses would include vendor licenses, support, upgrades and any subsequent application or user interface customizations.	
Justification Summary: Spill reporting is a regulated and complex process with many decision trees to follow in order to reach the right outcome. Any changes to the regulatory requirements require both manual changes to a paper matrix (used as the decision tool) and employee retraining. Currently, spills are reported by employees to the EH&S Control Desk. A member of the Control Desk team will record the report initially on paper and then, in part, transfer some of that information to the Environmental Management Information System (EMIS). Using the information acquired during this intake process, the Control Desk Member then uses the paper-based decision matrix to decide which regulatory agencies to notify. The current process has risks, common to any paper-based process, that can lead to regulatory reporting delays or errors. These delays and errors can result in city, state and federal fines. The process is also time consuming in task repetition, potentially 10% or more of the effort and fully reliant on human decision-making. Decision-making software will create a more efficient and accurate regulatory spill reporting process, ensuring that the appropriate agencies are notified within the required timelines. We also anticipate a	

greater accuracy in spill reporting, by reducing human errors which could result in under or over reporting of spills. Lastly, this technology is scalable. By scalable, this software could be adapted to allow all Con Edison employees to report spills via a smart device. Lastly, there are many tools on the market that are designed to address the decision-making processes. Con Ed has identified at least two vendors with applications on-point to the Control Desk's need.

2. Supplemental Information

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

No savings are projected at this time. This application is for regulatory driven spill reporting and notification effectiveness and risk reduction.

2. Major financial benefits

N/A

3. Basis for estimate

The estimate is based on consulting with a vendor whose products align closely to the technical requirements. O&M is for subsequent customer customizations, interfaces and any legacy record work.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M			\$50	\$50	\$50
Regulatory Asset					
Capital (Total)		\$500			
Labor		\$50			
M&S					
Contract Svcs.		\$375			
Other					
Overheads		\$75			

*The test year runs from 10/1/2023 to 9/30/2024

Environment, Health, & Safety 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: EH&S Navigator AI Search Tool	
Project/Program Manager: Stanley Lewis	Project/Program Number (Level 1): 27728280
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2026	Estimated Date In Service: 2027
2025-2029 Funding Request (\$000) Capital: \$300 O&M: \$150	
Work Description: With every capital construction project and maintenance procedure there is a need to follow all environmental, health and safety policies and procedures as well as associated measures and analytics. The challenge is that no conventional method of document organization and search or analytic report generator that can quickly find, generate and or display the specific information customers need. The documents are many, diverse, and voluminous - not to mention of all different media formats. Thus, Environmental, Health & Safety (EH&S) seeks to implement an answer-based Artificial Intelligence (AI) software solution. The application will allow internal customers to more efficiently access the 400+ EH&S documents, files and presentations they need and to the specific answer(s) within those materials. The selected AI software platform will be realized as Software as a Service (SaaS) solution that runs on the vendor's cloud servers. The advantages of a SaaS solution include vendor support, updates and maintenance of the application, and utilization of their server resources. By leveraging SaaS, implementation is expected to be very efficient and take less than a year with key milestones for process and procedure mapping and transfer, application development and test, and rollout. The ultimate benefits of this project for the Company and customers include better use of limited resources, greater awareness of all policies and procedures, and following of performance measures and analytics.	
Justification Summary: EH&S supports Con Edison projects and programs across all commodities and organizations. This support ranges from environmental metrics and analysis, compliance, reporting, and testing to the safe setup of work area protection and selection of personal protective equipment (PPE). Support is further needed and supplemented for new clean energy technology and an ever-changing workforce. Moreover, the documents, webpages, files, and presentations that cover all of EH&S's work products are numerous and comprehensive. And, while conventional intranet searches, organized EH&S document repository, and direct contact to a subject matter expert (SME) will yield an answer, the process is very time consuming and inefficient. An internal survey showed that this project has the	

potential to save approximately one hour per week per EH&S SME. The total hours saved would thus fall in a range with up to 50 SME hours saved in a given week. The reason for this time consumption is that an answer requires both locating the right document and then the relevant section(s) within it. An AI search tool offers advanced search capabilities and can overcome these limitations – while being available on all company devices 24/7. To the data owner and manager AI stands apart from other technologies in its ability to train and learn from all materials and customer inquiries. Quick and accurate access to EH&S information through AI enables shorter response times for our customers. In addition to resource efficiency, this project will provide a more accessible, reliable, and accurate delivery of EH&S information.

Implementation Details

The implementation of the AI search tool will involve the following steps:

- **Vendor Selection:** Vendors whose products align closely with our technical requirements have been identified. The vendor's capabilities including AI algorithms, cloud-based deployment, and support services will be evaluated in documents, demonstrations, and application tests.
- **Level of Effort:** The implementation will require collaboration between EH&S, IT, and the selected vendor. Key activities include data integration, AI training, and user testing.
- **Resources Required:** The project will require dedicated resources for project management, data preparation, and user training. The vendor will provide ongoing support and maintenance.
- **Timeline:** The project is estimated to start in 2026, with the AI tool becoming operational in 2027.

2. Supplemental Information

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

This project is primarily done for knowledge transfer. As new technologies are being put in service towards NY's clean energy vision, there will be an increase in questions that AI can help answer.

2. Major financial benefits

3. Basis for estimate

The estimate is based on experience and consult with a vendor, in the subject area, who provided different options with costing ranges.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M			\$50	\$50	\$50
Regulatory Asset					
Capital (Total)		\$300			
Labor		\$45			
M&S					
Contract Svcs.		\$210			
Other					
Overheads		\$45			

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Electric – ARM Replacement	
Project/Program Manager: Lisa Gotay	Project/Program Number (Level 1): 25524460
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date In Service: 12/31/2032
2025-2029 Funding Request (\$000) Capital: \$40,929.2 O&M: \$0	
Work Description: Enter text here. When complete, remove instructions below. Enter “N/A” if this section does not apply. The project involves moving the Electric ARM (Assets & Resource Management) system to the corporate Maximo Work Management System (WMS) platform. This move will support the company’s goal to have a "One Enterprise" Work and Asset Management solution for all Con Edison's business areas and to achieve the full benefits of a true enterprise solution. This effort is to migrate the CGI’s OpenGrid platform, including OpenGrid Field EAM, into Maximo starting with a common design with Orange and Rockland who is migrating their legacy applications into Maximo. Some of the functionalities that will be implemented, but not limited to are: - Work Initiation – initiate work from various sources - Design and Estimating - the use of Compatible Units (CU) to define the labor, material, and associated accounting. - Prerequisite and Materials Management – prerequisites, such as parking data, is asset part of an embargo area, is a permit required to work on the asset or any special equipment needed, are set up for the work prior to the clerical effort required for dispatch. The materials are defined in the compatible units (CU's) of work to be performed. - Scheduling - the scheduling process starts with planning and forecasting the work, then scheduling. - Dispatching and Resource Management – dispatching is an extension of the scheduling process where the work is dispatched to field forces and resources around this are managed: Mobile, Work Closure, and Time Reporting. A high-level roadmap will include the following activities. - Process Analysis – review and assess the current workflow processes to identify opportunities for reusing common designs or implementing new designs where necessary.	

- System Design – outline the design for the future state workflow process using Maximo. This will involve leveraging common data sources and designs, with a focus on enhancing operational efficiencies.
- Build – develop a Maximo system based on the specifications outlined in the system design. This will encompass both hardware and software configurations.
- Testing – conduct a series of tests, including unit testing, system integration testing, user acceptance testing, and performance testing, along with a disaster recovery drill.
- Deployment Preparation – develop training programs and schedules and plan a phased rollout across Electric Operations. This will include managing change through various communication channels.
- Rollout – implement a phased rollout plan across various departments and field support teams along with ongoing communication.
- Support – In collaboration with ConEd employees and contracted partners, we will provide an enhanced level of support, including a staffed ‘War Room’ and a HyperCare Team

We will employ both waterfall and agile methodologies to execute these implementation project activities, enhancing efficiency in project execution.

The staffing plan includes four categories of resources:

- Systems Integrator -- provided by a prime contractor with experience in large Maximo implementation projects.
- Information Technology -- resources from the ConEd IT department.
- Business Unit -- resources from ConEd business units.
- Contract FTEs -- third-party resources for staff augmentation in areas such as design, build, testing, change management, and PMO.

This initiative is anticipated to span several years, concluding in 2032, with an estimated total cost of \$132M.

Justification Summary:

Currently, Electric ARM uses the OpenGrid platform (ARM and Field Manager Legacy) is a suite of applications maintained by CGI, a consulting services company. This platform is proprietary supported and implemented by CGI, which requires custom made solutions to meet all business needs. There are multiple challenges with product functionality, stability, and the underlying technology. These limitations have caused a slow adaptation to the evolving IT infrastructure needs, including REST APIs (such as Open Mobility Platform (OMP)) and the expansion to iOS devices. The technology roadmap lacks a vision for future work management capabilities such as generative Artificial Intelligence (AI) and predictive asset management. The annual support and maintenance costs, as outlined in the 5-year contract ending in December 2025, amount to \$900,000.

Comparably, Maximo is a platform developed by IBM, a technology company. IBM utilizes technology research, market trends, and user feedback to establish a technology architecture with a long-term application roadmap for Maximo. It is a widely adopted industry solution platform, supported by numerous implementation partners, offering ready-made solutions and broad device compatibility. The Maximo platform has successfully met the business needs for several business units within Con Edison, such as Central Operations, Steam, and Transmission Operations.

To justify the need for a new asset management system, Con Edison secured funding in the last rate case to conduct a detailed Phase 0 assessment. This assessment aimed to determine the feasibility of

migrating ARM to Maximo and to provide an impartial third-party analysis of the advantages and disadvantages of using Maximo for the WMS platform.

The Phase 0 consisted of two studies conducted by external vendors. One study engaged key stakeholders to review the interdependencies of business services and current applications, a survey of major peer utility organizations, and a risk assessment conducted by an external Subject Matter Expert (SME). The results provided a detailed project map including requirements, timeline, and costs for the implementation. The other study was a UNITE survey. This survey demonstrated across the industry, utilities are implementing more robust technical solutions for work and asset management. Energy companies are implementing Maximo and SAP solutions to meet their business needs in work management. Based on technology (research, development, and investments), market competition, industry partnerships, and organization optimization, the SME's evaluation recommended implementing another vendor's solution for market viability, sustainability, and long-term strategy. The overall results both studies in the Phase 0 supported the recommended implementation of Maximo as a new enterprise asset management (EAM) solution.

The continued evolution of Con Edison's field management solution requires the adoption of modern devices and technology sophistication. To achieve this goal, it is imperative to mitigate risks (technical and cyber security) and minimize additional efforts and expenses due to sub-par solution development, delays, and defects. Key partnerships with technology market leaders will aid in accomplishing this goal as well as rightly positioning Con Edison for adoption of emerging technologies such as Artificial Intelligence (AI).

Artificial Intelligence (AI) allows for rapid decision making and optimized data mining. Maximo's AI feature leverages the groundbreaking framework of the first commercial AI solution, Watson, and integrates generative and conversational AI.

Vigilance is key to protection of assets, information, and data. Maximo's security model includes two-step security (authentication and authorization). Security management can be managed on premises and in a private cloud.

Moving Electric ARM to Maximo is consistent with the company's strategy of creating a "one enterprise" WMS platform for all operating areas. All outdated WMS systems are planned to be switched to the Maximo Platform including Electric ARM. IBM Maximo provides better system reliability, security, more options for technology partnerships, and lower overall IT support costs.

There are several successful implementations and adoptions of Maximo across multiple business units within the organization. The selection of one single vendor solution offers multiple organization optimization benefits. There will be an increase in shared knowledge and skills to assist in implementations and support, which will result in improved quality and aids in faster release implementations. There will also be lower training and education costs across the organization.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

2. Supplemental Information

Alternatives

The alternative is to continue use of the OpenGrid platform with no migration to Maximo. This will not be in alignment with the company's strategy for establishing a "One Enterprise" Work and Asset Mgt solution, which fully meets/exceeds the current and growing needs of all Con Edison's operating areas. A "One Enterprise" Work and Asset Mgt solution will streamline business processes and improve operations efficiency. Furthermore, Con Edison will be the only major utility using the ARM suite of applications, which hinders the development, advancement, and innovation of operations. Other major utilities have transitioned to work management platforms like Maximo or SAP. Industry trends show that major utilities have migrated to these platforms to leverage advanced technical functionalities for optimizing and enhancing operations across their organizations.

Risk of No Action

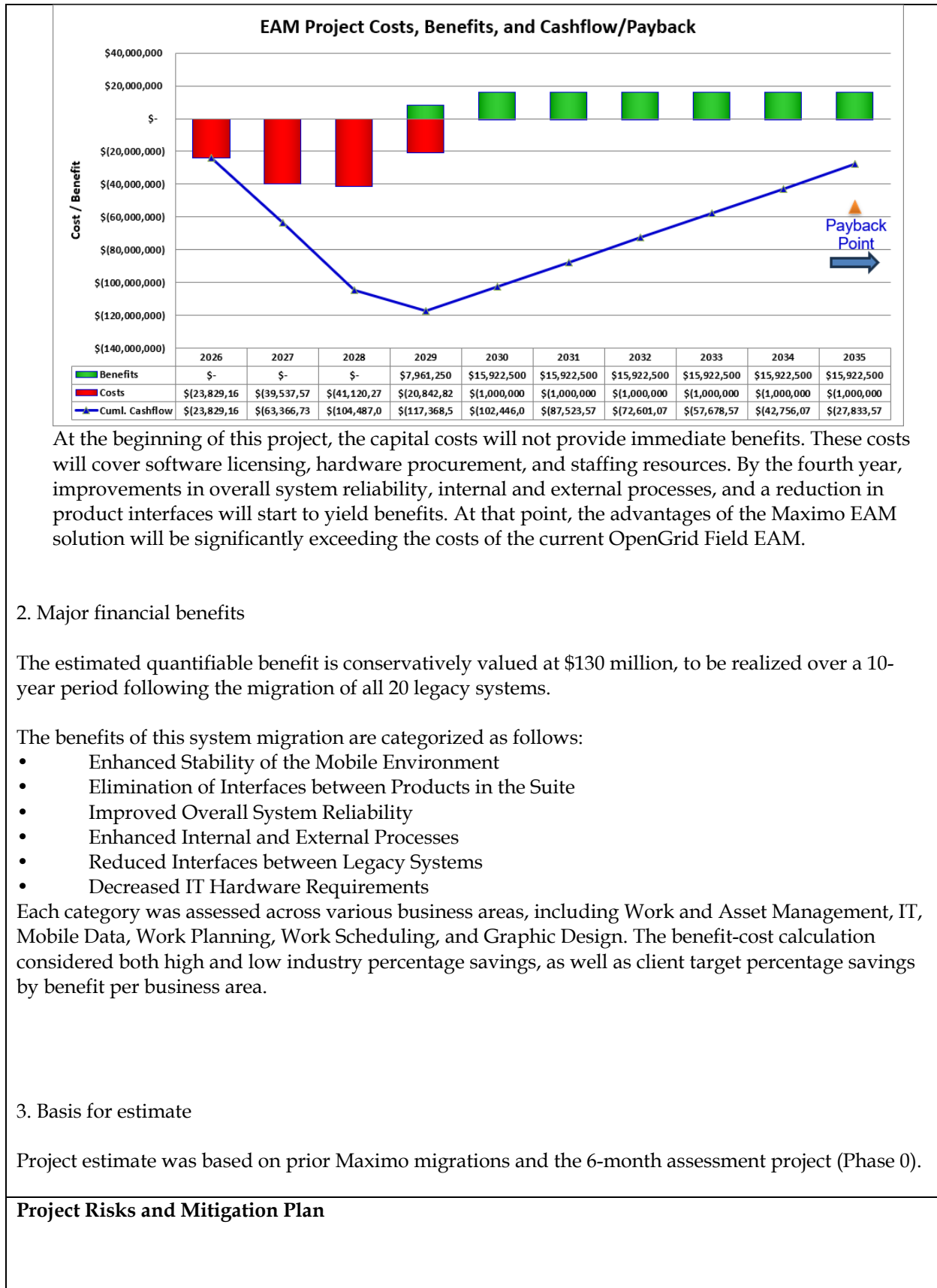
The risk of no action is increased productivity and efficiency challenges within Electric Operations due to technological limitations. The lack of investment in preventing technology obsolescence continues to create data integration challenges across operational systems (such as ARM and CORE or HCM), hinder the collection of reliable field data (such as usage, inspections, and atmospheric data), and limit the expansion of service offerings (such as the adoption of AI and geographic visibility of crews) throughout the organization.

Non-Financial Benefits

- Increased customer satisfaction
- Improved workflows and streamlined business processes.
- Improved overall system stability and centralized company data.
- Improved source code configuration control and migration tools.
- Enhanced business capabilities in areas of asset life-cycle management and asset performance management such as
- the advanced Enterprise Asset Management included in IBM MAS 8 suite.
- Expanded market access to functional and technical skills for systems implementation and support services.
- Decreased exposure risk to cyber security threats.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)



Technical Evaluation/ Analysis

A 6-month Phase 0 assessment project was conducted to determine the fit for Electric WMS and 19 other disparate legacy WMS systems to the "One Enterprise" Maximo platform and estimate the benefits of migrating (both quantifiable and nonquantifiable).

The Phase 0 project included:

- A detailed review of current state processes, applications, and data.
- The development of a detailed "target state" architecture replacing eWMS with Maximo.
- Multiple current state and Maximo system demonstrations.
- The development of an implementation plan that included timelines, resources, and project cost estimates.
- The assessment of benefits related to replacing eWMS with Maximo.

IBM Maximo can be configured to replace the current ARM WMS for Electric. Of the quantifiable benefits, it was estimated that \$130 million will be realized over a 10-year period following the systems migration of all 20 legacy systems. The current system's platform vendor is not investing in their technology roadmap and does not have a vision for future capabilities needed for work management. As such, their technology will be obsolete within 3 to 5 years (e.g., PowerBuilder)

In addition, ARM WMS for Electric is functionally limited and may not meet the current and growing needs of the business. Migrating to a "One Enterprise" WMS system will bring new and greater efficiencies, consolidated platform and system support, and the ability for the business to leverage new and innovative functionalities to meet its current and future needs.

Project Relationships (if applicable)

CORE, EGIS

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M				1,323.2		1,000.0
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	1,100.0	2,000.0	2,000.0	12,000.0	23,829.2
Labor	\$1,100.0	\$2,000.0	\$2,000.0	\$12,000.0	\$23,829.2
M&S					
Contract Svcs.					
Other					
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology

2025 – 2029

1. Project / Program Summary

Project/Program Title: Electric WMS – Open Grid Field Implementation			
Type: ☒ Project ☐ Program		Category: ☒ Capital ☐ O&M ☐ Regulatory Asset	
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic			
Investment Categories: ☒ Core ☐ Clean ☐ Climate Resilience ☐ Resilience Other			
Project/Program Manager: Lisa Gotay		Project/Program Number (Level 1): 27532800	
Status: ☒ Initiation ☐ Planning ☐ Execution ☐ On-going ☐ Other: _____			
Estimated Start Date: 4/1/2024		Estimated Date In Service: 12/31/2026	
Total Funding Request (\$000) Capital: 9,900 O&M:			
5-Year Ongoing Maintenance Expense (\$000) O&M: N/A Capital:			
Work Description: The scope of work includes implementation of the next generation OpenGrid Field EAM module for Con Edison Electric. This implementation will drive business and technical improvements for Con Edison's business with a move to the next generation platform. Retirement of Field Manager 1 will consolidate Gas and Electric Work Management onto the same mobile solution, enabling efficiencies in maintaining, operating, and enhancing the software. Key project activities include: Project scope - Requirements gathering, analysis of current functionality (as-is and to-be state) and impact analysis – Together with the vendor, IT and Business resources will identify the required changes to the core product required to meet our current organizational processes and incorporate those changes to the product. - Deliver OpenGrid Field EAM 6.8.5 and required Configuration Documents, and Technical Architecture Blueprint – These core deliverables provide the physical software(OpenGrid Field EAM) and the supporting set-up documentation for future reference to support ongoing product support. - Implementing code changes, system acceptance testing (SAT), user acceptance testing (UAT), and deployment – The project includes development of testplans designed specifically to ensure the required changes, in addition to core functionality work as described. These tests will be tracked(CE), performed(CE), and defects resolved(Vendor) during 2 rounds of SAT and 1 round of UAT during the project. - Organizational change management – During the deployment phase of the project, CE will incorporate training outlining the changes to current processes for the end users to aide in a smooth transition from Field Manager 1 to OpenGrid Field. System changes: - Implementation of OpenGrid Field EAM, replacing Field Manager 1 - Upgrade OMP to support new functionality (Message processing framework) - Upgrade server hardware capacity to support implementation			

Justification Summary:

Currently, Field Manager 1 is used by Electric Operations to document field work performed. This includes inspections, time reporting, and work completions. This product is at end of life and updates will be sunset at the end of 2025. Additionally, Microsoft InfoPath which FM1 relies upon for inspection forms and other core features like going enroute to a location is also being sunset in July of 2026. When Field Manager 1 no longer receives updates, Security / Microsoft / Oracle / Etc. patches applied to the system introduce risk of effecting system performance and stability. If these patches negatively impact the ability for Field Manager 1 to function properly The Company could find ourselves in a position of having to revert to a paper process for some or all of the work in Electric Operations. OpenGrid Field EAM removes the dependency on Microsoft InfoPath and is the next generation module from CGI developed as a replacement of Field Manager 1. The project intends to implement OpenGrid Field EAM to solve both issues. This is critical for ensuring that PSC mandated inspections, time reporting, and work execution continue to be properly documented and captured within the work management system of record for Electric Operations.

Benefits of the Solution

- Gas and Electric Operations will be on the same platform (OpenGrid Field EAM), enabling efficiencies in maintaining, operating, and enhancing the software
- Enterprise Enhancements to OpenGrid software can now be leveraged across Gas and Electric
- End of Life risk for Field Manager mitigated
- End of Life risk for Microsoft InfoPath mitigated
- Improved visibility of nearby work for field supervisors and crews to enhance field work efficiencies

Assessment if Project/Program's Impact on Greenhouse Gas Emissions and Disadvantaged Communities:

Relationship to Broader Company Plans and Initiatives (e.g., Long-Range Plans, CLCPA Initiatives, Risk Mitigation)

2. Supplemental Information

Alternatives	
Postponing the replacement of Field Manager 1 has been previously considered, however the timeline for 3rd party end-of-life (InfoPath) is now upon us and impact the ability to further postpone. Additionally, further postponement increases the risk of other server level patches negatively impacting the performance of the Field Manager 1 application. An analysis of competing vendor field applications was conducted, including SSP, SmartApp, Salesforce, Clevest, Oracle, CartoPac, Locusview, GoMocha, Ensign Plus, Schneider, and Accruent. None of these options provided the current functionality of Field Manager 1 or were able to meet our timeline.	
Risk of No Action	
The risk of no action is the sunset of support at the end of 2025. This would result in a risk to properly completing mandated inspections of Electric Operations structures and equipment.	
Non-Financial Benefits	
• Improvements to safety: Enhanced visibility of safety related conditions within the vicinity of work being performed. Ensuring regulatory compliance with mandated inspections.	
Summary of Financial Benefits and Costs (attach backup)	
1. Cost-benefit analysis (if required)	
2. Major financial benefits	
3. Basis for estimate	
Estimate is based on SOW submittals from vendor work being performed, known hardware costs, and an estimate of company labor broken down by each assigned role for the project on IT and Business teams. This includes support for deployment of the software and Hypercare post deployment.	
Project Risks and Mitigation Plan	
Risk 1	Mitigation plan
Risk 2	Mitigation plan
Technical Evaluation / Analysis	
Project Relationships (if applicable)	

3. Funding Detail

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Historic Year (O&M only)</u>	<u>Forecast 2024</u>
<u>O&M</u>						
<u>Regulatory Asset</u>						
<u>Capital</u>						<u>1,600</u>

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
<u>Regulatory Asset</u>					
<u>O&M</u>					
<u>Regulatory Asset</u>					
<u>Capital (Total)</u>	<u>5,800</u>	<u>2,500</u>			
<u>Labor</u>	<u>2,500</u>	<u>800</u>			
<u>M&S</u>					
<u>Contract Svcs.</u>	<u>3,300</u>	<u>1,700</u>			
<u>Other</u>					
<u>Overheads</u>					

Total Gross Cost Savings / Avoidance by Year:

	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

Total Ongoing Maintenance Expense by Year:

	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>
O&M	0	0	0	0	0
Capital					

*If whitepaper is supporting a capital project/program this refers to implementation O&M

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Employee Data Warehouse (EDW) to Autonomous Data Warehouse (ADW) Project	
Project/Program Manager: Andrea Levoritz	Project/Program Number (Level 1): 27628707
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: January 1, 2025	Estimated Date In Service: December 31, 2026
2025-2029 Funding Request (\$000) Capital: \$10,812,000 O&M:	
Background and Work Description Employee Data Warehouse (EDW) was created in the early 1980s to meet the demand for a central storage place for employee data. It was based on the Microsoft SQL Server platform. Over time, EDW has grown to incorporate training information, department information, badging information, domain accounts information, and more, including Personally Identifiable Information (PII). Until July 2024, all corporate applications used EDW to access employee data via integrations with EDW or direct access. In July 2024, the Company implemented the Oracle Human Capital Management (HCM) cloud and along with it, Autonomous Data Warehouse (ADW), a cloud-based database platform to replace EDW. Approximately 130 interfacing applications were moved from EDW to ADW as part of The Employee Hub phase 3A project. Employee Data Warehouse (EDW) to Autonomous Data Warehouse (ADW) project is a continuation of the effort to centralize all employee data in ADW and move the remaining applications that use EDW to ADW. The technology components that make EDW work are either close to being or are already obsolete, making this project operationally required. EDW runs on the Windows 2012 server operating system that will stop receiving extended support in October 2024. Other technology parts that EDW relies on, such as SSIS, scheduler server and Biztalk are all either past their expiration date or almost there. The project involves writing new code, building new integrations and reports. There are approximately 200 applications that still access the Employee Data Warehouse (EDW) in production. Each of these applications will be evaluated to see if they still need employee data and	

whether they still need PII. After the need for employee data has been confirmed, a new system integration will be built to the Autonomous Data Warehouse (ADW).

Justification Summary:

EDW currently resides on obsolete, end of life technology. Expired technologies pose cyber risks and result in operational deficiencies.

To keep the data in EDW up to date there are daily processes to send ADW data to EDW, which requires support and monitoring. These data load jobs require support, and produce additional overhead on the Oracle and MS SQL databases. They also require duplication of data, some of which is PII, in multiple databases. Eliminating EDW will allow us to shut down that database and the overnight processes that feed it.

This project will consolidate employee data into one primary source. This will streamline data management and result in cost saving by reducing the support and maintenance required for two systems to just one. This project will standardize the method of data access for remaining applications to use Application Programming Interfaces (APIs), which are much more secure and flexible than the direct database links currently in place for the applications connecting to EDW. Part of this project's scope is to ensure that the company follows all data retention policies and legal holds and protect PII information.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act
N/A

2. Supplemental Information

Alternatives

The alternative would be to remain on EDW, which is not an acceptable option for the reasons noted above. It is technically obsolete and requires maintenance and support of two systems for the same information. 40% of the legacy systems have already been successfully migrated to ADW as the employee data source. The remaining systems must be modified to use ADW so that we can eliminate EDW.

Risk of No Action

Risk 1

Patches and bug fixes are not provided for end of life, unsupported application and technology components. This will result in increased exposure to cyber threats.

Risk 2

There will be significant impact to downstream applications and business operations if EDW becomes unavailable due to obsolescence.

Such as: Providing physical access to company locations based on the employee role's locations or organization hierarchy; granting or restricting access to legacy systems based on their roles. Maintaining accurate employee's information across all legacy systems.

Risk 3

PII must be maintained in an additional location until EDW is retired, increasing the risk of exposure. Having PII in fewer systems minimizes the potential points of vulnerability for data breaches or cyber-attacks. It's easier to implement and manage robust security measures such as encryption and access controls in a single database compared to multiple systems.

Non-Financial Benefits

- Reduced cyber exposure due to technology obsolescence
- Secure employee PII, which reduces the company's risks of exposure or breach, leading to fines and impacts to our reputation.

Summary of Financial Benefits and Costs (attach backup) GOOD

1. Cost-benefit analysis (if required)

Cost saving by reducing the support and maintenance of software and hardware required for two systems to just one.

2. Major financial benefits

3. Basis for estimate

The estimate was based on the costs for migrating 130 systems from EDW to ADW in 2024, contract with the integrator cost and internal resources to work and support the project.

Project Risks and Mitigation Plan

Some legacy systems, built on outdated technologies, may face challenges when moving to a new data source that uses advanced data access technology. To mitigate this risk, we will onboard the integrator, to analyze, design and build the migration process ensuring smooth and successful transition.

Technical Evaluation / Analysis

Project Relationships (if applicable)

This project will not impact other major projects or programs.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	<u>\$3,500</u>	<u>\$7,312</u>			
Labor	<u>\$ 269.15</u>	<u>562.85</u>			
M&S	<u>\$93.8</u>	<u>196.2</u>			
Contract Svcs.	<u>\$2,337.3</u>	<u>4,883.7</u>			
Other	<u>\$303.45</u>	<u>634.55</u>			
Overheads	<u>\$496.3</u>	<u>1,034.7</u>			

Environment, Health, & Safety 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Environmental Management System	
Project/Program Manager: Stanley Lewis	Project/Program Number (Level 1): 27727681
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2026	Estimated Date In Service: 2027
2025-2029 Funding Request (\$000) Capital: \$350 O&M: \$450	
Work Description: Con Edison EH&S plans to implement a new software application to help systematically manage environmental processes, goals, laws and regulations associated with ongoing ISO 14001 compliance and certification. Work shall include application commissioning and existing business record review and transfer. Application commissioning will be for a software-as-a-service (SaaS) solution that is hosted on a vendor's cloud-based platform. The advantages of a SaaS solution include vendor support, updates and maintenance of the application, and utilization of their server resources. For the business, the application's ability to intelligently store and index current and future audit records and associated media from programs, permits and plans, data collection, and inspections will improve process efficiency and reduce compliance risk. Moreover, from these records, work will also include the creation of visual user interfaces and reports that will support greater analysis and work tracking.	
Justification Summary: Managing company impact on the environment is a key priority for Con Edison. An environmental management system (EMS) is a framework for policy and process compliance, review and changes that support and further Con Edison's commitment to sustainability. ISO 14001 is the international standard for EMS. ISO 14001 is the principal management system standard which specifies the requirements for the formulation and maintenance of an EMS. This helps to control company environmental aspects such as waste generation and natural resource use, as well as ensure legal compliance. Benefits of an ISO 14001 EMS and certification include improved environmental management, more efficient processes, improved stakeholder relationships, proven business credentials, and legal compliance. The EMS also focuses on Enterprise Risks and assessments such as an oil release. Con Edison's current EMS data is compiled and tracked manually through Microsoft Excel. Manual data entry and tracking unnecessarily consumes resources and creates a risk of a follow-up lapse. This risk is magnified as Con Edison conducts numerous internal and external audits to ensure compliance with all environmental laws and regulations. For the purpose of the audits, the auditors would benefit	

from synopses of data made available through the new EMS. The current EMS is not capable of providing such reports.

Utilizing an EMS software application can increase data accuracy, improve audit success, and ensure legal compliance with increased confidence. Lastly, an EMS software application has the potential to save audit labor hours through more efficient automated processes including stakeholder notification, response and follow-up management.

2. Supplemental Information

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

Indirectly, value is derived from reducing the risk of an event. Environmental events resulting in a city, state or federal regulatory non-compliance, however infrequent, can range in fines from hundreds of dollars to tens of thousands of dollars.

2. Major financial benefits

N/A

3. Basis for estimate

The estimate is based on experience and consult with a vendor, in the subject area, who provided costing guidance.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M			150	150	150
Regulatory Asset					
Capital (Total)		\$350			
Labor		\$52.5			
M&S					
Contract Svcs.					
Other		\$245			
Overheads		\$52.5			

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Finance and Supply Chain Transformation	
Project/Program Manager: Manoj Chugh	Project/Program Number (Level 1): 23939151
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date in Service: 5/31/2028
2025-2029 Funding Request (\$000) Capital: \$312.2M O&M: \$2110.0	
Work Description: In today's rapidly evolving energy sector, companies increasingly adopt digital, decentralized, and customer-centric models to fulfill their vision of becoming the "Utility of the Future." Consolidated Edison Company of New York, Inc. (Con Edison) has consistently progressed towards this goal. Further, companies must increasingly adopt digital, decentralized, and customer-centric models to meet customer and business needs. Con Edison is continuing along this path and, as such, intends to enhance its Enterprise Resource Planning (ERP) systems by transitioning from the existing on-premises Oracle E-Business Suite (EBS) to the more agile Oracle Cloud. This project encompasses a multifaceted overhaul of Finance and Supply Chain operations, Organizational Change Management, Application Technology reengineering, Security and Controls evaluation, and Chart of Accounts refinement. Migrating to the next-generation ERP represents a necessary opportunity for Con Edison because it delivers industry-relevant functionality along with the cloud-delivery platform to continuously deliver new functionality without customization. The objective of the project will transition to Oracle E-Business Suite Cloud, phasing out the current localized ERP systems. The process will involve a thorough examination and confirmation of all business requirements for Oracle EBS. We will identify any functional discrepancies and design appropriate solutions. Given that Cloud applications necessitate uniform processes, Con Edison is committed to incorporating principles of configuration and not customization. Con Edison will look to engineer new or modify existing processes that align with the configuration capabilities of a cloud-based ERP rather than customize within the ERP. Oracle's cloud services significantly strengthen cybersecurity defenses through frequent and seamless security updates. Oracle Fusion Software as a Service (SaaS) applications bolster an organization's security infrastructure by delivering a comprehensive security framework. This framework encompasses a variety of security measures and industry best practices, including access controls, identity and access management, encryption, data masking, and redaction. These applications have audit and reporting features, ensuring compliance with regulatory standards such as GDPR, HIPAA, and SOX. They leverage intrusion detection and prevention systems (IDPS), machine learning, and artificial intelligence (AI) to proactively monitor, analyze, and counteract suspicious activities or security threats. The risk of vulnerabilities is mitigated through robust and recurring application of automatic security	

updates and patches, eliminating the need for manual intervention. Furthermore, Oracle Fusion SaaS applications maintain operational continuity using redundant systems, failover mechanisms, and established disaster recovery protocols to ensure rapid service restoration in the event of disruptions.

The Oracle EBS System currently includes 563 modifications tailored to Con Edison's operations, of which 300 were completed for Supply Chain. This created an environment of continuous assessment and testing and hindered the seamless workflow execution in Oracle.

These customizations adapt the system's functionality to align with Con Edison's operational methods and include:

- 120 Functional Extensions
- 261 Inbound Interfaces and Outbound Interfaces
- 154 Custom Reports
- 28 Custom Workflows

Comprehensive testing will encompass all financial and supply chain activities, in addition to all connections with other Con Edison systems and external entities like banks and suppliers. Data from the existing on-site EBS system will be migrated to Oracle's cloud-based platform. Each custom feature will undergo meticulous scrutiny and testing to ensure seamless integration and functionality.

The scope of the EBS migration to the cloud encompasses the following objectives for the Company:

- Execution of a full life cycle program that spans from initiation through stabilization, including post-production activities. This program will cover both the functional and technical aspects of the cloud environment.
- Project activities involve an in-depth analysis of all modifications related to the updated version. This includes the design of changes, integration with Con Edison's existing customizations, updates to functional and technical documentation, and the creation of extensive test suites. These suites are crucial to verify that the updated system operates correctly and maintains support for customized features. The testing strategies include three separate testing phases – Integration, Regression, and End-to-End – to confirm the system's functionality and adherence to company control standards and Sarbanes-Oxley regulations. Additionally, the project will entail the preparation and distribution of training materials, such as updated job aids that demonstrate the changes in appearance and functionality, along with providing post-implementation support and ensuring system stability.
- Conduct a full review of Oracle Fusion updates as documented by Oracle. Technical and functional support teams will assess these updates to gauge their impact on the standard Oracle features and the complexity of integrating them with Con Edison's essential customizations. These adjustments will necessitate technical design, updates to both technical and functional documentation, and testing of varying complexity.
- Initiate a Discovery phase (Phase 0) to define the cloud implementation's objectives, goals, and anticipated advantages. This will be conducted in 2025 before the main project.
- Undertake a thorough evaluation of all cloud modules and applications that will be part of the enterprise's unified single instance and tenancy.
- Formulate and execute key design decisions (KDD).
- Prepare the organization for significant changes, such as the redesign of Project modules, the adoption of Oracle Assets for asset accounting, and the restructuring of the chart of accounts.
- Pinpoint essential business alterations resulting from the reduction in customization scope.

- Manage the transition of business processes due to new or modified functionalities, providing opportunities for stakeholders to familiarize themselves with the updated interface and gather their feedback.
- Identify and actualize business imperatives for necessary customizations, assessing their practicality, like the Complex Service Purchase Orders.

Major Transformations:

- Approvals Management Engine (AME)
 - Overhaul of over 150 rules created using custom code to leverage Approvals Management Extensions of the Oracle Service-Oriented Architecture (SOA) suite and Oracle Business Process Management Suite (BPM) and create approval processes adhering to the Corporate Delegation of Authority Policies, without writing custom code and still aligning to various business processes and corporate policies.
- Project Accounting
 - The existing Project Accounting module interfaces with multiple Work Management Systems (WMS) and the Asset Management System through over fifty (50) inbound and outbound integrations converting work orders and work requests into chargeable Projects and Tasks. The current design creates a huge influx of open projects and tasks, the count as of Q4 2024 exceeding 12 million, with an average of over 100,000 new chargeable projects and tasks being created each month.
 - Evaluate the current Project Accounting module design, project hierarchy structure and cost collection model, and implement revised design structure as appropriate.
 - Evaluate the existing 800 allocation rules that are defined to allocate costs each month via the cumbersome and time-consuming burdening and cost allocation process.
- Chart Of Accounts (COA) Restructuring
 - Evaluate and implement the breadth and depth of the current COA and design a new COA based on current financial, regulatory, and management reporting requirements.
- Labor Distribution
 - Replacement of the heavily customized manual and time-intensive process that calculates labor time and expense for proper accounting and general ledger account and project allocation.
- Intercompany
 - Implementation of a solution to streamline financial transactions between different legal entities within the same corporate group. Benefits of intercompany include improved visibility and control, accurate financial reporting, reduced risks of errors and misstatements, improved reconciliation, and operational efficiency.
- Automated testing
 - Oracle Fusion cloud requires continuous testing, which can be facilitated with the proper testing tool by allowing frequent test execution to comply with the required quarterly release of Oracle Fusion updates. Automation reduces manual effort, increases test efficiency, and ensures consistent test quality across various environments and scenarios. Automation also allows for resource optimization.
- Role Based Access, User Provisioning, and Certification
 - Evaluate and implement access to application data and functions via roles that provide users with the permissions they need to perform tasks that are specific to a job. Re-envision the current customized process of role provisioning and recertification process.
- Advanced Reporting and Analytics
 - Evaluate and implement the new Fusion Data Intelligence (FDI) framework on Cloud ERP to transform the existing Oracle Analytics Cloud (OAC) solution comprising of

over 350 dashboard reports and over 8,000 ad hoc reports built on the legacy business intelligence reporting platform.

Consolidated Edison Inc. has forged an Oracle Strategic Partnership (OSP) that is in line with its strategic goals for cost optimization, operational enhancement, and customer experience improvement through technological innovation. This partnership empowers Con Edison to:

- Implement modern technologies that leverage Oracle's position as an industry leader while advancing Con Edison's business processes and customer services.
- Implement and embrace software and services that are considered "best in class" in terms of scope, functionality, performance, and quality.
- Engage in collaboration, leveraging Con Edison's industry insights to aid Oracle in refining its offerings, while Oracle contributes to Con Edison's critical solution design choices.

The scope of the project also encompasses additional key areas such as:

- Implementation of Generative Artificial Intelligence (AI) for innovative problem-solving.
When Oracle Cloud ERP is incorporated with AI, these are some of the available capabilities:
 - Intelligent Process Automation (IPA) - Automation for billing, invoice processing, and workflows
 - Predictive Analytics - Using AI models to predict trends and maintenance
 - Fraud Detection - AI-assisted monitoring for anomalies and compliance
 - Data Insights - Enhancing Business Intelligence (BI) capabilities accordingly for operational decision-making
- Robotics Process Automation (RPA) Remediation to eliminate manual processes.
- Remediation of all integrating boundary systems to maintain their compatibility with the EBS transformation to the SaaS model and the underlying changes to the account structure.

For a project of this magnitude and scope, an initial planning and analysis phase ("Phase 0") will be performed in 2025. This effort will define the strategy for eliminating customization, the correctness of the approach, technical architecture, and estimates for the additional implementation phases. Phase 0 will be conducted to refine the scope of the EBS move to the cloud. It enables the Company to:

- Understand and capture the functional and technical components of the cloud environment.
- Clarify the purpose, goals, and expected benefits of the cloud implementation.
- Perform a holistic review of all cloud modules and applications that will be included in the shared single instance and tenancy across the enterprise.
- Derive key design decisions.
- Obtain a gap-fit analysis that will drive detailed design efforts.

Con Edison also anticipates extensive enhancements and improved functionality for Supply Chain modernization. Over the past several months, Supply Chain has benchmarked multiple other utilities, pipeline providers, and other industry sectors to better understand how best to transition to a cloud-based Fusion ERP. Across the board, the feedback was to adopt a 'configure' and not 'customize' mindset. This approach helps to mitigate costs of customizations and more beneficial is the transformation benefits of moving to a best-in-class supply chain solution that is refreshed monthly or quarterly with new capabilities driven by Fusion ERP user groups. These groups identify new, emerging capabilities and automation of current business processes. The benchmarking also highlighted the level of change management needed for a successful migration to a cloud-based ERP. In all cases, benchmark participants warned of having to build new or modify 60%-80% of business processes.

The most transformative aspect of migrating to a cloud-based Fusion ERP is the presence of demand and supply planning capabilities. This includes capabilities to interpret messages and data coming from work management systems and translate them into supply solutions. As the work is planned for short, mid-, and long-term work projects, this information allows Supply Chain to act earlier and more accurately to upcoming demand and in turn, place orders with suppliers and manufacturers based on planned demand – and not only on historical usage.

- Risk Mitigation

Currently, supply chain disruption is a corporate enterprise risk, and an advanced Cloud ERP solution will provide some tools to help mitigate this risk. Certain risks such as geopolitical disruption or natural disasters have few to no mitigation solutions and a response to these events is reactionary vs proactive planning.

Additionally, with the introduction of generative artificial intelligence (GenAI) and its enhanced fraud detection and compliance capabilities, the Advanced Cloud ERP will be able to detect unusual financial transactions indicative of fraud, such as duplicate invoices and expense reports, improper use of Personally Identifiable Information (PII), and atypical inventory cycle counts. AI can make sure that the application complies with the SOX Controls and the defined Corporate Policies in the system.

- Procurement

Con Edison Supply Chain conducts over 4,000 sourcing events per year including multiple-year Blanket Purchase Agreements (BPAs) to individual spot buys for projects and other non-recurring materials or services. While Supply Chain has succeeded in driving procurement activities through Oracle EBS, the transactions are lengthy, and the user experience is long and could be more streamlined. Cloud ERP provides a more friendly user interface, more streamlined workflows, and enhanced analytics to help complete negotiations and build contracts. The overall effectiveness of an advanced ERP can be measured by cycle time (the time it takes from requisition to contract execution) and the number of hours needed to create and approve contracts. Such a solution also includes AI features and other analytics that will aid in processing key functions in the procurement process such as developing scopes of work, tabulating proposal results, etc.

- Warehouse Management

Warehouse Management is the tool used by Stores Operations to receive material requests from internal customers for fulfillment. As of the end of May 2024, Stores Operations have fulfilled material orders equal to the full year 2023 – this is a continuing trend and is projected to continue. Warehouse Management Cloud ERP capabilities will provide enhanced functionality affording Stores Operations new tools to better optimize existing space.

- Inventory Management

The Cloud ERP inventory module provides enhanced data and analytics capabilities to optimize inventory levels. This will provide more automated analytics on fast-moving/slow-moving items to better optimize inventory levels, reconfigure space, and feed the seeded “slotting” capabilities of the warehouse management module. These new or enhanced capabilities will give Supply Chain tools to better manage costs, material availability to meet day-to-day and projected needs, and to better optimize space.

Inventory Value at Year End:

Operating Unit	2021	2022	2023
CECONY	\$228,605,645.10	\$251,527,386.84	\$276,093,388.08
ORU	\$23,391,939.17	\$27,151,042.45	\$35,144,935.63
Grand Total	\$251,997,584.27	\$278,678,429.29	\$311,238,323.71

- Supplier Performance Management
Supply Chain has approximately 2,500 active suppliers that provide a broad array of material, equipment, and services. An advanced Cloud ERP will provide new capabilities to identify key service levels with suppliers in a scorecard format. The analytics imbedded in the Cloud ERP will feed a more robust Supplier Relationship Management program and aid quarterly business reviews with key, strategic suppliers.
- Supplier Diversity and Sustainability
Supplier diversity and sustainability are corporate priorities and there are corresponding program initiatives and metrics to drive advancement in these key areas. An advanced Cloud ERP will provide process enhancement and analytics to drive further achievements in these areas. Con Edison Supply Chain is accelerating and expanding its MWBE goal setting with all active suppliers and engaging suppliers on new or proven ways in which to drive Tier 2 spend (MWBE sub-contractor partners) or increase the number of MWBE suppliers participating in the procurement process. Such capabilities provide a more comprehensive platform starting from the bidding process to the MWBE spend reporting process. By having an integrated platform with better insights, analytics, and reporting, Supply Chain is better positioned to grow and optimize its Supplier Diversity program. Supply Chain has continuously grown its MWBE program and is determined to achieve MWBE spend equal to 20 percent of total contract spend in 2024, up from 14.5 percent in 2023. Similarly, such a solution provides expanded opportunities to set supplier goals and performance metrics regarding sustainability. Supply Chain will be better positioned to establish supplier scorecards and collect and report on metrics to measure performance and identify areas for improved performance on key sustainability metrics.
- Procurement and Contract Management capabilities
The latest technology (e.g., digital assistants for contract negotiation and execution) is expected to assist the end-to-end procurement contracting process.
- Master data cleansing
Enhanced item, service, and supplier master information improving data quality and downstream operations and performance metrics opportunities.

Justification Summary:

Oracle's strategic focus is on transitioning all on-premises solutions to their cloud platform. Most of Oracle's major development efforts are now directed towards cloud-based services: for example, AI is incorporated into Fusion cloud. Consequently, this shift will result in delayed bug fixes for on-premises solutions and, over time, a cessation of further enhancements.

Oracle's cloud services enhance defense against cyber threats, such as ransomware and denial of service (DoS) attacks, by implementing security updates more regularly. Most security updates for SaaS are designed to be applied seamlessly, without interrupting business operations. Leveraging the comprehensive Oracle technical stack for EBS SaaS allows for streamlined security enhancements across all layers of technology. Oracle is responsible for supplying and maintaining the entire

infrastructure, from hardware and firmware to the hypervisor, operating system, network, database, and applications, ensuring a fortified security posture.

Oracle's cloud services significantly bolster cybersecurity defenses through frequent and seamless security updates. These updates are designed to minimize disruption to business operations while addressing a wide range of threats, including ransomware and Denial of Service attacks. By leveraging Oracle's comprehensive technology stack for EBS SaaS, organizations can benefit from streamlined security enhancements across all technological layers. Oracle takes full responsibility for the entire infrastructure, encompassing hardware, firmware, hypervisor, operating system, network, database, and applications. This end-to-end approach ensures a robust security posture through:

Oracle Cloud SaaS quarterly patches offer several benefits, including Security Updates, New Features, Bug Fixes, Compliance, Performance Improvements, Enhanced Integration, Reduced Downtime, and User Experience. Should Con Edison opt out of this migration, its supply chain and financial operations could face significant delays in receiving updates and resolving software issues. Moreover, maintaining on-premises systems would necessitate frequent and expensive upgrades.

Oracle disaster recovery will provide quicker recovery times as compared to on-premises solutions. Additionally, their more geographically dispersed data centers offer better protection against localized risks.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This program aligns with the IT strategy of cloud adoption and system consolidation.

Oracle is in the process of migrating its comprehensive range of applications to a cloud-based platform. The Oracle EBS system has already been available in a cloud setting since 2010. Con Edison's technology strategy is to move the on-premises assets to Cloud along with other industry leaders. It is expected that by 2026, Oracle EBS will have fully matured in its cloud incarnation, leading to the phasing out of Con Edison's current on-site version.

A cloud-based platform will support the growth of our business driven by the clean energy transition as best practices are continuously incorporated into the solution. Also, it will support emerging trends and new more complex business models that will also be driven by the transition.

2. Supplemental Information

Alternatives

Con Edison has the option to either continue with the existing local solution or postpone the transition to the cloud. Opting for these alternatives would necessitate the upkeep of on-site infrastructure, including storage systems, network components, and servers.

Delaying the upgrade will result in risk as the end of life for on-premises EBS draws closer and availability of enhancements for this version diminishes.

Oracle's ERP SaaS model provides a single-vendor solution that integrates multiple Finance and Supply Chain functions, as well as cross domain functions, such as Project and Task validation with Oracle Human Capital Management (HCM). This simplifies support and helps to ensure fast problem resolution. Alternatively, moving from our current ERP solution to another vendor's solution would introduce additional risk, costs, and complexities to enable those integrations.

Risk of No Action

Risk 1

As Oracle shifts its focus and resources towards enhancing its cloud solutions, the value of Con Edison's investment in the on-premises Oracle EBS will diminish. Constantly emerging technologies, including GenAI and machine learning, are applied through the continuous upgrade process on the Cloud, which does not occur on the on-premises EBS application. While the on-premises Oracle EBS will remain operational, it will not receive updates and improvements at the same pace as the cloud version. Consequently, this disparity may lead to a decrease in the system's overall functionality and performance.

Should Oracle EBS remain as the core Supply Chain transaction platform, examples of "lost" opportunities to drive operational improvements include:

- **Productivity:** As annual contract spend increases by around 20 percent and on-hand inventory increases by about 15 percent, the inefficiencies of Oracle EBS are further compounded, and productivity is degraded. System workflow capabilities in EBS for sourcing and warehouse fulfillment are dated and cannot be configured to address increased workloads as compared to capabilities configured in Oracle Fusion.
- **Automation:** Annually, about 30-40 percent of warehouse fulfillment is triggered by the submission of paper-based material requisitions submitted by internal customer groups. Oracle EBS lacks the functionality to automate this paper process and would require costly customization to address this business process. In comparison, Fusion has seeded functionality to automate this labor-intensive fulfillment process without costly customization.
- **Operational Excellence:** Presently, Oracle EBS has the functionality to provide Advanced Shipment Notifications (ASN) but requires costly customizations to address cyber security requirements. Oracle Fusion has inherent, advanced cybersecurity capabilities that would provide this functionality without customization. ASN allows contracted suppliers to provide product shipment information to warehouse operations in advance of actual shipment allowing for more efficient warehouse operations and advanced information about inbound inventory.

Non-Financial Benefits

Regulatory Mandated/ Reduce and Manage Risks

Oracle issues quarterly updates for the Fusion product, which include security enhancements, application improvements, and tax adjustments. In the cloud setting, Oracle is responsible for implementing these updates directly to the system. However, before implementation, these updates must undergo a thorough evaluation, testing, and approval by the business team. Oracle will then execute the updates quarterly. This streamlined approach enhances the system's update efficiency, ensuring continuous compliance with all relevant regulations and legal modifications.

Operationally Required

Several technology and application elements (e.g., Kofax for image capture, Electronic Data Interchange (EDI) for Purchase Order invoicing, Telnet for mobile scanners and printers) within our infrastructure are approaching their support expiration dates, necessitating initiative-taking measures to counteract technological obsolescence. They lack the flexibility and scalability required to adapt to evolving customer demands and the dynamic business landscape. Additionally, the existing Finance and Supply Chain systems in our organization are obsolete and no longer efficient. These systems fall short of supporting our strategic goals of attracting, nurturing, and retaining top industry talent. Supply Chain prioritizes hiring individuals with proven supply chain experience and skills, as well as recruiting individuals from a NYC-area university with a national top five supply chain program. In the past one to two years there has been an emerging trend that has arisen in the recruiting process - individuals are asking pointed questions about what supply chain transaction platform is in use and how it will impact their day-to-day work activities. Since Oracle EBS is a 25-year-old technology, Con Edison is at a recruitment disadvantage when hiring candidates have job offer options. Recently, graduates with a master's degree in supply chain explained their course work now includes working knowledge of key functions in leading supply chain transaction platforms. Oracle EBS is not included in this course work and candidates feel they will be at a disadvantage if they are expected to perform at levels in a system not considered a market leader.

It is imperative that we take action to address these challenges and align our systems with our strategic ambitions.

Improve Internal Customer Experience

The advanced Cloud ERP offers a modern user experience by presenting content in a tile format, optimizing it for mobile devices along with the incorporation of digital assistant(s). This enhancement allows both employees and managers to conduct self-service transactions directly from their mobile devices. As a result, this modernization is expected to streamline self-service for field and back-office personnel and reduce the volume of inquiries to call centers and support teams. Some of the examples of the improved customer experiences are:

- A robust and streamlined month-end, quarter-end and year-end close enabling a more efficient SEC, Regulatory and Board Reporting process.
- Implementation of the Advanced Global Intercompany System (AGIS) enabling automated intercompany transactions between subsidiaries eliminating the manual and heavily customized affiliated billing process.

Automation of Walk-Up Warehouse Tickets: Presently, company employees can visit any Storeroom location to physically request and receive material orders. These are considered walk-up transactions. This is a manual, paper process that also results in significant, manual data entry in Oracle EBS. By moving to Oracle Fusion ERP and taking advantage of new mobility features, employees will now be able to submit material requests using a smart device which will speed up the material fulfillment process and allow employees to return to work more quickly.

Field-Based Material Ordering: Currently, employees authorized by Oracle EBS to requisition material orders must do so from a company-networked computer. While the process is automated, it is not

supportive of many field-based employees who manage and plan work in the field - they must travel from the field to a company facility. With the new mobility features offered by Oracle Fusion ERP, these employees will now be able to determine their material needs while at the job site and will be able to order materials from a smart device.

Increased productivity

Finance and Supply Chain departments will advance towards seamless, automated operations that minimize human intervention. The upcoming wave of automation will refine or overhaul existing processes, thereby diminishing the likelihood of errors. AI will penetrate intricate tasks, offering strategic recommendations to fine-tune capital distribution and revenue enhancement, bolster supplier negotiation stances, and enable automated inter-company dealings. AI algorithms will deliver predictive analytics for more impactful decision-making in real-time. Specifically, in financial reporting, GenAI will assist in crafting preliminary versions of quarterly (10Q) and annual reports (10K), inclusive of detailed footnotes and Management Discussion and Analysis (MD&A) sections.

Enabling timely actions

Real-time data processing now serves as the foundation for financial planning and analysis, eliminating the need to depend on month-end closures to detect operational deficiencies and prospects. The integration of pertinent external data further sharpens our capacity to discern patterns, trends, and irregularities, thereby enabling us to proactively provide forecasts and well-founded recommendations for action.

New higher-value capabilities

GenAI in combination with traditional AI will simplify end-to-end business flows and processes between transacting organizations, from receivables risk and collection management to fraud detection. Other areas ripe for automation and simplification include project proposals, contract negotiations and preparation, treasury activities such as loan applications and opening bank accounts, purchases, and settlements, and more.

Intelligence Process Automation (IPA)

IPA will automate redundant tasks saving time and labor. For example, instead of manually entering and approving invoices, AI-powered OCR (Optical Character Recognition) will read invoice documents, validate details, and initiate payment workflows in Oracle Payables. For internal customers, if an employee requests any type of reimbursement, AI analyzes past approval patterns, the employee's role, and urgency to route the request to the appropriate manager automatically.

Enhanced User Dashboard

With the introduction of AI Chatbots in Cloud Fusion ERP, employees can interact with a chatbot to find details about their financial and supply chain's transactions such as requisition and expense reports. For example, if the user were to type in the message "When was my expense report approved?" the chatbot should be able to pull the list of approvals and dates of the approval.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

Post-implementation, over five years, there will be a notable enhancements in key Supply Chain processes, including:

- iProcurement

- Sourcing
- Order Management
- iSupplier Portal including Supplier Enablement
- Warehouse and Inventory Management

Furthermore, the Accounting and Finance sectors will also contribute to cost savings through improved efficiency in workflows such as:

- Accounts Payable
- Expense Reporting (iExpense)
- Accounts Receivable (iReceivables)
- General Ledger
- Asset Management
- Cash Management
- Project Costing
- Debt Collection (Advanced Collections)
- Electronic Tax (eBTax)
- Project Billing

These advancements will, naturally, drive efficiency across the organization.

Oracle, our software provider, is dedicated to enhancing its Supply Chain and Finance platform. This commitment is evident in their release of the exclusive Cloud-based Account Reconciliation module. Cloud platforms deliver superior functionality and the latest technology, eliminating the necessity for capital expenditure on hardware and the maintenance of internal resources for on-premises applications. As Supply Chain and Finance operations are essential and operationally critical for all businesses, a cloud platform represents the most economical solution to sustain these indispensable services.

There will be process efficiencies due to standardized patching and enterprise integration methodology. Con Edison has already transitioned key systems such as Enterprise Budgeting and Forecasting, Oracle Analytics Cloud (OAC), Human Capital Management (HCM), and Project Management (Primavera) to Oracle's Cloud, paving the way for further financial efficiencies.

By adopting the Oracle solution, there is the added benefit of leveraging the Oracle Strategic Partnership. This includes the advantage of accruing cloud credits following the implementation and subsequent retirement of the on-premises Oracle EBS application.

Value Creation and Capture: Con Edison is committed to creating and capturing value throughout Oracle Fusion phase 0 and implementation. Based on internal knowledge of Oracle EBS, market research and high-level insights from System Integrators, Con Edison anticipates creating value in some or all the following categories:

- Cost savings/cost avoidance
- Business process optimization and associated efficiencies
- Operational excellence and associated productivity enhancements

Con Edison is integrating structured value creation and capture methodology in phase 0. All areas of potential value creation will be identified and scoped out along with timelines for expected completion and value capture, along with a calculation of each value creation opportunity. This will be a joint effort between Con Edison and the selected phase 0 System Integrator. By leveraging the System

integrator's past experiences with implementing Oracle Fusion with prior clients, Con Edison will employ an "art of the possible" mindset in identifying and capturing value of all types.

2. Major financial benefits

Any saving and/or avoidance opportunities associated with Supply Chain and Finance's productivity enhancements, along with the associated values, will be evaluated throughout this engagement and post-implementation.

Eliminate the need to upgrade the on-premises application which should happen every two to three years. This would also eliminate the need to upgrade the server infrastructure every five or six years.

The estimated total cost of the Transformation is \$312.2 million, which is reflected in the requested five-year budget.

The \$312.2 million is spread over 2026 (\$130.5 million), 2027 (135 million), and 2028 (\$46.7 million).

3. Basis for estimate

The projected costs were derived from comprehensive labor and contractual assessments supplied by multiple System Integrators.

The O&M costs were estimated from historical costs and then projected forward. These were augmented with the planned increases due to future uses of the Oracle software products. These costs were then included in the negotiated Oracle Strategic Partnership (OSP).

Project Risks and Mitigation Plan

Project scope creep	Conduct the Discovery phase before the final planning of the project
Organizational change management	Design and execution of Change Management (including communications and engagement) and Training Strategies for end users for applications in scope

Technical Evaluation / Analysis

Project Relationships (if applicable)

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		104	121	1885	
Regulatory Asset					
Capital (Total)		130,573	134,943	46,762	
Labor		4,696	6,126	1,434	
M&S		6,667	7,725	3,978	
Contract Svcs.		80,967	80,967	27,191	
Other		30,132	31,141	10,791	
Overheads		8,111	8,985	3,367	

Energy Management 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: FIS GTS Version Upgrade and Enhancements	
Project/Program Manager: Jenny Ng Wen, Gregory Chu	Project/Program Number (Level 1): 27696071
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: January 2025	Estimated Date In Service: March 2026
2025-2029 Funding Request (\$000) Capital: \$4,748 O&M: \$1,551	
Work Description: In 2022, Energy Management replaced its legacy Integrated Gas Supply (IGS) software with the FIS Gas Transaction System (GTS). This system acts as the operational and accounting system of record, used by Energy Management Procurement and Scheduling (EM P&S) to record and schedule deliveries of natural gas purchases to the companies' service territory. In addition, it identifies, assembles, analyzes and reports the organization's transactions for accrual purposes, accounts for the related assets and liabilities and allocates the various costs of natural gas purchases to the various end uses. From 2025 - 2026, Energy Management plans to upgrade to the latest version of the software and enhance the system. Primary outputs of this effort will include: - The company currently uses the 2019 version, which is out of compliance with vendor support. Upgrading to the 2023 version is required by the vendor and has many benefits, including vendor enhancements made over four years. For example, many of the back-office functions have been streamlined and enhanced from Align 3 (A3) - locally saved desktop version to Align 5 (A5)- HTML based version. This new version of the FIS Align product 2023Q3 will be stood up on new servers to run in parallel to the existing system. It is not an in-place upgrade, as the new version improves the security and performance of the system and has major functionality differences. Current user access to the system is split between a thick client running on the user's desktop and a web-based client for running specific functions in the system. The version upgrade is a technical upgrade to ensure Con Edison's Energy Trading Risk and Logistics Platform product version is compliant with FIS' support policy so that Con Edison is entitled to vendor support that require code changes, configurations and new releases. Additionally, the upgrade will require existing interfaces to be rewritten. - New functionality for gas nominations will be directly sent to Electronic Data Interchange (EDI) pipelines. This will require two new interfaces (i.e., from the application to the corporate file transmission system (i.e., remote data exchange - RDX), from the application and ICE). High-level milestones would include: - Upgrade product version to be compliant with full vendor support - Implement new functionality to automate a manual process for gas nominations to be sent directly to EDI pipelines	

- Stand up new servers running in parallel with latest version of Windows OS
- Upgrade interfaces to back-end systems
- Replace local modules to more modern web-based interfaces

Given the complexity of the system and work required for interconnection to other internal applications and databases (e.g., Energy Management Analytics), this project will require coordination between the vendor and additional internal resources such as a Solutions Engineer, developers and other contractors to successfully complete the project.

The project is expected to start in 2025 and to be completed in 2026.

Justification Summary:

FIS GTS went live in 2022 with the goal of consolidating every facet of the gas lifecycle to a single product and to integrate with Gas Daily Operations (GDO) system, Interstate Pipelines Electronic Bullets and Boards (EBBs), PDS, the ICE trading platform and Oracle AP/AR. Upgrading FIS GTS to a newer version is required because the current version is considered out-of-compliance with vendor support. Thus, the vendor will not make code changes to address system issues, bugs, and required enhancements. This is a SOX system, which must adhere to the financial reporting, information security and auditing requirements of the Sarbanes-Oxley (SOX) Act, it is critical to remain in compliance and to protect the adequacy and value of the system.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This project will help sustain or improve the current risk assessment likelihood and controllability of the following Energy Management department risks:

- Inability to Transact with Counterparties - FIS GTS enables recording and transfer of information with counterparties. It also helps maintain adequate pipeline capacity that enables the company to access a broad spectrum of suppliers in different geographic locations.
- Inaccurate Record Keeping and Counterparty Data - The proposed project enhancement will help mitigate the reliance on manual data input, processing, and reporting.
- Transactions Are Improperly Executed - Automating interfaces between the transaction system and EDI pipeline will reduce manual tasks and reduce the chance for errors.

Alternatives

The alternative to this project is to not update the system which would mean not being able to fix the software if it were to experience a severe issue or bug. Additionally, there is vulnerability to the system being recovered if there were a cyber event, using manual workarounds; no code changes will be provided. This is a SOX system, and the system directly supports the company's ability to provide safe and reliable gas service.

Risk of No Action

The risk of no action would be the potential inability to provide a gas transaction processing platform to meet the needs of our gas customers, regulators, and stakeholders.

Non-Financial Benefits

General benefits include being in compliance with the vendor version requirements and having a fully supported system. The vendor will be able to fix issues, bugs, and make necessary enhancements. The

latest version has many benefits that improve the user experiences with consolidated screens, simplified processes, improved security and data visibility and traceability.
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) 2. Major financial benefits The financial benefits of this project are enhanced functionality, and continued ability to support regulatory requirements, as well as improved productivity based on analysis of performance. Currently, users are executing functions in longer than expected timeframe and users are experiencing delays with the current software, but the newer version performs faster and addresses these issues with web-based interfaces. It also resolves many problems that currently require additional funding because they require vendor intervention – Con Edison currently has an additional \$60,000 support contract to address this vendor intervention; by upgrading, we can avoid these costs. 3. Basis for estimate The high-level estimate to complete this project is approximately 15 months. The estimate is based on the complexity of the FIS GTS system and expected work related to interfaces. Given the complexity of the system, we expect to engage a solutions Engineer, internal resources, and contractors to successfully complete the project.
Project Risks and Mitigation Plan The risk of going over-budget and project delays will be mitigated by utilizing Energy Management’s project management operating model including governance meetings and leveraging tools to monitor and proactively mitigate project risk.
Technical Evaluation / Analysis N/A
Project Relationships (if applicable) N/A

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M				250		325
Regulatory Asset						
Capital			1,978			

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		360	378	396	417
Regulatory Asset					
Capital (Total)	2,700	2,048			
Labor	294	73			
M&S					

Contract Svcs.	1,192	1,938			
Other					
Overheads	147	37			

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Fixed Asset and Tax Accounting Transformation	
Project/Program Manager: Lucerne Francis	Project/Program Number (Level 1): 27708287
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date:	Estimated Date In Service:
2025-2029 Funding Request (\$000) Capital: \$64,533 O&M: \$2,026	
Work Description: This project will design and implement process and technology improvements related to what is commonly referred to as the “acquire to retire” financial cycle for utility assets. The scope of this effort includes fixed asset accounting, book depreciation, tax depreciation, lease accounting, tax repairs, deferred taxes, tax provision, and property taxes. As part of this project, we will evaluate the current fixed assets and tax system, PowerPlan (PP), explore feasible alternatives to PP or determine if a full-scale re-implementation of PP is the best option, then carry through with implementation of the new system. The current PowerPlan system is a client/server software used by Accounting sections including Property Record, Project Accounting, and SEC and Technical Accounting; and Tax sections involved with tax provision and property tax functions. PowerPlan modules cover project management, asset management and tax, lease, repairs, ARO, and cost accounting. It enables the Company to control and monitor construction work in progress (CWIP) and take advantage of its capital-intensive nature in costing and profitability analysis, asset recovery, and tax minimization. A Phase 0 scoping and planning effort for this project will be conducted in 2025 to produce a roadmap for the project activities, the costs associated with each, resources required, and the level of effort needed. During that high level phase and the initial phases of implementation, a comprehensive analysis will be conducted of all critical functions and processes. In addition, all connections with other Con Edison systems will be reviewed. It is critical that the new implementation coincides with the Oracle Fusion Cloud ERP implementation. Aligning these implementations will allow us to leverage the systems testing and reduce the interruption in day-to-day activities of business users/testers. It will also enable the optimal end-to-end solution as upstream and downstream data flows and interfaces must be aligned for the lifecycle of the fixed asset accounting process. The cost components for this project include company labor and associated fringe overheads, consulting services, and software license fees. The cost estimates include the designing, building, testing, and deploying the new software solution as well as updating legacy interfacing systems as required to support the new design.	

Justification Summary:

The Company has several reasons for embarking on this transformation project at this time. First, the PowerPlan application that supports the above financial process scope was initially implemented in 2010 when CECONY was on a mainframe financial system and O&R was on the Walker financial system. In 2012, PowerPlan was integrated with Oracle EBS, the unified financial system implemented for both utilities. Over the past twelve years, the initial version of PowerPlan has undergone incremental version upgrades and it has been interfaced with new electric and gas work management systems as they have been implemented. The incremental approach to system updates over time has resulted in several legacy configurations that are not optimized for today's capital intensive utility business functions.

Second, while an overwhelming majority of regulated utilities in the United States currently use PowerPlan for the process scope described above, competitor products are beginning to emerge that may provide additional functionality and features for their utility customers.

Third, PowerPlan routinely stops providing defect support for older versions its software as new versions are released. As part of their standard sunseting cycle, they only provide defect support for the two most recent versions of their software, or at least 36 months from the initial general availability of the application version. In addition PowerPlan has announced certain legacy 'on premise' modules will no longer be supported at all as the company migrates its offerings to a subscription-based cloud model.

In summary, due to less than optimal legacy configurations, the emergence of competing applications, and the sunseting of support for the current system, the Company proposes pursuing the Fixed Asset and Tax Transformation project at this time.

In 2022, we had an assessment conducted on the current fixed asset system, PowerPlan, and a number of concerns and issues were identified. Based on the assessment, we determined that we either need a full reimplementaion of PowerPlan or we need to explore alternative fixed asset systems. The were several recommendation categories which included:

- PowerPlan System Configurations changes
- Controlled Automation & Actionable Analytics
- Integration Improvements
- Month-End Process & Performance Improvements
- Data Changes – Level of Detail and Integrity
- Standardize Processes and Controls for Projects
- Improve Monitoring and Controls
- Improve Retirement Processing, Analytics & Controls
- Resolve Data Integrity Issues
- Table Volume and Archiving Strategy
- Tax Repairs Processing Improvements
- As-Built Documentation for Processes and System Configuration

These improvement areas will be built into the design of the new system.

PowerPlan and other software vendors in this space continually evolve their offerings to address complex financial reporting needs. New releases incorporate best practices across solution suites, including import enhancements, usability improvements, and new security features. The new version

of PowerPlan has new functionality, like being able to use upload tools to mass update or insert records, without the need for IT intervention. This lessens the dependency on IT and creates efficiencies in the department. Transitioning to the most recent version of fixed asset and tax software allows the Company to receive essential product and security patches and maintenance releases, as well as the benefits of new features.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This project aligns with corporate IT strategy to move to cloud-based applications and is strongly related to the Oracle Cloud ERP implementation. The interconnected nature of fixed asset data between Oracle Cloud ERP and operational work management systems necessitates that the implementation of a new fixed asset and tax solution coincide with the finance and supply chain cloud migration.

2. Supplemental Information

Alternatives

One alternative is to keep the current instance of PowerPlan and interface it to the new Cloud ERP solution. The new fixed asset lifecycle, FERC Order 898, demands a fresh look at data from inception to retirement, from the initial creation of a work request in a work management system, through cost collection in ERP, to retirement and tax processes in the fixed asset accounting system. The current design of today's PowerPlan instance is over 12 years old, has modules in production that no other utility uses, which adds to the complications of the current instance, and has inherent data issues that must be manually corrected on a regular basis. Choosing not to implement a fresh, optimal solution leveraging 'out of the box' functionality would be costly and introduce control risks.

Risk of No Action

Risk 1 – Lack of action would entail continued data integrity issues, resulting in adjusting entries and audit risks, and a very high cost of retrofitting to interface with the new Cloud ERP design, or the creation of manual, offline custom interfacing and translating applications in between the old PowerPlan and new cloud ERP that would be costly and complicated to maintain.

Risk 2 – When PowerPlan reaches its end of life, we will no longer receive enhancements or updates.

Non-Financial Benefits

The implementation of these recommendations will bring significant value across several areas:

1. Accounting & Tax:

- Reduced month-end closing time, additional analytical capabilities, and improved system reliance.

2. Information Technology & Financial Application Support:

- Increased stability of the technology supporting the fixed asset lifecycle. Over the years due to the data discrepancies, we have had to obtain custom support solutions from PowerPlan to resolve the issues. A new implementation will leverage standard system functionality, reduce custom configurations which will mitigate the need for premier customer support solution options.

3. Operational:

- Enhanced work order lifecycle transparency and standardized processes, reducing compliance and financial reporting risks

By addressing the identified issues and implementing the recommended changes, Con Edison can achieve a more stable, efficient, and high-functioning Fixed Asset system, ultimately leading to transformative improvements and value for the customers.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

A Phase 0 effort will be conducted in 2025 to produce a business case for the project.

2. Major financial benefits

The new solution will support more timely and more automated unitizations, which directly impact tax repair eligibility and have a cash positive tax impact for the Company. When construction and retirement projects are completed, the amounts of the accumulated expenditures in the corresponding work orders are transferred from FERC account 107 CWIP to account 106 Completed Construction Not Classified, pending the unitization of the work orders. Unitization refers to the closing of the accumulated expenditures in the completed work orders to the subsidiary electric plant accounts. When a construction work order is unitized or closed, the costs accumulated in the work order are broken down and allocated to the various retirement units of property that were created from the project. The Operations organization that initiated the project provides notification of when the project is complete and how many units of each type of retirement unit were constructed. The various direct costs such as labor costs based on hours worked and materials used, are assigned to those units. Engineering and administrative overheads charged to the project are allocated to the various retirement units. Certain tax repair benefits cannot be utilized for tax return purposes until the asset costs have been unitized and transferred to account 101 Plant In Service.

3. Basis for estimate

The projected costs were derived from comprehensive labor and contractual assessments supplied by multiple System Integrators.

The O&M costs were estimated from historical costs and then projected forward. These were augmented with the planned increases.

Project Risks and Mitigation Plan

Risk 1	Mitigation plan
Risk 2	Mitigation plan

Technical Evaluation / Analysis

Project Relationships (if applicable)

This project is strongly related to the Oracle Cloud ERP implementation as noted above.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M	660	670	680	690	700	710
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	612	643	675	708	
Regulatory Asset					
Capital (Total)		25,716	25,758	13,059	
Labor		1,093	1,117	571	
		-	-	-	-
Contract Svcs.		17,130	17,130	8,565	
Other		5,935	5,944	3,014	
Overheads		1,559	1,567	909	

Transportation Operations 2026- 2028

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Fleet Management Program	
Project/Program Manager: Dennard R Smith	Project/Program Number (Level 1): 27696078
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 01/2026	Estimated Date In Service: 04/2028
2025-2029 Funding Request (\$000) Capital: 5,695 O&M: 1,665	
Work Description: Con Edison maintains approximately 7,300 on the road, self-propelled vehicles, and other equipment, such as trailers, backhoes, and forklifts across New York, serving over 10 million customers. Fleetwave, a product of Chevin is centralized fleet management software solution providing end-to-end management of diverse fleets across asset management, work management, maintenance, compliance, and analytics, was implemented in March 2020, replacing a Con Edison legacy fleet management system. A replacement of the current environment with Fleetwave's cloud version is required. Enhancement ensures and promotes increased security, data integrity, system performance, and new features. The migration to a cloud platform aligns with our corporate IT strategy and is in line with other major enterprise-wide systems such as the Enterprise Resource Planning System (ERP) and the enterprise wide internal fueling system, Gasboy. To support the new FleetWave system and its cloud implementation, a request for three full-time employees (FTEs) as permanent budget slots is proposed. The responsibilities and activities requiring dedicated support include: system configuration and customization, Cloud migration and integration support, ongoing system maintenance and optimization, training and user support, support for compliance reporting, and collaboration with Chevin subject matter experts. O&M will encompass salaries for FTEs as well as FleetWave, annual, subscription costs. This support is crucial for ensuring the system's efficient operation, maintenance, and continuous improvement. The oversight entity for this program is Con Edison Shared Services - Facilities and Field Services' Automotive Engineering section. The following scope of work is proposed: - Continued process improvements to FleetWave. - Database and software configuration to incorporate business processes, mobile technology, and prepare for migration to cloud-based solution. - Create a dedicated FleetWave Support Team, including subject matter experts from FleetWave's developer, Chevin. - Update all current integrations with other Con Edison platforms. - Migrate on-premises application to the latest version, which is a cloud-based application.	

- Integrate mobility into enhanced solution by equipping mechanics with mobile devices, enabling them to access real-time information, complete digital form, and perform tasks efficiently without the need to leave their workstations.
- Conduct user-acceptance testing and migrate to production.

Justification Summary:

The upgrade to the cloud-based FleetWave system is essential to modernize the Company's management of vehicles and equipment, ensuring operational efficiency, enhanced data security, and compliance with evolving regulations. The current system is outdated, leading to inefficiencies, higher maintenance demands, and limited functionality. A modernized platform will streamline fleet operations by enabling real-time data access, improving workflows, and reducing reliance on manual processes.

This enhancement aligns with the Company's IT strategy and ensures the fleet management system integrates seamlessly with other enterprise platforms. It provides scalability to support future needs while addressing current risks, such as operational delays and limited cybersecurity. Upgrading FleetWave is a critical step in maintaining fleet reliability, reducing costs, and ensuring the Company's ability to meet customer and regulatory expectations effectively.

Current State:

-FleetWave is operating on version 2.101; most current release 2.145.

- . The current support model relies on limited full-time and part-time staff, without dedicated subject matter experts. This results in delays in addressing system issues, limits the ability to configure updates efficiently, and prevents optimal system utilization, creating operational inefficiencies.

Future State:

Upgrading FleetWave, cloud migration, and adding full-time support staff—knowledgeable in cloud-based infrastructure—is needed to implement the latest technology and optimize functionality. The proposed full-time staff will at a minimum: troubleshoot real-time issues, perform and test system upgrades, tailor dashboard configurations, source advanced reports, and train users.

Proposed Enhancements:

1. Enhancement and Cloud Implementation.

- Integrate all fleet related information to allow for comprehensive, dynamic data on full lifecycle of vehicles and equipment.
- Integrate mobile technology to provide real-time data access.
- Enhance existing interfaces to cloud.
- Incorporate data and processes currently managed outside of FleetWave.
- Enhance reporting and notification capabilities.
- Configure dashboards according to user roles.
- Utilize dynamic fleet lifecycle decision tools.

2. Dedicated FleetWave Support Team and Chevin SME Support

- Establish a dedicated support team of three FTEs with technical skills to handle configurations, reporting, training, upgrading, testing, dashboard creation, and testing and upgrading. All of which, promotes operational excellence so that user groups can focus on core business for customers.
- Transition to Chevin for full support, ensuring comprehensive expertise in FleetWave and fleet management.

3. Mobility Functionality

- Implement paper-to-digital forms for increased accuracy and proactive fleet management, thereby reducing downtime and increasing operational effectiveness.
- Enhance real-time information accessibility, automating processes for improved efficiency.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This project supports the broader Company goals of operational excellence and safety by ensuring effective computerized vehicle fleet management is utilized to maintain vehicles in compliance with all applicable requirements and ensure the vehicle fleet supports Company operational needs in an efficient and cost-effective manner.

In addition, this program will implement industry standard, cloud-based technology. This is in line with other Company wide systems, such as Human Capital Management (HCM) and Gasboy.

2. Supplemental Information

Alternatives

Alternative 1

Continue use of outdated technology. Not selected because it will lead to higher maintenance costs and potential system failures, increased security risks, and inability to meet operational demands and regulatory requirements.

Alternative 2

Migrate organization to another work management platform such as Maximo. Not selected because Fleetwave is designed specifically for vehicle fleet management and a Maximo migration would result in a less effective oversight of fleet management and operations. In addition, the timeline for changing work management systems is such that an enhancement to Fleetwave would still be necessary to ensure business continuity – FleetWave will still be the primary fleet management system until time of transition.

Risk of No Action

Risk 1

Cyber security – Cloud-based technology offers the latest and most secure version of the software. Failure to keep the software version current risks lack of vendor support which can lead to technology obsolescence and potential cyber security vulnerabilities.

Risk 2

Operations – The current version of FleetWave lacks the dynamic and comprehensive data capabilities needed to proactively manage fleet operations. Failure to transition to a real-time, cloud-based system will undermine fleet reliability and continuous compliance with changing regulations.

Risk 3

Undesirability - Continued use of outdated technology, leading to higher maintenance costs and potential system failures.

Non-Financial Benefits

Proposed changes that will be incorporated into this enhancement will result in enhanced business processes – introduction of digital forms and live dashboards –, information transparency – the use of real-time data to support proactive decision making –, enhanced security – implementation of cloud-based technology –, and data quality – dynamic data and customization. This will improve workflows and communications between departments, enhance relationships, and promote compliance.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

- Enhanced decision-making capabilities leading to better asset utilization and management.

3. Basis for estimate

The estimate for this project was developed in consultation with the Fleetwave provider and Con Edison IT System Managers based on business needs and their experience with other customers.

Project Risks and Mitigation Plan

Risk 1: Scope Creep

Mitigation plan: An in-depth assessment of the current Fleetwave implementation and use was performed to ensure the proposed project scope encompasses all business needs.

Risk 2 Inability of business to support project milestones

Mitigation plan: Permanent in-house Fleetwave support is being requested to ensure administration of the software is properly supported and Con Edison has subject matter expertise needed to implement the enhancement and support the platform moving forward.

Technical Evaluation / Analysis

Project Relationships (if applicable)

This project will interface with other company initiatives, such as the Enterprise Resource Planning (ERP) system and internal fueling system, ensuring seamless integration and operation.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		\$15	\$125	\$125	\$1,400
Regulatory Asset					
Capital (Total)		2,093	3,302	150	150
Labor		0	108	0	0
M&S		30	600	0	0
Contract Svcs.		1,580	1,745	150	150
Other		483	762	0	0
Overheads		0	87	0	0

Customer Operations 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☒ Strategic	
Project/Program Title: FPET (Field Programable Electronic Terminal) Migration	
Project/Program Manager: Michelle Mitard	Project/Program Number (Level 1): 27709613
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 01/01/2026	Estimated Date In Service: 04/30/2027
2025-2029 Funding Request (\$000) Capital: \$3,481 O&M: \$285	
Work Description: The Field Document Portable Electronic Terminal (FPET) is a mainframe-based system, which is part of an overall technical solution to support non-routine field work performed by Customer Field Representatives (CFRs). This non-routine field work includes customer starts and disconnects, collections activity, and account investigations. FPET integrates with the customer billing system and Itron ServiceLink systems to enable the automation of these business processes and support reporting on these activities. This project will migrate the system from a legacy mainframe platform to a modernized platform to ensure sustainable operation of these key business functions. FPET is comprised of 130+ processes that interact with a multitude of mainframe programs used by the customer service and billing teams to keep the customer data accurate and up to date. It obtains and update customer data to and from internal resources using coned standard file transmission protocols This project is to ensure the successful migration of the legacy FPET Mainframe Application to a more supportable Windows based application using Raincode platform. The Raincode architecture uses COBOL Program compiler that modernizes mainframe legacy applications by seamlessly migrating and integrating them with a modern, technology stack without changing a single line of code. With Raincode's compiler technology, you can keep current applications and deploy them on a windows-based environment, allowing you to preserve decades of development while greatly enhancing performance and flexibility. The conversion will utilize the various compilers in Raincode to migrate the code without changing the functions or flows of the code. This will require coordination between various support teams including Mainframe developers, windows SQL developers, and contract developers with Raincode expertise. High level milestones of the project will include: • Date Migrations from Databases (DB2 and IMS) migration to windows SQL Databases • DB2 will be migrated to Windows SQL using SSMA • IMS will be migrated to Windows SQL using Raincode IMSQL • VSAM will remain VSAM in Raincode platform • Mainframe data compiler converted to RainCode compilers running on a windows platform • Customer Service Representative Frontend views accessible via windows	

- Integration to backend billing and customer
- Mainframe data compiler conversion to windows Based compilers
 - Assembler components will be compiled using Raincode Assembler compiler
 - PL/I components will be compiled using Raincode PL/I compiler
- Other various mainframe component conversions
 - COBOL components will be compiled to .Net executable
 - RAMIS components will be manually converted to COBOL

Justification Summary:

Consolidated Edison Company of New York, Inc.'s (Con Edison) Information Technology (IT) manages mainframe computer-based applications and applications that interact with the mainframe computer. The Company has been replacing these applications to eventually move away from all mainframe type applications.

This legacy application is challenging to maintain and enhance for any new regulatory requirements and has potential cyber risk. It has been challenging to obtain skilled resources to support the application due to legacy technology and the highly customized nature of this home-grown application. All of this creates operational risk with being able to perform field work such as customer starts, meter inspections, and cold weather interviews for customers.

This FPET Migration whitepaper is directly related to a broader strategy to decommission the mainframe after addressing all related assets (data and other active applications). For more detailed information on decommissioning the mainframe, refer to the 2026 IT white paper "IT Hardware and Software Maintenance".

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This project is in line with plans to consolidate to enterprise solutions and retire legacy applications that present cyber and operational risks.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

Perform a whole application rewrite. This option will take 3 years which will conflict with the mainframe retirement initiative. The cost for this is approx. \$2.5 million more than the rehosting solution.

Alternative 2 description and reason for rejection

Do Nothing. This will require researching a new application to perform the functions of the FPET application or absorb these functions in other existing application. This would again be timely and costly.

Risk of No Action <u>Risk 1</u> Cyber security risk for new vulnerabilities on legacy application should they be introduced will become more difficult if mitigate as there is limited support. <u>Risk 2</u> Inability to continue operation due to corporate initiative to retire the mainframe.
Non-Financial Benefits
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) 2. Major financial benefits 3. Basis for estimate The estimate was prepared in partnership with Business, discussions with the team that currently supports the application and analyzing historical capital costs for similar projects.
Project Risks and Mitigation Plan The risk of going over-budget and project delays will be mitigated by utilizing project management tools including governance meetings and monitoring proactively to mitigate project risk.
Technical Evaluation / Analysis
Project Relationships (if applicable)

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		\$135,000	\$50,000	\$50,000	\$50,000
Regulatory Asset					
Capital (Total)		\$2,415	\$1,066		
Labor		\$955	\$388		
M&S		\$80			
Contract Svcs.		\$1,240	\$560		

Other		\$100	\$100		
Overheads		\$40	\$18		

CECONY / Information Technology 2025-2029

1. Project / Program Summary

Type:	☒ Project ☐ Program	Category:	☒ Capital ☒ O&M	☐ Regulatory Asset				
Work Plan Category:	☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic							
Project/Program Title: Fraud Data Analytics Platform								
Project/Program Manager: Jing Li			Project/Program No (Level 1):					
Status:	☒ Initiation/Planning ☐ In-Progress (Projects only) ☐ On-going (Programs only)							
Estimated Start Date: 1/1/2026			Estimated Date In Service: 12/31/2028					
A. Total Funding Request (\$000) <table style="width: 100%;"> <tr> <td style="width: 30%;">Capital:</td> <td>3,957</td> </tr> <tr> <td>O&M:</td> <td>7,666</td> </tr> </table>					Capital:	3,957	O&M:	7,666
Capital:	3,957							
O&M:	7,666							
Work Description:								
Fraud Data Analytics (FDA) is a process to collect and analyze data to identify anomalies, outliers, patterns, and trends that may indicate potential fraudulent transactions and entities. The FDA platform provides a computing environment that supports the fraud data analytics function and enables automated continuous monitoring and alerting in risk areas such as procure to pay processes and employee travel and expenses. FDA is an essential part of the company's fraud risk management program. As planned, the Auditing Financial Integrity Group (FIG) will continue to expanding the platform through phases to enable enterprise-wide fraud monitoring and alerting across high-risk business areas. The following is a list of proposed activities under three phases from 2026 to 2029. As system and technology improves, FIG may adjust to meet the Company's needs: Year 2026: • Upgrade the platform and/or procure additional infrastructure to support the platform • Lifecycle replacement for hardware supporting the platform - Linux RHEL 7 EOL, June 2026 • Implement time reporting solution • Design and develop new fraud risk detection scenarios • Labor to support the above initiatives Year 2027: • Develop use cases in materials and inventory management and fixed assets management • Design and develop new fraud risk detection scenarios • Lifecycle replacement for hardware supporting the platform - Oracle 19c, April 2027 • Analyze and configure interfaces to accommodate changes of the systems migrated to Oracle cloud Year 2028 - Mid 2029: • Pilot use cases solution in Materials, inventory, and fixed assets solutions: A small-scale implementation of materials, fixed assets, and inventory risk monitoring solutions to gather feedback before a full-scale rollout, to identify system requirements and potential issues which are valuable inputs for a full scale implementation planning. • Design and develop new fraud risk detection scenarios • Analyze and configure interfaces to accommodate changes of the systems migrated to Oracle cloud								

- Lifecycle replacement for software supporting the platform - SAS

O&M

To achieve enterprise-wide Fraud Data Analytics program and continue to grow in-house data analytical capability, Auditing proposes an expansion by two FTEs beginning in 2026. In addition to the labor cost, O&M cost also includes licensing cost associated with the software solution. As FIG continues to expand the solution, operational costs are needed to maintain technical skills, manage, and support the data analytics function and platform.

Justification Summary:

Since 2019, FIG has partnered with IT to build a dedicated and robust forensic data analytics platform to enable ongoing automated fraud monitoring and alerting. The FDA platform was built in 2020, which involved creation of secure data storage, secure client-server database environment, interfaces for data sources, strong analytics software for large volume data cleansing, multi-dimensional data mining, advance statistical modeling, data visualization and distribution, and repetitive test scheduling. Through fraud risk assessment and solution planning, FIG uses a phased approach to develop its enterprise-wide data analytics function. The first phase focused on procure to pay process. The second phase focused on employee travel and expenses. In the coming five years, FIG plans to expand its fraud risk monitoring into four new areas: 1. employee time reporting, 2. vendor bidding and awarding, 3. materials, fixed assets, and inventory management, Construction contract management systems. If we don't continue develop the enterprise-wide data analytics function, fraudulent behavior may cause financial and reputational harms, and regulatory exposure that could result in reputational damage to the Company. There could also be criminal prosecution and/or significant penalties imposed on employees and the Company. In addition, this could lead to low employee morale.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Risk 1 Name: Corporate ConEd.Regulatory and Compliance.Fraud

Risk 1 Description:

FDA provides opportunity to proactively detect fraud

Risk 2 Name: Corporated.Regulatory and Compliance.Fraud

Risk 2 Description:

With FDA, discovery of potential fraud helps reducing the likelihood enterprise risk management

Risk 3 Name: Corporate ConEd.Regulatory and Compliance.Fraud

Risk 3 Description:

FDA provides opportunity to detect and help controllability

2. Supplemental Information

Alternatives:

Do nothing.

FIG has made significant investment in FIG Data Analytics platform which is flexible and adaptable to connect with any market or custom solution in fraud data analytics. If we don't build and expand the use of the tool, it will hinder us in our proactive fraud risk management and monitoring.

Risk of No Action:

Fraudulent behavior may cause financial and reputational loss, regulatory exposure, and public embarrassment that could result in reputational damage to the Company. There could also be criminal prosecution and/or significant penalties imposed on employees and the Company. In addition, this could lead to low employee morale.

Regulatory Risk (Financial Misstatements): Fraud risks not caught/prevented in a timely manner can lead to financial misstatements and possible reissuance of financial reports to regulatory entities (e.g. PSC, SEC, DOJ, etc.).

Corporate Risk (Fraud): The Corporate Risk of a Rogue Employee - Rogue employee(s) and/or vendor(s) violate laws/regulations for personal gain. Variances in account balances, as an example, can be an indicator that there is a discrepancy that requires research. By having the analytics platform, where forensic analytics can be performed to detect patterns and anomalies to determine whether any unusual activity is going on, tests can be scheduled, and risk alarms can be automatically generated timely.

Reputational Risk: Reputational risk is the potential for an event or a news story to adversely affect public perception of the company and its management and create a diminishment to the name and standing of the company in the eyes of our customers, regulators, investors and the public. Fraudulent activities not identified in a timely manner will have an adverse impact on the company's reputation.

Non-financial Benefits:

A proactive fraud risk management program will increase overall employee fraud awareness and consciousness, which will help the company to detect and prevent fraud from happening and will ultimately help instill the company's long established positive reputation in the market and confidence in our customer. Fraudulent behavior may cause financial and reputational loss, regulatory exposure, and public embarrassment that could result in reputational damage to the Company. There could also be criminal prosecution and/or significant penalties imposed on employees and the Company. In addition, this could lead to low employee morale. If we don't develop and expand the use of the tool, it will hinder us in our proactive fraud risk management and monitoring.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

Association of Certified Fraud Examiners (ACFE) is the world's largest anti-fraud organization. According to the ACFE's 2024 Report to the Nations, proactive data monitoring and analysis is among the most effective anti-fraud controls. Organizations that undertake proactive data analysis techniques experience frauds that are at least 50% less costly and 50% shorter than organizations that do not monitor and analyze data for signs of fraud. For example, First Energy is to pay \$100M in penalties resulting from the 2020 fraud involving bribery between former executives and the Ohio House Speaker.

2. Major financial benefits

ACFE estimates organizations worldwide lose 5% of revenues to fraud and 53% of victim organizations have not recovered any of their losses due to fraud. The company is determined to proactively manage fraud risks and implement forensic analytics enterprise-wide. Without a robust data analytics platform solution, FIG will not be able to churn in-depth forensic analytics and build an automated ongoing monitoring process to prevent and detect fraud risks enterprise-wide

3. Basis for estimate

The estimate is based on the actuals from Phase 1 (2020) and Phase 2 (2024) of the FIG data analytics implementation.

Project Risks and Mitigation Plan

Risk	Mitigation Plan
Technical Evaluation/ Analysis	
Project Relationships (if applicable)	
N/A	

3. Funding Details

Historical Spend by Year (\$000):

	<u>Actuals 2020</u>	<u>Actuals 2021</u>	<u>Actuals 2022</u>	<u>Actuals 2023</u>	<u>Test Year</u> (O&M only)	<u>Forecast 2024</u>
O&M					1,149.0	1,200.0
Capital		-	-	305.1		1,200.0
Regulatory Asset						

Total Request (\$000):

Total Request by Year (\$000):

	<u>Request 2025</u>	<u>Request 2026</u> <u>(RY1)</u>	<u>Request 2027 (RY2)</u>	<u>Request 2028(RY3)</u>	<u>Request 2029</u>
O&M	\$1,200.0	\$1414.0	\$1,429.0	\$1,429.0	\$1,429.0
Regulatory Asset					
Capital (Total)	1,462.0	1,700.0	130.0	665.0	0.0
Labor	\$250.0	\$250.0			
M&S	\$400.0	\$400.0	\$100.0	\$50.0	
Contract Svcs.					
Other	\$950.0	\$950.0	\$30.0	\$615.0	
Overheads	\$100.0	\$100.0			

Gas Operations 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Gas Digital As-Building	
Project/Program Manager: Rahul Sawlani	Project/Program Number (Level 1): 27708288
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date In Service: 10/1/2028
2025-2029 Funding Request (\$000) Capital: \$20,000 O&M: \$1,395	
Work Description: Gas Digital As-Building will enable Con Edison's Gas Organization to capture information of its underground assets in real time using digital technology, as well as closely monitor the lifecycle of the materials used during construction. This solution will involve utilizing unique identifiers (such as barcodes or RFID tags) on gas facilities (such as pipelines, valves, fittings, etc.), integrating geolocation technologies, and empowering field technicians with mobile data collection tools. This solution will be strategically integrated with Con Edison's enterprise Work and Asset Management Systems as well as Enterprise Geographic Information Systems (GIS) for a robust gas asset knowledge management process. This project will also absorb some of the asset related data currently in the fuse to fuser (F2F) application implemented in 2015. The F2F application currently serves as a record-keeping system to identify and retain in an electronic database the location of each plastic fusion, the person who completed the fusion and the name of the inspector. Gas Digital As-Building will not only include onsite collection information on fuses on plastic piping but also serve as means to digitally collect all components and materials used during construction of gas pipelines. The collected information will then be sent to Con Edison's critical work and asset management system and enterprise mapping systems on a near real time basis. Summary of work associated to implement this project includes: 1. Planning and Design: Gather requirements and design the system. 2. Technology Integration: Purchase and integrate required hardware such as geolocation tools, Mobile data collection devices, barcodes/RFID scanners. 3. System Integration: Connect with Con Edison's Work and Asset Management Systems and GIS system. 4. Data Migration: Absorb relevant data from the existing Fuse to Fuser (F2F) application. 5. Testing and Validation: Conduct pilot and user acceptance testing. 6. Training and Deployment: Train users and deploy the system in phases. 7. Monitoring and Support: Provide ongoing support and monitor system performance. 8. Data Collection: Ensure contractors are equipped and trained to collect data using the new system	

Justification Summary:

Currently, the company's field data collection for gas facilities is performed completely manually. This involves filling out several forms, hand-drawing as-built sketches and creating document packages. The documentation is then handed off between multiple groups before finally reaching the departments responsible for updating enterprise GIS systems, work management systems and other applicable systems in the gas workflow.

Gaps/Risks associated with the current process include:

- **Human Error:** Manual data entry and hand-drawn sketches are prone to inaccuracies and inconsistencies, leading to potential errors in the recorded data.
- **Time-Consuming:** The manual process is labor-intensive and time-consuming, delaying the availability of critical information.
- **Data Loss:** Physical forms and sketches are susceptible to damage, loss, or misplacement, risking the loss of valuable data.
- **Lack of Real-Time Updates:** Manual processes do not allow for real-time updates, resulting in outdated information that can affect decision-making and operational efficiency.
- **Limited Accessibility:** Physical documents are not easily accessible to all stakeholders, hindering collaboration and timely information sharing.
- **Inefficient Handoffs:** The handoff of documentation between multiple groups increases the risk of miscommunication, delays, and further errors before the data reaches the GIS department for updating the system.

Implementing a gas digital as-building solution is required for several reasons.

- **Risk Mitigation and Safety:** Accurate tracking will ensure that the right materials — such as pipelines, valves, and fittings — are used. This will minimize risks associated with incompatible components. Compliance with safety standards, such as ASTM F2897, become crucial for preventing leaks, accidents, and environmental hazards. Additionally, precise asset locations and timely updates to GIS systems will significantly reduce risks associated with excavation damages that result in service disruptions, compromised public safety and accidental greenhouse emissions.
- **Operational Efficiency:** Near real-time capture and visibility of installed gas components will optimize inventory management, prevent delays, and streamline logistics. By capturing and locating gas infrastructure components using high accuracy GPS devices, and by accurately marking out the underground facilities using our gas maps, the company will avoid accidental hits during construction activities, thereby reducing disruptions and associated costs.
- **Transparency and Trust:** Transparent traceability builds trust with our consumers, regulators, and investors. Communicating material provenance will foster confidence in the reliability of gas infrastructure. Stakeholders increasingly demand information about product origins, ethical practices, and sustainability. Material traceability addresses these demands, demonstrating a commitment to safety, compliance, and environmental responsibility.
- **Climate Change Mitigation:** Precise and timely capture of installed gas components and updating our GIS system allows Con Edison to associate faulty components to gas leaks and resulting emissions with greater confidence. Analysis and failure rates of such components — from production to transportation — is factored in when making design and operating decisions that could minimize environmental impact due to greenhouse emissions.

In summary, Gas Digital As-Building solutions not only ensure reliable energy delivery, but also actively participate in addressing the physical impacts of climate change. By investing in this initiative,

Con Edison intends to further enhance safety, efficiency, stakeholder confidence, and environmental resilience.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Gas Digital As-Building will reduce greenhouse gas emissions in the following ways:

- **Leak Detection and Repair (LDAR):** By accurately tracking gas infrastructure components as part of its Distribution Integrity Management Program (DIMP), utilities can promptly identify leaks. Leaks often release methane (a potent greenhouse gas) into the atmosphere. With effective traceability, utilities can implement regular inspections, repairs and replacements potentially minimizing methane emissions.
- **Preventing Uncontrolled Releases:** When pipelines, valves, or fittings are precisely located, maintenance teams can quickly respond to any issues. Rapidly responding to issues with the most up to date information of our components reduces the amount of uncontrolled release of natural gas into the atmosphere during emergencies or routine maintenance.

Gas Digital As-Building can benefit Disadvantaged Communities (DACs) in the following ways:

Safety and Health Improvements:

- **Reduced Accidents:** Capturing and tracking of gas infrastructure components using RFID scanners at the time of installation helps ensure faulty or recalled materials are not used. This directly benefits DACs by minimizing the risk of accidents, leaks, and explosions in their neighborhoods.
- **Preventing Gas Leaks:** By promptly identifying and repairing leaks, traceability contributes to cleaner air and safer living conditions for residents in DACs.

Reducing Disruptions and Inconveniences:

- **Avoiding Excavation Delays:** Accurate location data helps prevent accidental hits during construction or repairs. DACs benefit from reduced disruptions due to excavation delays.
- **Minimizing Service Outages:** Efficient traceability ensures timely repairs, minimizing service interruptions. Reliable gas supply is essential for daily life, and DACs stand to gain from improved service continuity.

Company Risk Mitigation:

- Con Edison's gas digital as-building project aims to enhance safety, operational efficiency, and environmental responsibility. By accurately tracking gas infrastructure components, the project minimizes risks associated with faulty materials, prevents uncontrolled gas releases, and reduces excavation damages.
- Compliance with safety standards ensures legal and regulatory adherence.

2. Supplemental Information

Alternatives

Alternative 1: Continue relying on manual inspections and documentation.

Reason for Rejection: Manual processes are time-consuming, error-prone, and lack real-time visibility. They do not address the need for accurate and efficient tracking.

Alternative 2: Spreadsheets for material tracking.

Reason for Rejection: Spreadsheets are prone to human errors and do not provide the necessary transparency. They also lack integration, scalability, and real-time data.

Risk of No Action

1. Excavation Damages:

- **Consequence:** Inaccurate or incomplete tracking of gas infrastructure components can lead to accidental hits during excavation or construction activities.
- **Risk:**
 - **Safety:** Excavation damage poses safety risks to workers and nearby communities. Gas leaks resulting from damaged pipelines can lead to explosions or fires.
 - **Service Disruptions:** Excavation damage disrupts gas supply, affecting customers and potentially causing financial losses for Con Edison.
 - **Environmental Impact:** Uncontrolled gas releases during excavation can harm the environment and contribute to greenhouse gas emissions.

2. Operating Errors:

- **Consequence:** Human errors in material tracking, data entry, or maintenance procedures can compromise the effectiveness of the system.
- **Risk:**
 - **Data Inaccuracy:** Incorrectly recorded material information may lead to using faulty components, jeopardizing safety and reliability.
 - **Missed Inspections:** Operating errors could result in missed inspections or delayed repairs, increasing the likelihood of leaks.
 - **Lack of Compliance:** Failure to follow established procedures may violate safety standards or regulatory requirements.

Non-Financial Benefits

- Increased safety, reliability, resilience (including climate adaptation), efficiency, or customer satisfaction
- Improved workflows and communication among departments
- Stronger relationships with community or with regulators
- Ensuring regulatory compliance

Summary of Financial Benefits and Costs (attach backup)

The Gas Digital As-Building solution will be deployed as a kit that includes all hardware equipment, devices and associated software application required to capture gas asset information on-site during construction activities and send asset data to enterprise systems in real time.

Project Risks and Mitigation Plan

Risk 1:

Vendor Performance: If the selected vendor fails to deliver as promised, it can lead to delays, cost overruns, or subpar quality.

Mitigation Plan:

- **Due Diligence:** Project team will thoroughly evaluate potential vendors based on their track record, references, financial stability, and capabilities.

- **Clear Contracts:** Project team will ensure contracts clearly outline expectations, deliverables, milestones, payment terms, and dispute resolution mechanisms.
- **Vendor Relationships:** Project team will maintain open communication with vendors, monitor performance, and address issues promptly.
- **Contingency Plans:** Project team will identify backup vendors or alternative solutions in case the primary vendor encounters difficulties.

Risk 2:

Integration Challenges: Integrating traceability systems with existing enterprise systems can sometimes become challenging due to incompatibility and data standardization issues.

Mitigation Plan:

- **System compatibility:** Project team will conduct technical analysis during planning phases to ensure system and architecture compatibility with current enterprise system owners prior to commencing implementation work.
- **Data Compatibility:** Project team will conduct technical analysis during planning phases to ensure data captured has standardization and is compatible with data in enterprise systems.

Technical Evaluation / Analysis

The natural gas industry proactively developed the ASTM F2897 standard to address the risk of manufacturer recalls for plastic pipe and fittings. Although Pipeline and Hazardous Materials Safety Administration (PHMSA) currently does not explicitly prescribe capturing the full traceability data in ASTM F2897, many operators consider it a best practice with a strong return-on-investment. The American Gas Association (AGA) has also published several white papers related to gas material tracking and traceability. Several gas operators and local distributing companies in North America are beginning to incorporate this standard in our asset data collections methods and underlying GIS systems.

Project Relationships (if applicable)

Gas Digital As-Building will integrate with the Company's currently implemented Enterprise Programs for Work and Asset Management as well as Geographic Information System.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		350	45		1,000
Regulatory Asset					
Capital (Total)		5,800	6,200	8,000	
Labor		1,200	1,200	1,200	

M&S		1,000	1,000	3,300	
Contract Svcs.		1,800	2,100	1,250	
Other		800	900	1,050	
Overheads		1,000	1,000	1,200	

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Increased Computing Capability for Clean Energy Analytics	
Project/Program Manager: Matt Koenig	Project/Program Number (Level 1): 27840685
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date in Service: 9/1/26
2025-2029 Funding Request (\$000) Capital: \$490 O&M: \$10	
Work Description: Transmission Planning performs complex, numerically intensive computer studies using the Transmission Adequacy and Reliability Assessment (TARA) Modeling and Analysis application. The application is designed to perform more efficiently in a parallel processing environment, and can be run much faster on a server than on a workstation. The goal of this effort is to provide the Transmission Planning Department with an enhanced set of computer platforms to perform complex studies, which are required by State and Federal regulatory authorities. The applications that perform these studies will greatly benefit from more powerful computing capabilities, allowing the Department to complete these studies in a more timely and accurate manner. The Department has already established 4 servers with moderate capability to support this effort. We have learned that the TARA application can take up to 72 hours to complete a complex run on a single laptop containing about 10 parallel processes. In contrast, the servers (each with 128GB RAM and 20 parallel processors) can perform these studies in about 12 hours. We expect that we can further reduce the run times for these studies to 3 or 4 hours with the proposed more powerful servers, each with 64 cores and 1 TB or RAM. After consulting with IT, the selected server model is described below: Dell PowerEdge R660, with 64 cores and 1 Terabyte of RAM, along with a 1 Terabyte storage. At the time of inquiry, the cost was quoted at \$48k per server platform. Note that each server can only support one user at a time. The department has a staff of about 20 users, and is expected to grow over the next few years. There are 12 heavy-duty users who would greatly benefit from this improvement in efficiency, therefore we are requesting an additional 12 servers. The Servers would be established at a secure Con Edison site, to ensure security of the CEII data used in the studies. They are expected to be established in early 2026 and be maintained for an ongoing and indeterminate period. Based on the stated unit cost, the total initial purchase cost of 12 servers	

(hardware only) would be about \$568k. Additional costs associated with the servers would include initial assembly, connections, and testing, along with ongoing maintenance and support. No special diligence or prep work is anticipated.

High-level schedule:

- February 1st, 2026: Requisition and PO generated for the servers.
- May 1st, 2026: Servers arrive: Platforms are assembled and initialized
- June 1st, 2026: Operating systems, applications and licenses are to be installed and evaluated

Justification Summary:

The Transmission Planning Department must establish an enhanced set of computer platforms to support the expanded and more complex study requirements, including the need to evaluate reliability and public policy needs, and propose appropriate transmission solutions.

The power flow modeling applications that perform these studies can do so with much greater speed and efficiency when running on servers with multi-core parallel processing, greater RAM and cache size, faster processor type/speed, and efficient core management.

Currently, the Transmission Planning department uses a mix of individual workstations (with 10 cores and 16 GB RAM) along with four servers, each with 20 cores and 128 GB RAM. Recent comparisons of extensive contingency studies showed approximately 72 hours for the workstations vs. 10 hours for the four servers. As the amount of study work grows over the next years, it is expected that the workload would overwhelm the current resource capabilities, and the company would incur penalties for delayed or incomplete work.

Information from other utilities and the NYISO indicate that these study runs can be reduced significantly (down to about 2 or 3 hours) by using more sophisticated computer hardware with physical characteristics on the order of 64 cores and 1TB of RAM.

The Transmission Planning Department has experienced a significant increase in workload, included applications for transmission level generation interconnections, each of which must be studied for their system reliability impacts, as well as an increase in the scope and depth of study burdens imposed by state and federal regulatory authorities in the transition towards a clean environment. It is therefore critical that the capability of computational resources for the Department be enhanced so that these studies can be completed as required, in a timely and effective manner.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The increased count of more powerful will greatly leverage the Company's ability to respond and manage the demand of increased analysis, which is necessary to evaluate and establish the reliable interconnection and delivery of renewable and energy storage facilities to the Con Edison system. Additionally, the servers will support studies performed by the Company to determine necessary infrastructure that will allow for the eventual retirement of the existing

polluting fossil fuel-based energy resources thus reducing subsequent Greenhouse Gas Emissions. The fossil plants to be retired are located within, or in close proximity to disadvantaged communities. The utilization of servers will enable the timely completion of 5-year and long-range (10-year) studies that are at the core of the Transmission Planning Department's responsibilities to facilitate a reliable clean energy transition. This project will enable the timely completion of studies associated with risk mitigation for events that impact bulk power transmission system performance, including the establishment, enhancement, downgrading or removal of resources and components. One of the main objectives of the studies is keeping the system reliable during the transition to a clean environment, by minimizing the risk of system blackouts or load disconnection.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection:

Stay with current hardware: This option is rejected due to current computer resources being insufficient with respect to Cores for parallel processing as well as RAM, and too slow to accomplish the current and anticipated future workload within the required time.

Alternative 2 description and reason for rejection:

Purchase more sophisticated workstations to replace the laptops. This option is rejected because the performance of these alternative configurations, while greater than the current laptops, have considerably less resources than the selected servers, and would not provide a sufficient run-time improvement.

Alternative 3 description and reason for rejection:

Lease servers in the Azure cloud. Although these resources are more substantial and anticipated to run more quickly, this option is rejected for several reasons:

1. The Azure-based servers would have a considerably higher unit cost, about \$120k each, and a lease period of only 3 years, while this this category of work is expected to continue indefinitely.
2. These servers would be located in the Azure cloud, so there would a significantly increased risk of exposing CEII information to external security breaches associated with the server location as well as during data transfer to and from the server.

Risk of No Action

- **Risk 1:** Insufficient resources for staff. Expanded work responsibilities would not be completed in a timely manner to identify and address both reliability and clean energy requirements, nor would staff be able to advise NYISO on local system impacts.

- **Risk 2:** Unable to perform some of the studies due to inherent limitations associated with the hardware capabilities of the currently available computers.

Non-Financial Benefits

The results of these studies will be used for supporting the establishment of new transmission substations or clean energy hubs, evaluating impacts of wind, solar and storage facilities, understanding the behavior of Inverter-based resources and power flow behavior. These issues are at the center of the transition towards a clean environment.

The new hardware will help to ensure the timely and successful completion of both clean energy and reliability-based studies required for regulatory compliance, as per NERC, NYISO and NYSRC requirements.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

The servers are not being justified based on a cost-benefit basis.

2. Major financial benefits

Basis for estimate

Project Risks and Mitigation Plan

Risk 1: Delivery Delays, hardware problems

Mitigation plan: Continued utilization of current servers, combined with overtime staffing to somewhat expedite the required studies.

Risk 2 Software doesn't work on the servers as anticipated

Mitigation plan: Technical support contracts for the servers and the software would be established to ensure functional and timely performance.

Risk 3 The workload continues to increase beyond the level of resources identified in this request

Mitigation plan: Hire outside consultants to supplement the workload.

Technical Evaluation / Analysis

Results will be evaluated by Department staff, and compared with those from other in-house and peer utility platforms.

Project Relationships (if applicable)

All power flow related studies that use the new servers will be positively impacted by the availability of superior computing resources. These include PSS/e, TARA and PSCAD, which are being justified and processed under a separate white paper.

The servers will be used to support the following software applications:

- PSS/e from Siemens PTI ,used for model preparation, steady state and dynamic studies
- TARA from PowerGEM, used for multi-stage steady state contingency analysis
- PSCAD from Manitoba Electric through its America Distributor Nayak Corp., used for Electro-Magnetic Transient (EMT) studies.

Note that all of these applications will benefit from platforms with inherent parallel processing capabilities.

3. Funding Detail (\$000)

Breakdown of Costs follows:

WhitePaper Title: Increased Computing Capability for Clean Energy Analytics				
Goal: Purchase of 12 Additional Servers to support Analytical Studies in Transmission Planning Department				
Server Count: 12 additional servers				Characteristics Per Server: 64 Cores; RAM = 1 Terabyte
Brand and Model: Dell PowerEdge R660				Location: Con Edison Inc. Corporate Data Center (On Premises)
All units in thousands (\$000)	Capital		O&M	
Item	Per unit	12 Licenses	Monthly	Description
Estimate: Hardware corporate Data Center Deployment and Installation.	\$47.3	\$568		Hardware - includes the cost of the servers, the racks, the cables, the switches, the power supplies, the installation, and the warranty.
Operating Software and Licenses for the servers.	\$32.5	\$390		Software Cost Excluded: TARA application licenses; these server licenses will be provided by the Con Edison Department requesting the estimate.
Estimate: Servers Installation and Deployment Cost - Con Edison - Corporate On Premises Data Center	\$1.0	\$12		
Estimate: Servers Backup Operational Cost	\$1.7	\$20		
Estimated Maintenance and Operational Cost - 12 Production Windows Servers			\$2.10	IT Run Data Center Services Operational Montly Reoccurring Cost (MRC)
Total	\$82.5	\$990	\$2.50	Annual O&M starting in 2026
			\$10	4 years of O&M

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		\$2.5	\$2.5	\$2.5	\$2.5
Regulatory Asset					

Capital (Total)	Zero	\$490			
Labor		\$20			
M&S		\$460			
Contract Svcs.					
Other					
Overheads		\$10			

*The test year runs from 10/1/2023 to 9/30/2024

Note: Additional funding on the order of \$500k, associated with the capital expenses component associated with the servers, is identified in XM.

**Information Technology
2025-2029**

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Integrated Workplace Management System Replacement	
Project/Program Manager: Andy Tiao	Project/Program Number (Level 1): 27728959
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: Jan 1 st , 2026	Estimated Date In Service: Dec 31 st , 2028
2025-2029 Funding Request (\$000) Capital: \$13,484 O&M: \$1,537	
Work Description: This project comprises the migration from Con Edison’s current Integrated Workplace Management System (IWMS) application, MRI Manhattan, to IBM’s equivalent Maximo (Tririga) platform. MRI IWMS application supports key Facilities and Real Estate functions across the enterprise including lease administration, space management & optimization and conference room and hotel seat booking. Maximo is Con Edison’s existing enterprise suite for asset and work management and already includes information about Facilities assets. Migrating to the Maximo Tririga IWMS platform will allow us to leverage this enterprise platform to provide enhanced functionality for Facilities and Real Estate functions. This will provide a streamlined and efficient process for Facilities. In summary, migrating the IWMS functions into IBM Maximo/Tririga will: • Increase visibility to better optimize facilities, resources, and processes • Improve control of facility occupancy and operating costs • Provide more engaging workplace services in support of evolving hybrid work patterns • Automate activities that will increase efficiency and organizational effectiveness of real estate and facility management functions IBM’s software suite allows organizations to configure and report on their specific requirements and needs. The customizable dashboards and embedded PowerBI reports will provide visualization and analysis for Con Edison’s unique needs. In addition, the IBM platform now includes a sustainability module “Envizi” that is fully integrated with Maximo asset management and IWMS functions which will help track Con Edison’s progress towards reducing the company’s carbon footprint in support of New York State’s Climate goals.	

The Envizi cloud-based platform is modular and scalable, allowing it to grow organically in support of Con Edison's initiatives in Environmental, Social, and Governance (ESG) by aggregating performance and benchmarking data from operational systems and providing insights measured against corporate ESG metrics to inform data-driven decision making.

- Emissions Management
 - o Report scope 1, 2 and 3 emissions and use target setting and tracking to see how emission reduction initiatives are performing.
 - Scope 1 & 2 GHG accounting and reporting module enables the capture of billing data to report all costs, consumption and GHG impacts.
 - Scope 3 module supports 15 categories of scope 3 and allows for a variety of calculation methods and scope 3 factors.
 - The Target Setting & Tracking module enables allow users to track and report their performance against their sustainably targets.
 - Specifically, Envizi will allow Con Edison to monitor the effectiveness of different initiatives to reduce our greenhouse gas emissions and to track compliance of its facilities with NYC Local Law 97 emissions limits.
- (ESG) Reporting
 - o Designed to improve preparing and submitting ESG reports.
 - ESG Reporting Frameworks – This module includes a robust workflow management tool that helps organizations streamline their response to reporting frameworks.
 - Building Ratings & Benchmarks – Supports organizations responding to reporting requirements focused on the built environment, such as NABERS, EnergyStar or GRESB.
 - Value chain surveys + assessment - supports organizations to survey third party members of their value chain (both upstream and downstream) and gather both quantitative and qualitative data on their ESG performance.
- Decarbonization
 - o Workflow tools manage issues automatically flagged by its analytics engine, accelerating the decarbonization journey by providing insights.
 - o Consolidated energy data, benchmark performance, and decarbonization strategies.
- Advanced Modules
 - o Planning and forecasting
 - o Climate risk insights
 - o Supply chain intelligence

The project is expected to start in 2026 and be completed in 2028.

Justification Summary:

Integrated Workplace Management Systems (IWMS) are essential to ensure the efficient management of essential Real Estate and Facilities functions for large owner/occupiers of real estate. For Con Edison, these functions include lease administration, the processing of \$xxxM in payments; the management of approximately 3.5 million square feet of office and service center space including x owned and y leased properties and the management of meeting

room and workstations to support the efficient use of office space. An Integrated Workplace Management System such as Tririga is essential to support the Company's Real Estate Strategy to optimize the use of our office and service center facilities. For example, the application allows the office occupancy across the CECONY portfolio to be monitored which allows us to identify opportunities to consolidate space and optimize our real estate portfolio footprint. In addition, as the hybrid workplace continues to evolve, Tririga will provide an effective means for internal customers to book 'hotel' desks and meeting rooms on an as-needed basis. The ability to more effectively monitor and control the use of our facilities will be essential to optimizing the real estate portfolio and to ensure it is 'right-sized' to support the needs of the enterprise. In addition, the use and occupancy information maintained in Tririga will be integrated with IBM Maximo to support Facilities' asset management strategy.

Envizi will integrate with Maximo and provide the ability to monitor greenhouse gas emissions across our portfolio and by building. The application will provide visibility into how emission reduction initiatives are performing which will be essential to helping the Company deliver on its Clean Energy Commitment and achieve NYC LL97 compliance.

Con Edison's current IWMS by MRI (formerly Trimble) was implemented in 2016 and has proved useful in supporting both Real Estate and Facilities' core operations. However, MRI is a standalone product that is not currently integrated with Con Edison's enterprise asset management platform. Consequently, system upgrades are labor-intensive, system is clunky and requires frequent manual intervention, and the level of customer support from MRI has been lacking.

In evaluating alternative IWMS solutions, we benchmarked with other utilities and large owner/occupiers of commercial real estate. Our research also included a review with Ernst & Young and completing a Unite survey. Based on the feedback gained, it was determined that only MRI Manhattan and IBM Tririga provided a robust IWMS solution for the required key Real Estate and Facilities functions for an organization of the size and scale of Con Edison. Please see below an abstract from Verdantix Green Quadrant: IWMS 2022 report identifying IBM as a leader in this space.

We are pleased to announce that IBM is a leader in the Verdantix Green Quadrant: Integrated Workplace Management Systems 2022 (March 2022).

FIGURE 12



Capabilities This dimension measures each software supplier on the breadth and depth of its software functionality across 26 capability areas, as outlined in Figure 8.

Momentum This dimension measures each software supplier on seven strategic success factors, as outlined in Figure 9.

Migrating to IBM Tririga will align with Con Edison's IT strategy to consolidate stand-alone applications into enterprise-wide systems and leverage existing service agreements. In addition, the migration to an IBM IWMS platform will allow us to leverage Facilities' asset management information currently in Maximo. Further, the integration of the Envizi sustainability module will provide essential reporting to inform decision-making and demonstrate progress towards meeting Local Law 97 milestone compliance.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The IBM platform includes a sustainability module "Envizi" that is fully integrated with Maximo asset management and IWMS functions which will help track Con Edison's progress towards reducing the company's carbon footprint in support of New York State's Climate goals. Specifically, Envizi will allow Con Edison to monitor the effectiveness of different initiatives to reduce our greenhouse gas emissions and to track compliance with NYC Local Law 97 emissions limits.

2. Supplemental Information

Alternatives

Alternative 1 – Continue with MRI IWMS; do not implement Sustainability Module

Refrain from implementing Tririga and Envizi, and continue to manage Real Estate and Facilities core functions using MRI IWMS. This option is not recommended due to the stand-alone application not integrating fully into Con Edison's enterprise-wide asset management platform. The current vendor's support has been lacking at times and system upgrades are labor-intensive. In addition, by maintaining MRI IWMS as a separate system, we will not efficiently leverage the asset management information currently in IBM Maximo. If we do not implement a sustainability module such as Envizi, tracking progress towards reducing our carbon footprint will continue to be a manual, labor intensive process for the coming years.

Risk of No Action

Risk 1

Inefficiency, or with inadequate functionality to meet current and future business needs. If we don't have an automated solution, we will have to meet the NY Local Law 97 with manual methods, which incurs risk of manual error. If we do not comply with Law 97, we will be subject to fines and to reputational damage.

Non-Financial Benefits

More streamlined business processes with the current Maximo enterprise system with strong integration between Tririga, Envizi, and Maximo for coordinated data exchange. These integrations will improve workflows between Facilities and Real Estate departments, and across the organization. Furthermore, the use of Envizi will allow Con Edison to track compliance progress towards meeting local law 97. Local Law 97 is part of the Climate Mobilization Act of 2019 which requires us to reduce consumption of carbon fuels such as natural gas. Con Edison has many types of equipment that use different types of fuels. This system will allow to make determinations about which equipment to use to manage consumption most efficiently.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Basis for estimate

The Cost Estimate includes hardware for the new infrastructure, software costs for Tririga and Envizi, integrator costs to implement Tririga and Envizi, and internal labor (5 FTEs in the initial year, and ramping up to 8.3 FTEs in the second and third years), to work and manage the project. Assumptions include the ability to use the Tririga and Envizi to replace the MRI (integrated workplace management system) product and enhance functionality to meet

current and future business needs. The assumptions for labor were based on similar size implementations for other large projects such as Maximo.

The O&M cost estimate is based on purchasing additional “points” from IBM for the use of Tririga and Envizi, and for paying for 2 FTEs to support Tririga and Envizi upon implementation in Production.

Project Risks and Mitigation Plan

Risk 1

Mitigation plan

High level estimates for the implementation of the Tririga and Envizi products may underestimate the complexity of integrations, resulting in additional time needed for the project.	Focus on integrations during requirements and design workshops to minimize rework later in the project, if any. In addition, bring in an experienced integrator during the selection process.

Technical Evaluation / Analysis

Benchmarking with other large corporations have been conducted and the Verdantix benchmarking study has shown that Tririga is in the upper right quadrant, i.e. a leading software solution for Real Estate and Facilities corporate owners.

Project Relationships (if applicable)

N.A.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M				\$80	\$1,457
Regulatory Asset					
Capital (Total)		\$2,016	\$5,662	\$5,806	
Labor		\$1,031.7	\$1,904.2	\$2,000.4	

M&S			\$334.2	\$114.7	
Contract Svcs.					
Other		\$502.0	\$2,460.2	\$2,702.4	
Overheads		\$482.5	\$963.1	\$988.9	

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Integration of virtual reality into Substation Operating Orders	
Project/Program Manager: Michael Stackhouse	Project/Program Number (Level 1):
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2023	Estimated Date In Service: 12/31/2026
2025-2029 Funding Request (\$000) Capital: 2,000.0 O&M:	
Work Description: Substation Operations is planning to improve the Rapid Restore system for operating orders and work permits issued on the electrical and dielectric systems by integrating technology to enable equipment verification. The scope of work entails installing technology enabled tags on all major operating equipment which would cover atleast 60,000 asset records, and configuring Rapid Restore to recognize the asset records so that Substation Operators will scan equipment tags using mobile devices to verify they are at the correct piece of equipment before executing each step of the Operating Order. After performing lidar scanning at each station, the Maximo Administration group will match asset record information with the point cloud locations in these scans. There will be integration involved with the vendor's software Matterport and our Maximo Enterprise Work management system. Once we finish the integration in Maximo, Rapid Restore and the Electronic-DSO system will have the digital tagging access to leverage the equipment virtual peer checking capabilities.	
Justification Summary: The opportunity exists to significantly reduce the likelihood of equipment switching errors by leveraging commercially available technology integrated with our operating orders and Rapid Restore systems. The proposed project will help ensure with validation that Operators are at the right equipment when performing switching moves. Operating errors result in unplanned disturbances on the transmission system as well as pose a safety threat to personnel. There have been significant events that transpired due to inadvertently operating incorrect equipment leading to phase to ground faults on the system, rupture disk damage and over pressurization that lead to system disturbances and in some cases, customer outages. This project will also ensure all equipment identified in Operating Orders have asset records in Maximo and are appropriately tagged in the field as the Maximo system of record is updated manually through our equipment acceptance process.	

The project will also enable all work groups to leverage mobile and virtual reality solutions at field locations improving productivity by facilitating information transfer and reducing paperwork and administrative functions.

With the Virtual Reality in Substation application, field forces will have the ability to:

- Plan PM/Cm jobs
- Increased visibility over work bundling opportunities
- Train new personnel on substations (Virtual Tours)
- Identify hazards associate to jobs in pre-site job briefing discussions.
- Utilize wearables to see asset tags and Aveva Pi real-time data
- Enhanced operational excellence in Operating Orders
- Better manage risk assessment (Safety/Equipment Reliability/Environment)

Incorporate heightened Situational Awareness

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Department.Substation Operations.Equipment Failure. Preventing operating errors that can result in equipment failure.

Department.Substation Operations.Operating Errors. Technology will directly reduce the likelihood of an operating error.

Department.Substation Operations.Safety. Reduction of operating errors reduces the likelihood of an injury as a result of that error.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

There are a few alternatives that are currently being evaluated for effectiveness that will determine the exact technology used for this project. This includes virtual reality, mixed reality and/or barcoding.

Risk of No Action

Risk 1

Risk 2

Risk 3

The risk of no action is a continued reliance on human performance practices to prevent switching errors. Operating experience has shown that a continued emphasis solely on HPI tools does not fully eliminate the risk of human error.

Non-Financial Benefits	
Improved personnel safety, reliability, and the avoided costs of responding to switching errors and at times the resultant equipment damage.	
Summary of Financial Benefits and Costs (attach backup)	
1. Cost-benefit analysis (if required)	
2. Major financial benefits	
3. Basis for estimate	
Project Risks and Mitigation Plan	
Risk 1	Mitigation plan
Risk 2	Mitigation plan
Technical Evaluation/ Analysis	
Project Relationships (if applicable)	

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year*</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital						300.0

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	1,500.0	500.0			
Labor	1,300.0	410.0			
M&S	100.0	50.0			
Contract Svcs.					
Other					
Overheads	100.0	40.0			

*The test year runs from 10/1/2023 to 9/30/2024

Energy Management 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: ISO Revenue Metering Enhancements to PCI Adapting to Market Changes	
Project/Program Manager: Gabriel Pestre/Carlos Villalba	Project/Program Number (Level 1): 27696117
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 01/01/2026	Estimated Date In Service: 8/30/2027
2025-2029 Funding Request (\$000) Capital: \$2,597 O&M: \$160/yr	
Work Description: As the Meter Authority for CECONY, Forecasting Services is required by the NYISO to perform daily and monthly reporting of transmission tie-line flows and generation in our service territory. Forecasting Services also supports ORU's Meter Authority team for submissions to PJM. The objectives of this project include: - Addressing new markets and regulatory requirements through new automations and/or coding (2026); - Enhancing ISO reporting workflows through adding capabilities to the vendor platform (PCI) (2027); - Developing new code to enhance data controls and analysis in order to ensure the highest quality of data possible is being submitted to the ISOs (2026); - Developing additional functionality which allows a higher degree of quality checking data to validate the selection of the best available data (2026-2027) - Incorporating new interfaces to enhance interconnectivity with other applications (2026-2027). Below are detailed descriptions of each of the five objectives above: In order to address new markets and regulatory requirements, configurations will be enhanced to incorporate market changes to NYISO and PJM, including the FERC 2222 market. New functionality will also be added to enable the software to process increasing participation of ESRs and DERs through the coding of new automations. This development effort will be performed by the software vendor, PCI, and is a top priority in order to remain compliant with NYISO requirements. The vendor will need to: - Update the NYISO API to communicate a new submission type to NYISO - Update interface displaying necessary data/editing abilities for analysts - Configure data regulation rules for validation of data integrity for new resource types ISO reporting workflows will be improved through the development of new functionality to automate user management through Single Sign-On (SSO) implementation. This functionality does not currently exist in the vendor software, and will require vendor (PCI) development efforts in order to implement.	

New code will be developed to further enhance key functionality of data control and analysis. This will be achieved by implementing readback of counterparty submissions for the NYISO API and functionality to track billing versions of gens and ties. A new validation will also be configured to include NYISO basepoints and Performance Tracking System (PTS) telemetry. In order to implement this enhanced functionality, a developer will be contracted to set up the connection to NYISO's PTS and create the custom code.

New automations will also be developed by a contracted developer and software vendor, PCI, to enhance current functionality of quality checking tools, such as reporting, which will improve the Meter Authority validation process. These new automations include custom code to validate the switch & breaker status and developing automated reports including the three company split report and meter quality/diagnostic report.

A new interface to consume reactive power meter data will be set up by a contracted developer to enhance the reporting functionality of PCI. A new automation will be developed improving workflow to ingest PSEG data into the vendor platform (PCI). Additionally, new interconnections are to be set up as a reverse data flow where PCI acts as a source system for other Energy Management applications, which can benefit from the data stored on the vendor platform. This reverse data stream will benefit EDAP and potentially other systems.

The proposed timeline for the work is Q1 2026 to Q3 2027 at the cost of \$1.429 million and \$1.168 million for rate year 1 and 2 respectively.

Justification Summary:

CECONY and ORU are responsible for approximately 45% of the load in New York State's Control Area (NYCA). CECONY and ORU revenue class metering is submitted next day to the NYISO and PJM for financial settlements of energy purchased and generated. This function is required by FERC on the NYISO-TO Agreement Revenue Manual, NYDPS on the 16 NYCRR Part 92, FERC on the NERC MOD 31, FERC: PJM Manual 28; and NJ BPU.

Forecasting Services receives and reviews data from electric meters from several sources, including Revenue Metering and SCADA systems. When all meters are recording and reporting correctly, Forecasting Services releases the revenue meter data to the NYISO. If any meter data is missing or questionable, Forecasting Services reports backup meter or placeholder information to NYISO, then troubleshoots the issues and, to the extent possible, rectifies the data during the 3-day or monthly correction periods provided by NYISO. This process is completed daily to comply with NYISO Manual 25 on Revenue Metering Requirements.

Prior to establishing the PCI Energy Accounting platform (which went live in 2024), Forecasting Services analysts performed the daily reporting using a manual spreadsheet-based process. It was time-consuming, prone to human error, and not set up proactive and historical analysis. This created a risk of large discrepancies that might be discovered until several months later, which affect the payments to market participants and lead to cash-flow issues. They can also trigger legal proceedings, as evidenced in Docket ER24-1291-000 (April 2024), in which the Company asked FERC for a waiver to permit the correction of the September 2023 generation data for one of Astoria Energy LLC's generating units, which had significantly underestimated the generation values from the Astoria 1 facility. To address the issues with the manual spreadsheet-based process, the Meter Authority led a capital project to build a new ISO Reporting platform using vendor software, PCI Energy Accounting, to perform the daily and repetitive manual functions of collecting, validating, and reporting energy

demand data to the NYISO and PJM from transmission revenue class meters located at transmission ties with neighbor utilities and local generating stations. The platform receives data from a number of source systems at CECONY and ORU, including MV-90 for revenue metering, DDH and EDAP for AMI data, PI for SCADA data, DERMS for DER Aggregation data, and an email mailbox for PSE&G counterparty exchanges. The platform then performs calculations and validations on the data and uses APIs to transmit values to NYISO and PJM, while allowing for user oversight and intervention as needed.

The ISO Reporting platform automates many operations that were previously done manually and allows the company to adapt the reporting process to meet market and internal needs. This, in turn, benefits market participants by improving the accuracy of financial settlements, increasing the transparency of transactions, and will allow company personnel to readily troubleshoot and resolve metering issues. The vendor software provides an enterprise solution across both CECONY and ORU that creates synergies across companies and enables peer-checking and business continuity. In addition, it enables the analysts who perform this function to focus on other issues that arise related to this function (e.g., follow-up on repairs, investigate meter challenges, perform transmission loss estimations, and work on new interconnections). The first iteration of the PCI EA platform speeds up the daily reporting process and introduces better data management tools. However, it lacks certain data verification and alerting functionalities that could be used to improve controls and further limit the possibility of submission errors. Additionally, market changes in the coming years, particularly those stemming from FERC Order No. 2222, require new functionality in order for the Meter Authority to support the submission of Distributed Energy Resources (DER) and Aggregations. These submission types are not part of PCI's current platform and need to be developed. The enhancements will provide support for changes in NYISO's DER / Aggregation markets so that the company remains in compliance with market rules and FERC requirements. New features will also be implemented to ensure greater data integrity and tracking, provide better reports and alerts to draw analysts' attention to potential issues, and address current limitations of the existing application. In particular, the enhancements include improvements to how 5- and 15-minute intervals are aggregated to hourly values and how missing data intervals are handled. The new features include additional ways to configure email alerts and reports to for the Meter Authority teams to have better oversight of the data being reported, allowing analysts to identify and troubleshoot any discrepancies or abnormalities.

The current PCI platform can also benefit from new connections to other systems, both internal and external. For example:

- Connecting it to the CECONY and ORU's Transmission Owner Data Reporting Systems (TODRS) would ensure that Meter Authority data reported to NYISO is in sync with the data TODRS uses for monthly reconciliation between the wholesale and retail markets.

Connecting it to NYISO's Performance Tracking System (PTS) would allow analysts to check the data collected by the Company's meters against NYISO's telemetry data, to more effectively identify and address discrepancies before the daily submission.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

With the onset of the Automated Metering Infrastructure initiative, we recognize the need to upgrade our meter data collection, validation, and submission capabilities. As mentioned, legacy programs are being phased out or no longer in service. The energy landscape across the utility industry is changing, specifically impacting Con Edison infrastructure is the addition of Energy Storage and Demand Energy Response devices. The metering authority will be responsible for the accurate submission of load data for billing and reconciliation of these new systems. By adopting these technologies, we will more fully

integrate clean energy into our delivery system so that we can continue meeting our customers' energy needs. IT will be a critical partner in this effort by helping to adopt technology and automation solutions that can handle rules-based and repetitive tasks, without human intervention. This will go on to enhance relationships with external customers and minimizes risks inaccurate record keeping and counterparty data.

2. Supplemental Information

Alternatives

Alternative 1) The Company can hire a third-party metering service provider or MSP. This company will need access to all our metering data and will independently report directly to NYISO and PJM. It could be challenging to keep our metering data confidential and potentially increase our vulnerability to third party risk. It may be difficult to implement this option since the MSP will need to have intrinsic knowledge of our electric system and details of our substations.

Alternative 2) The Company can revert to a spreadsheet-based process to perform submissions for participants that join under NYISO's new market rules (under FERC 2222) that are not currently supported by PCI's platform. This approach would introduce more manual work and suffer from the same risks – human error, lack of controls, etc. – that the initial project sought to reduce by moving to a platform-based approach. Furthermore, splitting the reporting between the PCI EA platform (for existing submission types) and a spreadsheet process (for new submission types) would make it very difficult to keep the data in sync and could lead to discrepancies for participants with multiple submission types.

Risk of No Action

Risk 1) Immediate non-compliance with regulatory requirements included in FERC 2222.

Risk 2) Financial losses and cashflow issues to market participants stemming from inaccurate reporting of their electric generation.

Risk 3) Possibility of fines, legal action, and harm to the Company's image because of submission errors and waiver requests.

Non-Financial Benefits

Better employee satisfaction and retention (by automating a tedious and time-consuming task to allow more focus on analytical work), improved accuracy and timing of reporting, and more efficient use of employee time, and improve regulatory compliance.

See Justification Summary.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

n/a

2. Major financial benefits

n/a

3. Basis for estimate

The estimate was prepared in partnership with IT, discussions with the company that helped develop PCI, and analyzing historical capital costs for similar projects. Incremental ongoing O&M includes support for new interfaces, meters, and increased costs for vendor maintenance.

Project Risks and Mitigation Plan

Risk	Mitigation Plan
Complexity of CECONY System & Data Access/Availability	The complexity of the CECONY Power System, availability of information in the OSI PI System, and issues with existing meter infrastructure may delay completion and increase cost. To mitigate this risk, we will call upon lessons learned from a previous project involving these systems to properly prepare IT resources and source system support for potential challenges. We will also pre-plan for several months, researching and gathering the necessary information to plan for the best course of action once the project launches.

Technical Evaluation / Analysis

n/a

Project Relationships (if applicable)

n/a

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						142
Regulatory Asset						
Capital			204	464		290

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M				160	168
Regulatory Asset					
Capital (Total)		1,429	1,168		
Labor		344	256		
M&S					

Contract Svcs.		913	784		
Other					
Overheads		172	128		

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: L&I Digital Transformation of Learning	
Project/Program Manager: Jean McClure	Project/Program Number (Level 1): 23289195
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2022	Estimated Date in Service: Phase 1 EOY 2024 Phase 2 EOY 2027
2025-2029 Funding Request (\$000) Capital: 3,533 O&M: 1,000	
Work Description: The L&I Digital Learning Transformation project is a strategic initiative by Con Edison to modernize training programs, classroom infrastructure, and assessment practices to improve workforce readiness, safety, and operational efficiency. Through two project phases concluding in 2024 and 2027, this capital investment will upgrade training technology by adding digital whiteboards, interactive displays, tablets, and virtual/augmented reality simulations in classrooms, replacing traditional materials with interactive tools. It will also digitize assessments, moving all hiring, training, and promotional evaluations to a secure cloud-based system that standardizes evaluations and tracks employee progress. A Digital Asset Management (DAM) system will centralize all training materials, making it easy to keep content updated and accessible across operations. An AI-driven platform will streamline curriculum by identifying outdated materials, allowing us to keep content consistently up to date. Learner Experience Platform (LXP) will provide employees with a hub for accessing training resources and individual learning paths. Updating classroom fixtures and technology will create safer, more efficient learning spaces by streamlining setups with integrated power sources and wireless technology, reducing exposed cords and other tripping hazards. This transformation will make Con Edison's training environment more effective, accessible, and aligned with employee and Company needs.	
Justification The Digital Learning Transformation project addresses critical challenges facing Con Edison's workforce development, training delivery, and operational readiness. As the utility industry evolves, Con Edison must ensure that employees possess the skills, knowledge, and readiness to manage the demands of their roles safely and efficiently. Traditional training methods, infrastructure, and assessment practices no longer meet the demands of a modern workforce or support the operational requirements of the utility sector. This project will modernize our approach to training, creating a learning environment that is engaging, adaptive, and aligned with operational demands.	

Con Edison's existing training infrastructure and methods have served their purpose but are now outdated in both technology and delivery. Many classrooms rely on static displays, paper-based materials, and outdated fixtures, limiting instructor flexibility and learner engagement. Our current learning spaces are not optimized for interactive, hands-on learning, and these limitations hinder our ability to fully prepare employees for increasingly complex tasks and heightened safety requirements.

Today's workforce expects training that is accessible, interactive, and flexible. The influx of a new generation of employees, accustomed to digital and on-demand learning, has exposed the limitations of our existing training ecosystem. Employees need learning experiences that allow them to quickly apply skills in a controlled, hands-on setting. Without modern training technologies and methodologies, Con Edison risks lower engagement, reduced knowledge retention, and potential skill gaps – factors that could impact operational reliability and safety.

Technology Integration and Modernized Infrastructure

Upgrades to classroom infrastructure – including digital whiteboards, interactive displays, training simulators, and tablet devices – allow instructors to deliver training that is both engaging and relevant. These foundational enhancements support immersive Virtual Reality (VR) and Augmented Reality (AR) simulations, which provide safe, realistic practice for high-risk tasks and strengthen critical operational skills. Together, these technologies create a resilient, modern training environment that improves knowledge retention and readiness.

The two pilot courses introduced as part of the technology integration project have demonstrated significant efficiencies for operational employees in Central and Electric Operations. The first pilot course in Basic Electricity reduced training time from 10 days to 3 days for 318 employees this year, and the second pilot course, an orientation course for Electric Operations utility workers, will reduce training from 8 days to 5 days for three hundred employees annually. Combined, with operational employees earning an average of \$53.75 per hour for an 8-hour workday, these reductions yield an estimated annual savings of \$1.3 million by returning workers to the field more quickly. Additionally, moving from paper manuals to eBooks will return savings as curriculum development expands at scale, reducing printing and distribution costs.

Enhanced Assessment Practices and Efficiency Gains

Digitizing assessments is critical for increasing the efficiency and security of workforce evaluations. By replacing manual, paper-based assessment with a cloud-based digital assessment platform, Con Edison will streamline assessments for new hires, ongoing training for employees, and support career path development. Digitization will reduce administrative burdens and increase data security. This shift enables real-time progress tracking, giving instructors and managers immediate insights into skill gaps, development needs, and performance metrics – essential for aligning workforce skills with operational demands. The new platform ensures that assessment access and roles are consistent and compliant with internal standards and regulatory requirements.

The online assessment platform improves the candidate experience by allowing remote pre-hire testing. Since implementing remote testing, Con Edison has observed significant improvements, with candidates now completing assessments 83% faster and reducing the requirement for candidates to be on-site at Con Edison by 89%. This efficiency reduces logistical challenges and removes barriers for candidates with limited schedules, geographic restrictions, or other commitments, making our hiring process more inclusive and expanding our talent pool. Built-in analytics enable data-driven decision making, allowing Con Edison to make more accurate hiring decisions. The scalable platform allows Con Edison to adapt to changing hiring demands without extra physical resources, improving operational efficiency and ensuring our workforce is ready to meet operational demands.

Centralize Content Management to Enhance Training Efficiency and Consistency

Implementing a centralized Digital Asset Management (DAM) system ensures that training materials are organized, current, and accessible. This system allows instructors and employees to retrieve relevant content, ensuring they work with accurate information and best practices. The DAM streamlines content updates, supports regulatory compliance, and maintains consistent quality across all training programs. The Learning Experience Platform (LXP) offers employees a centralized learning hub, separate from the Learning Management System (LMS), for ongoing skill development. It offers access to role-specific, on-demand resources and supports personalized learning paths.

AI-Driven Curriculum Optimization for Workforce Readiness

This platform analyzes training content to identify redundancies, outdated materials, and gaps in curriculum so that our curriculum stays current and compliant. The platform allows us to review training content continuously, making updates based on SME feedback, assessment results, and changes in regulatory standards. The AI tool will integrate with our content management system, streamlining updates and will support curriculum mapping, organizing content by role and skill requirements. This process allows instructors and training managers to see how each part of the curriculum supports job-specific skills, making training focused and more efficient.

The first phase of the project, which will conclude in 2024, includes the acquisition and implementation of three cloud-based systems to support the initiatives outlined above. L&I is requesting \$200,000 incremental O&M investment to support these new platforms, which are critical for modernizing training, improving workforce readiness, and meeting the demands of the utility industry. Cloud-based solutions enhance scalability and increase efficiency by streamlining content management, virtual reality training, and online assessments. These tools directly support safety, operational excellence, and employee development, which are essential for delivering reliable service to customers.

These systems include:

- Online Testing Platform - Criteria Corp. This platform provides a digital solution for administering, managing, and evaluating assessments. The request is for \$100,000 O&M in Y1, Y2, and Y3.
- Digital Asset Management – Media Valet. This platform will centralize, organize, and streamline access to training materials, ensuring efficiency, consistency, and ease of updates across the Company. The request is for \$50,000 O&M in Y1, Y2, and Y3.
- Virtual/Augmented Reality Platform – Oberon Titania. This platform provides scalable, cloud-based access to immersive virtual reality training, enabling real-time updates, tracking, and seamless integration into Company learning ecosystems. The request is for \$50,000 O&M in Y1, Y2, and Y3.

The second phase of the project, between 2024 and 2027, will focus on implementing advanced classroom technologies and infrastructure upgrades at The Learning Center, alongside the development of an AI-powered system for curriculum management and optimization.

The modernization of physical and virtual environments and the implementation of the curriculum rationalization platform will enhance training delivery, improve accessibility, and optimize content creation and updates to position the Company to meet future workforce demands while maintaining a commitment to safety and excellence. This phase builds on previous investments to ensure a robust, forward-looking ecosystem that supports long-term organizational goals. No incremental O&M is requested for Phase 2.

In summary, the Digital Learning Transformation project is an essential investment to update our training, meet workforce needs, and maintain Con Edison's operational excellence. By modernizing our training, we improve employee readiness, increase safety, and create lasting value for the Company and its customers.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The Digital Learning Transformation project supports Con Edison's commitment to reducing greenhouse gas emissions and serving disadvantaged communities. By modernizing training, we prepare employees to operate cleaner, more efficient technologies that lower emissions. This training also equips our workforce to deliver reliable, sustainable energy solutions to communities impacted by pollution and energy inequality, aligning with New York State's climate and energy goals.

2. Supplemental Information

Alternatives

- Maintain current training programs and processes.

Risk of No Action

- **Safety Risks:** New training methods strengthen safety knowledge and ensure employees can retain and apply it effectively on the job, reducing the likelihood of accidents or injuries and creating a safer working environment.
- **Inefficiency:** The risk of not adopting modernized technology and curriculum is that training inefficiencies will continue. Without these changes, instructors may struggle to engage employees effectively, and content updates will be slower and more cumbersome.
- **Skill Gaps:** Not adapting our training content to current industry standards and technologies risks creating skill gaps in employees, reducing their effectiveness. Without updated training, our workforce may lack the skills needed to meet the demands of improving energy efficiency, affecting our ability to provide reliable and resilient service.
- **Compliance Risks:** Inadequate training programs may lead to compliance failures, exposing the Company to regulatory risks, fines, and legal consequences.
- **Employee Engagement and Retention:** Outdated training risk low employee engagement, which can contribute to higher turnover.
- **Competitive Disadvantage:** Con Edison risks falling behind industry standards, making it harder to attract and retain skilled employees. Our outdated approach may limit workforce effectiveness and reduce our ability to adapt to new industry demands, potentially impacting service quality and customer satisfaction.

Non-Financial Benefits

The Digital Learning Transformation will increase safety, service reliability, and training efficiency. With innovative technology and modernized curriculum, employees will be better prepared to perform their jobs, reducing safety risks and improving performance consistency. The project also strengthens regulatory compliance by keeping training aligned with current standards, ensuring employees have the skills to meet industry requirements. By making training more engaging and accessible, the project helps employees retain essential information, leading to stronger job performance and more dependable service for customers.

Summary of Financial Benefits and Costs (attach backup)

The Digital Learning Transformation project offers financial benefits by improving training efficiency and reducing costs associated with outdated methods. Shortened training times, enabled by new classroom technology, and optimized curriculum, return employees to their roles faster, saving an estimated \$1.34 million annually in operational costs. Digital assessments and centralized content management will reduce printing and administrative costs while allowing scalable, efficient updates. The project costs include upfront investments in classroom infrastructure, AI-driven curriculum platforms, and ongoing subscriptions for the Digital Asset Management System (DAM), Online Testing Platform, Virtual Reality Platform, and Learning Experience Platform (LXP).

Technical Evaluation / Analysis

Project Relationships (if applicable)

The Digital Learning Transformation will have dependencies with the Oracle Learn implementation, which will replace eTrain.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital			463	937		850

2025-2029 Request:

Total Request by Year:

	2025	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	200	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
Regulatory Asset					
Capital (Total)	533	1,500	1,500		
Labor					
M&S	193	690	690		
Contract Svcs.	138	525	525		
Other	202	285	285		
Overheads					

**Business Unit / Division
2025-2029**

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Learn, Talent Management & Compensation Replacement Project	
Project/Program Manager: Zoryana Gavrilova	Project/Program Number (Level 1): 27628708
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2025	Estimated Date In Service: 1/1/2027
2025-2029 Funding Request (\$000) Capital: \$35,928 O&M: \$1,758	
Work Description: The Learn, Talent Management & Compensation Project will replace various Learning & Inclusion (L&I) and Human Resources (HR) applications, many of which, like eTrain and eWage are developed internally and no longer viable. Consolidate Disparate HR and L&I Systems The HR and L&I systems are a mixture of home-grown systems and vendor applications that have been implemented at different times over the past several decades. This risk of having disparate systems and inefficiency come from the many complicated system integrations that require substantial effort to support and maintain. System consolidation will make the support more efficient and effective and lessen the need for complex data integrations between systems. Migrating to a cloud platform will also align with the IT cloud and infrastructure strategies. We will be able to retire approximately ten legacy applications and associated server infrastructure, further reducing the on-premises technology footprint. Improved supportability The project scope involves reassessing HR and L&I related processes to question how and why we do things, if they are still necessary and if they are the best way. The Human Capital Management (HCM) Cloud applications incorporate leading practices and organizations must follow these processes as they are because the software does not allow customizations. Oracle provides quarterly updates to the application that the customer must review, test and accept. Any customizations needed must be done outside the application and connected to HCM Cloud as an extension. The company would have the sole responsibility to maintain and update any extensions to the software. The project will avoid customizations whenever possible by re-engineering the business processes. We plan to work with a system integrator, internal resources, and contractors to perform the implementation successfully. This will be a large cloud implementation and will be a complex multiyear project requiring technology changes to data integration and security authentication. These modules within the HCM Cloud application have a modern design and new self-service options for	

managers and employees on mobile devices. With mobile features, employees can do 'just in time' training or watch refresher videos on a mobile device from anywhere and managers don't have to be at a computer to send/approve requests. By delivering 'just in time' training, organizations can save on costs associated with traditional training methods, such as travel and lost productivity.

The rough estimate to implement the systems is about two years with a phased launch. This is based on estimates to complete required critical implementation tasks (e.g., conversion, design, build, and testing). The project is estimated to be done with a phased approach between 2026 and 2027 with a 3-month period of hyper care.

Project Overview

Talent Management and Learning:

This project will replace applications that HR and L&I use to perform core business functions, including training, compensation cycles and career development. We will replace the homegrown or third-party vendor applications listed below with Oracle Learn, Performance Manager, Goals, Career Development, Talent Review, Succession Planning & Employee Profile. The existing talent management and learning systems in our organization are old and ineffective. They do not align with our strategic objectives of attracting, developing and retaining the best talent in the market. They also do not offer the agility and scalability we need to adjust to the changing business environment and customer demands.

Systems that will be replaced include:

- eTrain*
 - TLC Portal
- Success Factors Performance Manager (Performance Reviews & Goals)
- Career Development systems-
 - Individual Development Plan
 - Talent Review
 - Succession Planning

*We will also evaluate additional business functions currently in eTrain such as tuition aid, contingency planning and conference room reservations during the preliminary design phase to determine if they can be migrated or if an alternate solution is required.

We plan to implement Oracle Learn, Performance Manager, Goals, Career Development, Talent Review, Succession Planning & Employee Profile as an integrated solution for our learning and talent requirements. Oracle Talent Management is a modern, cloud-based platform that allows us to manage the entire talent lifecycle, from sourcing and recruiting to performance and succession management, to compensation and rewards. Oracle Learning Cloud is a robust, cloud-based learning management system that enables us to create, deliver and track interactive and customized learning experiences for our employees. For the first time, Learners will have the ability to receive personalized training recommendations based on career interests and goals.

These modules help to create a culture of performance excellence by aligning individual goals with organizational strategy, providing ongoing feedback, coaching, assessments and rewarding performance results. L&I can use flexible performance templates and process flows to create performance documents that fit the Company's needs. The application also includes questionnaires, writing assistant, and calculated ratings to improve the quality and consistency of performance reviews. There is also an opportunity to introduce AI into the performance management process. These

features allow the Performance Management module to enhance employee engagement and productivity as well as identify and develop talent.

Compensation Management:

This project will replace the following homegrown or third-party vendor applications with Oracle Compensation Management. This application module enables us to design and manage compensation plans that match our business goals, ensure fairness and equity, and attract and retain top talent. The application uses real-time data from Compensation Management and market sources to create and model compensation plans based on company requirements. We can also enable managers to make wise choices when allocating rewards, by giving them guidance, alerts, and visibility into overall rewards.

Systems that will be replaced include:

- eWage
- PeopleFluent

Using these modules together gives the company a comprehensive and integrated solution that enables the full spectrum of talent management processes. We can use the connections between these modules and build a smooth compensation-performance cycle. We can match compensation plans with performance objectives and indicators and use performance scores as inputs for compensation computations. We can also give employees access to their total rewards and how they relate to their performance results. We can also benefit from Oracle's cloud platform, which provides security, scalability, reliability, and innovation.

Data Archival & Integrations:

We will use The Autonomous Data Warehouse (ADW) & Oracle Analytics Cloud (OAC) installation to enable reporting for these applications:

- To move historical data from data sources (i.e., eTrain, TLC Portal, eTrain Contingency Management, Success Factors Performance Manager, Management Compensation, eWage, Tuition Aid and old document management systems) from the on-premise Employee Data Warehouse (EDW) to Autonomous Data Warehouse which is a cloud-based platform that offers high performance, scalability, security, and cost-efficiency for data analytics. Included in the scope of this project is the requirement that the company is compliant with all data retention policies and legal holds.
- To create connections to additional sources of data, such as LinkedIn Learning, needed to support the new modules.
- To build reports incorporating historical data and new functionality

High-Level Timeline

The Learning, Talent Management & Compensation design and implementation is estimated to begin in first quarter 2025 and estimated to be completed through a phased approach from Q4 2026 to Q1 2027.

We estimate that this project will take about 24 months. During the preliminary design (expected to take four months) we will review system functionality and refine our business requirements to prepare for implementation. We intend to move immediately into implementation which will include build (configuring the system to the requirements), conversion (migrating data elements to the new system),

integration (connecting all downstream systems to the new modules), testing (system integration, performance, and user acceptance testing) and training (administrators and end users) for an additional 19 months . We will involve key stakeholders from different functions and levels in the project team, as well as engage with System Integration partners for guidance and support. The System Integrator will provide post go-live stabilization support for three months. This will be included in the project plan and cost estimate.

O&M includes costs to onboard business system administrators and IT support during the project for knowledge transfer in anticipation for the transition to support. The O&M costs also include costs for subscriptions to onboard contractor access to the system.

Implementation Approach

The implementation will require participation from HR, L&I and IT resources. The project will also require a system integrator to provide specialized technical, functional, and project management experience and capabilities. Effective training will be required to ensure a high level of adoption for our back-end users to new business processes and procedures.

Justification Summary:

The project will align with the company's strategic goals of attracting, developing, and retaining the best talent, fostering a culture of performance excellence, and rewarding performance outcomes. The project will improve business processes through automation, for example automatically assigning new training requirements for employees transferring into new roles. It will also reduce compliance risks related to overdue training. With the enhanced training functions, the project will also support the company's resiliency plans, sustainability goals, and climate change adaptation efforts.

Complete implementation will result in the following benefits.

Benefit Category	Expected Benefit
Enhanced Data & System Security	Implementing the additional modules simplifies the system security design, reduces the technology footprint, and decreases security risks and vulnerabilities arising from use of non-integrated systems since all modules will reside under the one Oracle Fusion Cloud System. Eliminating non-integrated systems keeps all application data in one central, secure location.
Improved Agility	Model increases the speed-to-provision new services or add additional cloud solutions since all employee data will be housed under the one Oracle Fusion Cloud system.
Enables use of current technology and digitization	Enables adoption of modern technology and/or processes such as: Social, Mobility, Data Analytics.

User Experience	Provides a single user experience across mobile, tablet and desktop views
Scalability	- Enhances the ability to add subscriptions to accommodate growth or changes in the business - A SaaS model enhances the ability to increase storage capacity as needs change
Operational Excellence	- Will enhance operational efficiency with fewer helpdesk calls due to a smaller number of applications supported - Performance monitoring will be enhanced since it is included in the service level agreement with the SaaS provider
Increase Standardization Data, Processes and Systems	- Increased ability of authorized business users to query and perform data analytics on human resources, learning & inclusion, and compensation data without assistance from specialized technical resources. - Reduced IT reliance on limited, specialized technical resources to support many applications built on a variety of technology platforms.
Reduced Compliance Reporting Risks	- Reduced compliance reporting risks due to increased accuracy and completeness of data sourced from an integrated system. - Compiling periodic compliance reports will reduce manual efforts due to greater integration, automation, standardization, and the ability to use pre-built reports and dashboards. - Faster production of key management reports due to fewer integrations and decreased reliance on multiple disparate systems.
Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act N/A	

2. Supplemental Information

Alternatives

Alternative 1 -Upgrade and maintain existing homegrown, legacy applications

Many of the applications that will be moved are homegrown and reside on old platforms that require significant maintenance to remain in service. They do not provide flexibility required for new business requirements. Retaining non-Oracle cloud environments for third party systems does not allow the company to fully realize the benefits of the company's partnership with Oracle and does not take advantage of a single platform for HR and L&I functions for employees.

Risk of No Action

Risk 1

Highly manual business processes in Human Resources and Learning & Inclusion with risks of human errors, inconsistency, and mismanagement. i.e., learning management, etc.

Existing systems are not fully integrated or user friendly, increasing the time required to perform administrative tasks by employees and managers. i.e., performance reviews, approvals.

Risk 2

Without any intervention, the current applications will reach end of life and support. Vendors will stop offering technical assistance, updates, security patches, or bug fixes, leading to security risks and the possibility of application failures that will affect business processes and raise cyber exposure.

Risk 3

The retirement of IT and business application subject matter experts has limited the ability to develop new features and enhancements. Upskilling new employees on old systems and technology is not efficient and not progressive.

Non-Financial Benefits

Regulatory Mandated/ Reduce and Manage Risks

Oracle provides quarterly updates to the HCM Cloud for security patches, application updates and tax changes. In the Cloud environment Oracle will deliver these changes to the system, eliminating the requirement for IT Support teams to download and install these patches. Updates will be evaluated, tested, and approved by the HR & L&I team and then implemented by Oracle on a quarterly cycle. This process will improve the efficiency of updating the system to always comply with all necessary regulations or legal changes.

Operationally Required

Our organization's current learning and talent management systems are old and ineffective. They do not help us achieve our strategic objectives of attracting, developing, and retaining the best talent in the market. Specifically, they do not offer the adaptability and capacity we need to respond to the changing customer needs and the business environment, such as enabling mobile learning. With the new modules, we will be able to identify talent within our company who have the skills necessary to fill roles of high importance.

Improve Customer Experience

The platform lets users have a modern experience by showing content as tiles and on mobile devices. This will enable the employee and manager self-service transactions to be available on mobile devices. Bringing all L&I and Compensation related business functions to one platform will give employees one place to handle their personal information and managers a way to see their team's performance.

Enhance External Relationships

The existing homegrown system cannot keep track of contractor training. Moving to the new platform will improve the company's capacity to deliver and oversee training for both employees and contractors.

Reduce Costs and Strengthen the Company Processes

Will enable field employees to access self-service features from any location and any time. The mobile applications will boost employee productivity as they will not have to go to the office and use a computer to take a required eLearning course. Also, the newest software version lets managers and supervisors make performance evaluations and give immediate feedback to their employees. Also, we improve our support and management of these features by using a single platform.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

3. Total cost

Total Project Estimate by Year (\$M)	2025	2026	2027	Total
Total	\$4,500M	\$23,660M	\$7,767M	\$35,928M

4. Basis for estimate

A labor estimate was completed to determine the resource requirements needed for the design and implementation of the additional modules into The Employee Hub. Roles, responsibilities and rates of the resources provided from the initial Oracle HCM Cloud project, implemented in July 2024, was used as the basis of the estimate.

5. Conclusion

The industry and HR technology are moving towards cloud platforms. Cloud platforms have more features and up-to-date technology without the need for spending money on hardware and internal resources to support an on-premises application. Performing HR functions is fundamental and operationally required for all companies and a cloud platform will provide the most cost-efficient way to continue providing these required services. In addition, implementing the Oracle solution provides the added incentive of utilizing the Oracle Strategic Partnership and realizing the cloud credits by retiring our on-premises application.

Project Risks and Mitigation Plan

Risk 1 Delay in the start of the project and the expected go-live date of the new system is postponed.	If the start of the project is delayed, the company would need to upgrade to the latest version of VB .net, ASP.net and .net framework, SQL Server (eTrain & eWage) We would also need to extend the contracts for third party vendor applications such as People Fluent and Success Factors.

Technical Evaluation/ Analysis

This proposed project is based on the initial analysis conducted for the Oracle HCM Implementation that went live in July 2024.

A. Infrastructure Support

No additional hardware purchase is required for these modules, but a system administrator would be needed to monitor the status and system utilizations.

B. System Compatibility

N/A

C. Customization/Development

Cloud applications cannot be changed directly. Any system changes or customizations have to be done using Platform as a Service (PaaS) to extend the cloud application. Creating a PaaS environment has an extra subscription cost, and the company is responsible for all the maintenance and testing of the extensions. Oracle will not offer any support for PaaS development. This implementation project will choose business process re-design as the first option whenever possible. Compliance or union contract-related requirements may be considered for a system customization if there is no other solution available.

The current legacy systems integrate with other company systems or external vendors that are in scope for this project. In many cases, custom development might be needed to create the data in the format required.

D. Project Schedule/Timeline Risks

Project Relationships (if applicable)

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		<u>\$297</u>	<u>\$540</u>	\$921	
Regulatory Asset					
Capital (Total)	<u>\$4,500</u>	<u>\$23,661</u>	<u>\$7,767</u>		
Labor	<u>\$730</u>	<u>\$2,194</u>	<u>\$423</u>		
M&S					
Contract Svcs.	<u>\$2,265</u>	<u>\$13,224</u>	<u>\$4,554</u>		
Other	<u>\$635</u>	<u>\$4,856</u>	<u>\$2,426</u>		
Overheads	<u>\$870</u>	<u>\$3,387</u>	<u>\$364</u>		

Business Unit / Division 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Material Management Inventory Upgrades for Contractor Yards	
Project/Program Manager: TBD	Project/Program Number (Level 1):
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 3/31/2026	Estimated Date In Service: 9/30/2027
2025-2029 Funding Request (\$000) Capital: \$3,600.0 O&M: \$0.0	
Work Description: Material management is a crucial aspect of the supply chain that involves the planning, procurement, and control of materials to ensure they are available at the right time, in the right quantity, and at the right cost. Some key points include: 1. Objectives: The main goals are to ensure material availability, minimize inventory costs, and maximize customer satisfaction. 2. Components: It includes material planning, procurement, inventory control, and distribution. 3. Functions: Material management ensures a smooth flow of materials from suppliers to production and eventually to customers. 4. Challenges: Common challenges include maintaining accurate inventory, managing supplier relationships, and ensuring timely delivery. Effective material management helps businesses reduce waste, lower costs, and improve customer satisfaction by ensuring that materials are available when needed. At Con Edison, Material Management for Contractor Yards is a business partnership where contractors request, receive, store and install material for Con Edison projects. The material is purchased by Con Edison from various third party material and equipment vendors. Under this project, the selected vendor will manage inventory for approximately 30 contractor yards that fall within Construction oversight, which includes both indoor and outdoor facilities throughout the 5 boroughs and Westchester County. The supplier will be required to provide a budgetary forecast for assessment and implementation of a new material management contractor inventory system/process, which includes their understanding of Construction's current material ordering and tracking processes, IT or current systems used to order and track material, logistics, manage contractor relationships, adequately staff for the various contractor yard locations while taking responsibility for maintaining inventory and providing comprehensive reports associated with material at Construction contractor yards. The selected vendor will work with a Company subject matter expert (SME) during their assessment.	

The assessment will result in a proposal submittal defining implementation and outlining the transfer of responsibilities for a new material management tracking system. The proposal shall include a complete statement of work, ensure alignment of designed process meets Company's assessment request, and final implementation pricing.

Justification Summary:

Over the past three years, on average Construction has ordered \$75M of material. Construction work is expected to significantly increase due to the Clean Energy Commitment and is on track to exceed \$100M annually, over the next one to two years. The installation of this material is authorized to be used for Company business through awarded purchase orders. Material Management for Contractor Yards is a model that can leverage material spend to lower duplicate ordering of material, excessive material orders and will provide enhanced visibility of inventory. This model will also allow for transparency in material tracking and material usage by optimizing the use of technology-based solutions and integration of an information technology (IT) platform. This initiative is earmarked for implementation in 2027.

2. Supplemental Information

Alternatives

Construction currently manages inventory at Contractor yards utilizing one FTE who is responsible for coordinating delivery of material to contractor yards. The electric construction contractor yards are inventoried once a month and the gas construction contractors yards are inventoried once per quarter. The inventory is maintained on a MS Excel spread sheet.

Risk of No Action

The Company maintains our current business model and remains at risk of mismanagement of material tracking resulting in loss of material inventory, material overspend and limited resource recovery for damaged material.

Missed opportunities for:

- Continuous improvement in material ordering and tracking of material.
- Technology integration resulting in limited internal interface.
- Technology integration for replacement of manual material cycle tracking.
- Contractor accountability for their role in material ordering, material handling and material installation.
- Reconciliation of damaged material and recouping of funds from material supply vendors.
- Material reallocation based on contractor material quantities and contractor needs.

Non-Financial Benefits

There are several process optimizations and process efficiencies benefits:

- Improved transparency and visibility in material quantities at contractor yards.
- Improved controls in material ordering based on current material quantities resulting in the reduction of over ordering of certain materials.
- Improved visibility to accurately manage inventory and material requests.
- Improved data collection detailing accurate material inventory at contractor yards.
- Opportunity for integration of material tracking in current IT systems.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

2. Major financial benefits

There are several opportunities for financial benefits resulting in cost savings:

- Initiative that drives continuous improvement.
- Managing performance through key performance indicators to manage project costs through material ordering and material reallocation.
- Managing contractor performance through key performance indicators reflecting in the contract bid process.
- Reduction in inventory at contractor yards and inventory accuracy.
- Elimination of contractor inventory management.
- Optimizing inventory management.
- Optimizing efficiency in material storage and tracking as well as safety improvements.

3. Basis for estimate

Assumed cost for supplier consultation for Stage 1 is a three phased consultation including initial program assessment, field assessment and final proposal.

Basis for cost assumptions include:

Assumed cost for supplier consultation for Stage 1 is a three phased consultation including initial program assessment, field assessment and final proposal.

Basis for cost assumptions include:

Approximate Timeframe	Phase #	Phase Description	Approximate Cost
2 Months	1	Provide a high-level budgetary forecast to determine the feasibility to move forward to the assessment stage.	\$400K
3 Months	2	Conduct a field assessment of all locations to fully understand the current situation of how the yards are managed.	\$600K
2 Months	3	Provide a final proposal and statement of work with more accurate costs, process maps and program controls.	\$400K
11 Months		System and process implementation	\$2.2M

*Includes a 3% annual escalation rate

Program Assumptions/Requirements

Stage 1

Selected vendor will need to do a field assessment in order to provide an accurate program solution with more accurate costs and detailed processes.

Personnel

Selected vendor may need approximately 12 FTEs to manage the contractor laydown yards.

- Dedicated Ops Manager, (5) Supervisors/Warehouse personnel at high volume sites and (6) roaming warehouse personnel to cover the remaining 24 sites.

Equipment

- Selected vendor will bring in its own material handling equipment to each site.

Pricing – average 3% annual escalation rate

- The cost of the high-level budgetary estimate is \$200K/month or \$2.4M/ year.
- The cost of the final solution is TBD until after the field assessment.

Process

- Each yard is its own warehouse.
- Set up a virtual warehouse for each of the 30 sites through vendors system.
- Reports on inventory levels and key performance indicators will be issued monthly.

Field Assessment – Stage 2

- Field assessment team will consist of ConEd/Selected Vendor subject matter experts.
- The assessment team will visit and walkdown the appropriate number of sites in order to fully understand the current situation: process, logistics, IT, scheduled deliveries and pickups and contractor/ConEd contacts.
- Define implementation and transfer of responsibility and stage 3 proposal submittal schedule.

Final Proposal and Statement of Work – Stage 3

- Complete statement of work
- Ensure alignment on designed process
- Finalize pricing
- Submit final proposal

Project Risks and Mitigation Plan

N/A

Technical Evaluation/ Analysis

N/A

Project Relationships (if applicable)

N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year*</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital	\$0.0	\$0.0	\$0.0	\$0.0	N/A	\$0.0

2025-2029 Request:

Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	\$0.0	\$1,800.0	\$1,800.0	\$0.0	\$0.0
Labor	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
M&S	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Contract Svcs.	\$0.0	\$1,731.2	\$1,598.3	\$0.0	\$0.0
Other	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Overheads	\$0.0	\$68.8	\$68.8	\$0.0	\$0.0

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Maximo Consolidation Program Phase 2	
Project/Program Manager: Alecia Copeland-Barrett / Apexa Dave	Project/Program Number (Level 1): 27699614
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: Jan 1 st , 2026	Estimated Date In Service: Dec 31 st , 2028
2025-2029 Funding Request (\$000) Capital: \$36,353 O&M: \$4,606	
Work Description: In keeping with IT's strategy of moving to a "One Enterprise" Work and Asset Management solution and realize the full benefits of an enterprise solution across all business areas Information Technology has established a roadmap consisting of several work and asset management legacy applications to be migrated to Maximo. This is, Maximo has been deployed successfully for Central Operations, Steam, and Transmission Ops. In recent years, we upgraded the platform was upgraded to new technology (containers) and subsequently a true enterprise model that allows Con Edison and its affiliates to use any/all modules within the Maximo work and asset management suite of products. With this unlimited access to the product line and total user base coverage, we aim to expand the current use of the implemented Maximo and replace disparate legacy systems that are difficult and expensive to maintain, many running on outdated technologies. The O&M cost will cover the work for IT labor and Contracting Services(Maximo testing team). The scope of work under this white paper includes legacy applications that were not identified in our Phase 1 ask and need to be migrated to Maximo between 2026 through 2028 The scope also includes additional functionalities identified for applications migrated in Phase 1 of Maximo Consolidation Program and Facilities. The program will enable work order tracking, Network Performance Monitoring Tool integration, mobility capabilities, scanning capabilities, Oracle Financials (EBS) integration, and Outage Scheduling System (OSS) interfaces for various business groups and use cases.	

Justification Summary:

We are completing Maximo Consolidation Program Phase 1, which was part of the 2023-2025 rate case, by migrating 16 legacy systems including Substation Log, Autolog, Mainsaver Transfer Shop, IT Queue, Vendor Logbook, IRIS, CARS, LEMS, CTSEOS, ROPES, SHIMS, eMIS, Permit Tracking, Admin Module, JSSE and Cority. We need to continue the program to replace the remaining legacy work management systems and to enable additional functionalities in the existing Maximo application suite.

The legacy applications referenced in the scope of work below are running on obsolete technologies that need to be migrated to the enterprise Maximo platform for ease of use as well as to address cyber risk concerns. Of aforementioned legacy applications, some others are limited in functionality and simply need to be migrated to Maximo to be able to leverage new and advanced work management capabilities, a consolidated application and platform support, and to realize new efficiencies now and in the future.

Below are details of the scope of work:

1. Substation Operations and Infrastructure & Operations (IT) Projects

Work Order Tracking (WOT): This will provide Work Order Tracking features for the IT work management group, by building on the existing Maximo Service Request module. This will enable delivery plans and automation of work requests to work orders. WOT will let the IT Infrastructure & Operations group monitor and track the work process with more control, such as tracking labor cost and materials.

SolarWinds Integration: ~~SolarWinds~~ Network Performance Monitor is a reliable and cost-effective network monitoring software that enables quick detection, diagnosis and resolution of network performance problems and outages. We need to enable ~~SolarWinds~~ integration to Maximo when other edge systems start sending alerts from networked devices.

Develop Mobile Capability for Information Resource Inventory System (IRIS)

Information Resource Inventory System (IRIS) consolidates server inventory information and LAN room equipment information currently maintained manually. IRIS maintains data on all IT rooms including Telecommunications, LAN/WAN, Data Centers, Office Space and Conference Rooms. Enabling mobility will give end users the ability to view work orders and complete inspections on a timely basis.

Develop Mobile Capability for Substation Log: The Substation Log is the repository for the Work Distribution, Execution and Outage Management for the Substation Operations group. Currently, supervisors can only see substation logs on laptops when they are not at the substation. The goal is to make this available on mobile devices, so that supervisors can read station logs wherever they are, without changing them.

Migrate Station Log Service Table from DataSplice to Maximo. Currently, DataSplice owns and maintains a Station Log Service table. The goal is to modify DataSplice, as needed, to utilize a Maximo table for the station log data instead. The recommended solution is to set up the DS connection profile using a database account that has read and write permissions for

the target Maximo table. The scope includes improvements and enhancements to the Station Service Log process to ensure its continued applicability and effectiveness moving forward.

2. Environment Health & Safety Projects

EHS Design Review Project System

The CEHSP 11.03 procedure requires that all project work (as defined in the procedure) consider EH&S concerns in the planning and design of the project. The EH&S Design Review Project system is used by our EH&S Design Engineering team to track these new construction projects to ensure that the procedure is followed. This system's functionality will be migrated to Maximo.

EHS KPI System

The EH&S KPI system is used by EH&S internally to track some of our EH&S and corporate KPIs (such as OSHA rates, Motor Vehicle Collision (MVC), and Operating Errors) as well as other Safety and Environmental related data. The system collects data from SHIMS. Other data is input manually. The data is then used to report out monthly and is used by the Safety Leadership System to extract safety related data such as operating errors and Rules We Live By violations (RWLB). This system's functionality will be migrated to Maximo.

3. Central Operations Projects

Bar Code Scanning Functionality for CARS / Capital Tools / Tech Services / LEMS Applications

Bar coding is an out-of-the-box functionality for most work management applications. Enabling material transactions to be scanned by a company approved scanner and information captured about the material will allow more accurate data in Maximo. Barcoded labels on material will be read by scanners in place of keyboard entry by employees. Scanning is part of the Maximo Mobile solution, and this functionality will be implemented to enhance CARS, LEMS, and Capital Tools as well as Tech Services.

Develop Mobile Capability for Logistics Equipment Management System (LEMS)

Logistics Equipment Management System (LEMS) is a system used by Central Field Services (CFS), Astoria Operations to source, track, and monitor company-owned or rented equipment that include Mobile Electric Generators (MEG), TANKERS and Mobile Field Centers (MFC). Tracking and reporting capabilities will be developed to provide readily available information to CFS and requesting organizations. This will be achieved via the Maximo mobile application which will enhance the user experience.

Maximo Oracle EBS Integration

When a user enters labor information or a material requisition against an item with a blanket purchase agreement (BPA) in Maximo, Maximo automatically transfers the labor and material information to Oracle EBS. Oracle EBS then creates purchase orders and associate records for the requisition and returns updated requisition information, including the purchase order, back to Maximo. An enhancement to this integration is needed to streamline the process for the labor and material components of a purchase order.

Maximo – Outage Scheduling System (OSS) Interface

OSS is used to request outages on the electrical system. These outage requests are systematically grouped into bundles as needed, which then get approved so the equipment can be safely worked on. For a scheduled outage, an OSS request work order is created with a corresponding job for that work order in Maximo. Currently, when that job is closed in Maximo, there is a manual step to close the job in OSS. An interface will be created between OSS and Maximo to automatically close the OSS work order.

Maximo to Feeder Management System (FMS) Interface

The interface built between Substation Log legacy application and Feeder Management System (FMS) in Maximo will be leveraged for the Critical Transmission and Substations Equipment Outage Status (CTSEOS) legacy application being migrated in Maximo. This interface will be an added value to the CTSEOS system which currently includes a business process that manually enters the information in the current legacy system. The interface from Maximo to Feeder Management system will replace manual data entry. This effort will enhance the business process and improve reliability.

4. Facilities Operations Project

Facilities Management Interface: Currently, the Facilities team in Astoria utilizes several distinct Maximo functions, such as Tech Services, Cranes and Rigging, Capital Tools, LEMs, and Facilities in general. The goal is to create a consolidated Facilities Operations dashboard within Maximo that will allow all user groups to track and monitor their work through a single portal. Additionally, work orders will be enabled to generate a requisition directly from Maximo, allowing users to create Oracle requests for materials and labor services.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The Facilities component of this program will help to achieve our clean energy commitment through the installation and upgrading of the solar panels by reducing greenhouse emissions and supporting the transition to clean heating alternatives.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

The alternative is to re-write the disparate legacy applications; however, doing this will not align with IT's strategy for establishing an enterprise Work and Asset Management solution for all Con Edison. Additionally, there is the risk with legacy applications that are either end of life with minimal or no support, which creates a potential cyber risk.

Risk of No Action

Risk 1

Security Risk: Legacy applications may have unpatched security flaws, outdated encryption standards, or weak authentication mechanisms that expose them to cyberattacks, data breaches, or unauthorized access. These risks can compromise the confidentiality, integrity, and availability of the organization's data and systems, as well as the privacy and safety of its customers and employees.

Risk 2

Compatibility Risk: Legacy applications may not be compatible with newer hardware, software, or operating systems, which can cause errors, crashes, or malfunctions. These risks can affect the functionality, reliability, and usability of the application, as well as the interoperability and integration with other systems and devices.

Risk 3

Performance Risk: Legacy applications may have inefficient or outdated code, design, or architecture that result in slow response time, high resource consumption, or frequent downtime. These risks can affect the quality, efficiency, and scalability of the application, as well as the user satisfaction and experience.

Risk 4

Application Maintenance Risk: Legacy applications may require specialized skills, tools, or knowledge to maintain, update, or troubleshoot, which can be scarce, expensive, or unavailable. These risks can affect the availability, support, and continuity of the application, as well as the cost and time of maintenance.

Risk 5

Business Adoption Risk: Legacy applications may have limited or obsolete features, functions, or capabilities that do not meet the current or future needs, expectations, or standards of the organization, its customers, or its stakeholders. These risks can affect the innovation, competitiveness, and growth of the organization, as well as the satisfaction and loyalty of its customers and stakeholders.

Non-Financial Benefits

Consolidated Enterprise Platform support and maintenance, streamlined business processes, enterprise product license leveraged.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

The program will reduce the number of legacy applications across the company which if not migrated to a suitable work management application such as Maximo, could pose a potential cyber risk. Migrating these applications into Maximo would allow ConEd to move these ~~costly~~ disparate applications off the mainframe and most importantly unlock inherent benefits of a consolidated platform ~~reducing maintenance cost~~, providing consolidated support, streamlining business processes across common business areas, and extending functionalities easily to meet growing business needs.

2. Major financial benefits

Based on the assessment that was performed in Maximo Consolidation Phase 1, the benefit calculated were divided into 4 key areas: Operational Benefits, Inventory Optimization, Labor Utilization, and Removal of Existing Applications/ Application Support cost. In each of the 4 areas, it identified reduction in O&M, areas for increased revenue, deferred capital, and societal benefits.

- Operational Benefit: Extended asset life due to the focus on complete asset lifecycle costs and improved maintenance standards
 - Inventory Optimization: Improved maintenance processes lead to improved inventory and materials management
 - Labor Utilization: Improved maintenance processes lead to enhanced workforce productivity
- Removal of Existing Applications/ Application Support Cost: With the reduction in disparate system there will be an opportunity to retire stand-alone systems and application.

3. Basis for estimate

A RICE estimator was used to calculate bottom-up cost estimate that includes labor, contractor svcs, System Integrator (based on actual cost of Maximo Consolidation Program Phase 1), overheads and contingency.

Maximo Consolidation Project	2026	2027	2028	TOTAL
Substation Operations and Infrastructure & Operations (IT) (AIMS)				
Capital (Total)	6,632,787	-	-	6,632,787
Labor (Labor+Labor OH+Contract Svcs+Other EOE)	4,856,757	-	-	
M&S	15,000	-	-	
Contract Svcs.	-	-	-	
Other	751,323	-	-	
Overheads	1,009,707	-	-	
Environment Health & Safety Group (SHERPA)				
Capital (Total)	2,156,634	4,570,966	4,377,361	11,104,961
Labor (Labor+Labor OH+Contract Svcs+Other EOE)	1,870,706	3,161,562	3,127,619	
M&S	15,000	20,000	20,000	
Contract Svcs.	-	-	-	
Other	115,588	552,766	446,248	
Overheads	155,340	836,638	783,493	
Central Operations (OPTIX)				
Capital (Total)	2,608,901	6,235,582	4,486,555	13,331,038
Labor (Labor+Labor OH+Contract Svcs+Other EOE)	2,052,045	4,965,119	3,359,787	
M&S	15,000	20,000	20,000	
Contract Svcs.	-	-	-	
Other	231,176	497,490	401,624	
Overheads	310,679	752,974	705,144	
Facilities Operations				
Capital (Total)	1,924,737	1,936,171	1,423,286	5,284,195
Labor (Labor+Labor OH+Contract Svcs+Other EOE)	1,774,274	1,777,231	1,280,312	
M&S	15,000	20,000	20,000	
Contract Svcs.	-	-	-	
Other	57,794	55,277	44,625	
Overheads	77,670	83,664	78,349	
THIS TABLE IS USED IN THE WHITE PAPER				
TOTAL (ALL PROJECTS)				
Capital (Total)	13,323,060	12,742,720	10,287,202	36,352,981
Labor (Labor+Labor OH+Contract Svcs+Other EOE)	10,553,782	9,903,912	7,767,718	
M&S	60,000	60,000	60,000	
Contract Svcs.	-	-	-	
Other	1,155,882	1,105,533	892,497	
Overheads	1,553,396	1,673,275	1,566,987	
Project Risks and Mitigation Plan				
Risk 1	Mitigation plan			
Risk 2	Mitigation plan			
Technical Evaluation / Analysis				
During the Maximo Consolidation Phase 1, 20 legacy WMS systems were analyzed as a fit for the Maximo "One Enterprise" platform implemented at Con Edison and found to be a good fit.				
Project Relationships (if applicable)				
eGIS, Gas & Electric WMS				

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	150	1,452	1,502	1,502	
Regulatory Asset					
Capital (Total)		\$13,323	\$12,742	\$10,287	
Labor		\$10,553	\$9,903	\$7,767	
M&S		\$60	\$60	\$60	
Contract Svcs.		-	-	-	
Other		\$1,155	\$1,105	\$892	
Overheads		\$1,553	\$1,673	\$1,566	

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Maximo New Functionality and Sustainability	
Project/Program Manager: Alecia Copeland/Rahul Rodrigues	Project/Program Number (Level 1): 27710538
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date In Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: \$7,065 O&M: \$0	
Work Description: Information Technology has established a roadmap to migrate several work and asset management legacy applications to Maximo. This project is in keeping with IT's strategy of moving to a "One Enterprise" Work and Asset Management solution, realizing the full benefits of a true enterprise solution across all business areas, addressing technology obsolescence, and mitigating cyber risks. In 2023 the platform was upgraded to Maximo Application Suite 8 (MAS8) and deployed across the existing business user groups and newly on-boarded business users (Distribution Engineering – CECONY and O&R). IBM continues to deliver new software versions of security patches and other critical updates. IT will be required to apply monthly/quarterly patches, and major updates every year. IBM has already released the next version of the platform, MAS9, which provides new business capabilities and product enhancements especially in the areas of analytics and artificial intelligence. The request supporting this whitepaper is to upgrade Maximo from the current MAS8 to MAS9, and implement new features and functionalities. This will be done over a period of one year for CECONY business users that will include Substation, EH&S, IT and Central Operations. This includes: MAS9 Major Upgrade: Upgrading from MAS8 to MAS9 is a strategic move to enhance our asset management capabilities. MAS9 offers new business functionalities and product enhancements, particularly in analytics and artificial intelligence, which are crucial for modernizing our operations. The upgrade will involve necessary hardware and software upgrades to support the new features, along with comprehensive regression testing to ensure a smooth transition. This will enable the company to leverage the full benefits of MAS9, such as enabling the field users to	

perform their daily activities, enhanced by artificial intelligence capabilities and field service management. This will lead to the increased efficiency and better decision-making.

- **Sustainability:** Applying software patches and conducting minor quarterly/monthly upgrades for Maximo software (MAS8 and MAS9) and underlying OpenShift technologies is essential for maintaining operational excellence. These updates ensure that our software remains up-to-date, secure, and better protected against cyber vulnerabilities, which are paramount in today's digital landscape. The scope of work includes the application of patches and upgrades, as well as supporting ongoing operations and the management of day-to-day user support tickets. By emphasizing cybersecurity, we fortify our defenses against potential threats, safeguarding our systems and data. This proactive approach to system maintenance and security is a critical component of our IT strategy, contributing to the resilience and reliability of our services.
- **Work Order Intelligence:** Due to unspecified data captured by sensors or technicians, or simply an oversight, there's not always enough information to determine the reason for equipment failure. Faced with poor or incomplete data, maintenance managers spend extra time reviewing the work to identify the nature of issues and the appropriate problem code. The Work Order Intelligence feature in Maximo Manage applies generative AI (gen AI) techniques to asset management to help accelerate work order approval, prioritize maintenance resources and reduce maintenance errors. The AI model has been trained using descriptions from a set of related work orders to provide recommendations for the most likely problem code based on historical data and patterns. This feature enables managers to quickly identify the issue and allocate the right technicians to address it, reducing the time spent troubleshooting while improving overall efficiency.
- **Maximo Application Suite Dashboard Updates:** The latest operational dashboard empowers maintenance managers to prioritize workloads by displaying critical key performance indicators (KPIs) in one place and supporting swift action through access to asset history, trends, logs, inspection records and job plans. Users can now create multiple views for individuals who support multiple roles, and continued personalization and extended actual reporting options for work orders and work queues. MAS9 introduces the Inspection Form Builder and Formula applications in an updated experience, making all previous work center applications obsolete. Considering the operational condition of assets, environmental factors and more makes it possible to standardize alerts and identify false positives. Sharing this data across maintenance, operations and reliability teams in a way that integrates with existing enterprise applications helps teams prevent issues and quickly resolve them when they do occur – all through a device of their choosing: desktop or mobile.
- **Enhanced Field Service Management Solution:** The updates to the Field Service Management solution in MAS9 include optimization of scheduling and dispatching via improved dashboards and metrics; AI-based visual inspections to identify problems and avoid downtime with computer vision using Maximo Visual Inspection

feature; and ability to choose the best technician to assign based on distance, time to start, skill, qualification and compatibility. The mobility solution has also been enhanced to provide seamless connectivity between technicians and back office through on Apple, Android and Windows, in both online and offline mode; improved efficiency with voice-to-text functions and accessing GPS to better navigate to assignment locations; and configurable inspection forms for accurate quick repeatable tasks.

- **User Management Enhancements:** This includes enhanced authentication protection, for example, MAS admins can now define the conditions that prevent local users from logging in after consecutive unsuccessful login attempts; user and group mapping to MAS LDAP sync; support multiple identity providers for the same authentication type (SAML/LDAP); and support self-service management.
- **Analytics and Artificial Intelligence:** MAS9 introduces significant updates that leverage the power of generative AI to transform asset management workflows. The Work Order Intelligence feature in Maximo Manage, powered by IBM's generative AI platform, watsonx.ai, provides a blueprint for extending the architecture to support advanced analytics on various data types, including relational, image, unstructured, and timeseries data. This enables clients and partners to build upon this foundation to create new analytics and capabilities tailored to their specific needs. Additionally, the integration of conversational AI and automation capabilities in MAS9, powered by IBM Watsonx Orchestrate, allows users to interact with Maximo Manage asset management capabilities using natural language, creating a more intuitive and efficient experience. The Work Order Intelligence feature in Maximo Manage applies generative AI techniques to asset management to help accelerate work order approval, prioritize maintenance resources, and reduce maintenance errors.

Justification Summary:

IBM Maximo Application Suite is a modular and scalable enterprise asset management (EAM), asset performance management (APM) and reliability centered maintenance (RCM) platform. It's applying AI, IoT, analytics and automation capabilities to best-practice industry solutions to manage assets, infrastructure and resources, monitor operations and improve product and service quality - this, while reducing energy consumption and energy waste.

Keeping Maximo software up to date with monthly and quarterly patches is crucial for mitigating cybersecurity risks and ensuring operational continuity for utility companies. Failing to apply these updates can expose the system to vulnerabilities, leading to potential cyber-attacks that could disrupt essential services, cause data breaches, or even result in physical damage to infrastructure. The inability to manage assets and work orders effectively due to compromised software can lead to prolonged service outages, safety hazards, and significant financial losses. Therefore, regular software maintenance is not only a cybersecurity measure but also a strategic necessity to maintain reliable operations and protect against the evolving threat landscape.

MAS 9 - The next generation of Operational Technology (OT) solutions requires bringing new intelligence that did not previously exist in MAS 8. Enhancing physical assets operations with rich digital insights helps companies transform their businesses. Lastly, the solution must be plug and play able to quickly integrate to existing solutions.

The MAS 9 upgrade is essential to address gaps in functionality with the current version of MAS8, which were identified by the Business while executing past Maximo projects. Some examples include the Close Call mobile application has additional texts which needs to be removed, location where the close call is reported in the application should be changed and the data update page needs additional functionality. Additionally, the missing features that the business users identified will provide several benefits to the EH&S and Substation community. These includes remote asset monitoring, maintenance, and reliability applications in a one enterprise platform. In addition, there are other capabilities that the application offers, such as Maximo Suite AI power features for Asset Lifecycle Management (ALM).

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

N/A.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

The alternative is to stay on MAS8 and will become unsupportable after April 2026. ~~soon~~

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

Risk of No Action

Risk 1

By not applying routing security patches, there is a significant risk of software vulnerabilities that can have broader impact on the company's network, infrastructure and the grid.

By not upgrading to MAS9, this limits the Maximo admin's ability to protect authentication and provide enhanced self-service management capabilities to end users, thereby reducing security and end user experience respectively.

Risk 2

Continued impact to user experience and reduction in use or adoption due to the defects in the current version, which can only be addressed by upgrading to MAS9.

Risk 3 By not upgrading to MAS9, there is the potential to fall out of IBM's release schedule and risk becoming non-compliant with IT standards that requires our application(s) to maintain n-1 software versioning strategy (is the current release).				
Non-Financial Benefits				
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) 2. Major financial benefits N/A. 3. Basis for estimate An internal estimator was used to recalculate bottom-up cost estimate that includes labor, contractor services, System Integrator (based on actual cost of Maximo Consolidation Program Phase 1), overheads and contingency.				
Project Risks and Mitigation Plan <table border="0"> <tr> <td>Risk 1</td> <td>Mitigation plan</td> </tr> <tr> <td>Risk 2</td> <td>Mitigation plan</td> </tr> </table>	Risk 1	Mitigation plan	Risk 2	Mitigation plan
Risk 1	Mitigation plan			
Risk 2	Mitigation plan			
Technical Evaluation / Analysis				
Project Relationships (if applicable) This project is related to the Maximo Consolidation program that is migrating disparate legacy work management applications into Maximo.				

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					

Capital (Total)		\$2,303	\$2,359	\$2,403	
Labor		\$1,684	\$1,710	\$1,736	
M&S		-	-	-	
Contract Svcs.		-	-	-	
Other		-	-	-	
Overheads		\$619	\$649	\$667	

Energy Management 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: MetrixIDR Upgrade for Enhanced Functionality and Support Compliance	
Project/Program Manager: Luke Starr/Carlos Villalba	Project/Program Number (Level 1): 27696115
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 01/01/2028	Estimated Date In Service: 7/31/2029
2025-2029 Funding Request (\$000) Capital: \$1,032 O&M: \$250 (2029)	
Work Description: Metrix IDR is an application that produces the daily electric and steam hourly load forecasts. The Company's System Operation Department relies on these forecasts to plan daily operations and the Company's Electricity Supply Department uses it to plan short-term electric purchasing and generation scheduling. The objectives of this project include the following enhancements: • Upgrade MetrixIDR from the current version (8.0) , which is expected to be end of life in 2028 based off historical knowledge, to the latest version in order to remain compliant with vendor support. Additionally, this will incorporate any new functionality to enhance forecasts, reflecting changes to the regulatory environment and consumer sentiments around renewable energy. ○ In order to upgrade the vendor which owns MetrixIDR, Itron, will customize a build of the new version tailored to the Con Edison structure and another outside vendor will be contracted to complete the development work to have the new version installed on the Con Edison network. • Interconnect future renewable energy technology data with MetrixIDR and leverage this data to enhance solar models. ○ Either internal resources or an external vendor will be responsible for developing the data stream of renewables data and configuring to feed models in MetrixIDR. ○ Interconnect additional data on the electrification of heating (EoH) and integrate into peak forecasts to reflect the impacts of EoH. Either internal resources or an external vendor will be responsible for developing the data stream for EoH, and Itron will be contracted to assist in configuring new models.	
Justification Summary: MetrixIDR is a key application to Energy Management and the Company, as it produces the daily electric and steam hourly load forecasts. The Company's System Operation Department is dependent on these forecasts to plan daily operations. NERC TOP-002-4 requires that Operational Planning Analysis include load forecasts as an input to its assessment of anticipated and potential conditions for next day operations. Therefore, having these forecasts is a regulatory requirement.	

The enhancements to MetrixIDR, included in this project, will provide necessary updates, integrations, and configurations to the software to ensure forecasts remain up to date with the rapidly changing landscape of renewable energy initiatives, and from both regulatory changes and consumer sentiment. Both DERs and Electrification of Heating are expected to have major impacts on the future of energy distribution. Updating tools to account for these changes will be critical so that the Company can remain in the best position for energy planning and procurement. Having additional model inputs allows for a higher degree of analysis, which will be critical due to these changes.

If a forecast is too high, more energy will be procured than needed. If a forecast is set too low, energy will be procured at a premium in the real-time market of the NYISO. Decisions to commit generation units are also sensitive to forecasts. Fuel purchases necessary to commit to dispatch have significant impacts on reliability and supply costs.

In addition, providing an accurate forecast is a key component in supporting operational excellence and facilitating decision making in many parts of the company. Forecasting accuracy leads to improved system and distribution operations and enhance the dispatching of company resources to perform planned and emergency work safely. Decisions to commit distributed generation and resources are also sensitive to forecasts on peak duration. Planning ahead to commit and dispatch these resources have significant impacts on reliability of the distribution system.

A main driver of this project will be to increase forecast accuracy. Currently, the tools which MetrixIDR contains to account for solar data and other renewable energy resources are limited. Due to government regulations creating a continuous and rapid shift towards renewable energy, as well as electrification of heating to best utilize renewable resources, it is paramount that the data to support these changes is reflected in the forecast models. Along with the MetrixIDR vendor expertise in configuring the models to match the data, this project will increase future model accuracy considering these factors, which will provide the key data necessary for operators to perform their best analysis and most efficiently distribute energy.

The overall outcomes of this project will allow the company to continue to provide state-of-the-art software to assist Energy Management in managing approximately \$3.5 billion in wholesale energy transactions.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Energy Management has a long-range plan to consolidate applications into a few end-to-end platforms for the purchase, scheduling, settlement and accounting of power, gas, and financial instruments.

Enhancements to address changes due to Electrification of Heating and enhancements to the solar forecast will allow for more seamless integration of clean energy solutions as operations will be able to redistribute resources more efficiently. This efficiency will also reduce costs, with those savings being passed on to customers.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

If system changes are not implemented, a manual process will need to be developed which is more labor intensive and vulnerable to human error, as the existing system will no longer be supported. All of Energy Management's daily forecast models are in MetrixIDR.

Alternative 2 description and reason for rejection

The company could use an outside vendor that charges annual fees of around \$25,000 per model. Currently MetrixIDR is running close to 200 models which is planning to expand to nearly 500 to include distribution feeders which approximate an annual cost of \$2-5 million dollars assuming a discount of 50% by an outside vendor. If departments seek vendors independently, Con Edison misses out on the cost efficiencies and integrated benefits that come with consolidating forecasting needs within existing tools. This quantifiable risk highlights the standardization, financial and operational drawbacks of not leveraging current systems to their full potential.

While the company can benefit from the vendors' dedicated expertise, the cost of the operation increases significantly and the flexibility of the company to create and test new forecasts for the renewable resources is limited and costly. Further without adequate updates and support, analysts and forecasters would struggle to utilize advanced forecasting techniques effectively. This could hinder their ability to offer high-quality service to their internal stakeholders.

Risk of No Action

Risk 1

MetrixIDR is used for electric system daily forecasting and planning. Maintaining and upgrading this system as well as increasing functionality for evolving markets, especially the consideration of modeling and forecasting of intermittent solar, batteries, and wind resources, are essential to the System Operation Organization, which is the prime user of this application. If MetrixIDR is to fall out of compliance with support, or models are not updated to reflect the current energy landscape, then there is risk of the System Operation Organization making decisions on inaccurate data, not properly allocating resources and ultimately leading to higher end costs to the customer, due to misguided planning efforts.

Risk 2

Forecasting Services has the expertise to expand and automate existing forecasting models for all commodities and assist regional operations and engineering with the necessary data. If Forecasting Services does not provide the regions with the data, these departments will seek vendors to provide them with the information and the company will not be taking advantage of the economies of scale resulting from adding forecasts to the existing tools. Individual forecasts from an outside vendor cost an estimated \$25,000 per year, per model, for a total cost of \$2-5 million per year. Additionally, if vendors provide all models, there would be no reason to retain expert statisticians and modelers within the company, only a project manager. This would result in the company losing the capability to perform other types of forecasts.

Non-Financial Benefits

This project will improve forecast reliability and accuracy which leads to improved system reliability, enabling distribution area and network hourly forecasting, and prepare for a clean energy future. Having additional model inputs will allow for an enhanced ability to analyze the best available data by the operators, in order to most efficiently distribute energy.

See section called Work Description and Justification Summary.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

If a forecast is too high, more energy will be procured than needed. If a forecast is set too low, energy will be procured at a premium in the real-time market of the NYISO.

Decisions to commit generation units are also sensitive to forecasts. Fuel purchases necessary to commit to dispatch have significant impacts on reliability and supply costs. Enhancing the software to provide the most reliable forecasts, adapting to the changing regulatory environment, has a downstream impact on financial savings.

The accuracy of the forecast will increase with modifications to the model to include solar, renewable and EoH data. These upgrades are crucial to avoid technology obsolescence and to continue providing a reliable hourly forecast to the Company's control centers. Additionally, the vendor ceases to offer free maintenance support when the software version no longer aligns with the system requirements, especially when the surrounding systems have undergone updates, but the software has not.

3. Basis for estimate

Assumptions are based off the current state operation of the energy grid, impacts of the forecasts in this current state, and regulations already in place. The estimate was prepared in partnership with IT, discussions with the company that developed MetrixIDR, and historical capital costs from similar projects. Ongoing O&M associated with maintenance support for internal and external data sources and interfaces.

Project Risks and Mitigation Plan

The risk of going over-budget and project delays will be mitigated by utilizing Energy Management's project management operating model including governance meetings and leveraging tools to monitor and proactively mitigate project risk.

Technical Evaluation/ Analysis

Project Relationships (if applicable)

N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						15
Regulatory Asset						
Capital				158		573

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					\$250
Regulatory Asset					
Capital (Total)				\$613	\$419
Labor				\$242	\$146
M&S					
Contract Svcs.				\$250	\$200
Other					
Overheads				\$121	\$73

*The test year runs from 10/1/2023 to 9/30/2024

Energy Management 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Migration to Cloud, Version Upgrade, and Enhancements for the FIS Gas Transaction System	
Project/Program Manager: Heidi Cinquegrana, Gregory Chu	Project/Program Number (Level 1): 27696082
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 08/01/2026	Estimated Date In Service: 06/31/2028
2025-2029 Funding Request (\$000) Capital: 7,415 O&M: 2,787	
Work Description: Energy Management is pursuing a capital effort to upgrade the FIS Gas Transaction System (GTS) from the 2023 to 2026 version, migrate to the cloud and enhance functionalities to adapt to regulatory policies and stakeholder requirements. FIS is a system that serves as the operational and accounting system of record for gas supply, responsible for recording and scheduling deliveries of natural gas purchases to the companies' service territory. Additionally, it identifies, assembles, analyzes, and reports the organization's transactions for accrual purposes, accounts for related assets and liabilities, and allocates the various costs of natural gas purchases to various end uses. This project encompasses several critical enhancements to ensure application compliance, efficiency, and adaptability: - Migration to cloud: Transitioning this application to a cloud-based infrastructure to leverage scalability, security, and ease of maintenance. Version upgrade (i.e., 2023 version to 2026 version), required for compliance: Upgrading to the latest version to maintain vendor support compliance, ensuring ongoing compliance with vendor support and to benefit from the several enhancements made with each version release. - Enhancements and Automations: Implementing enhancements (e.g., new reports, functionalities, interfaces, etc.) and automations to adapt to evolving regulatory policies and stakeholder requirements. High-level milestones would include: - Upgrade product to latest version in the cloud environment to be compliant with full vendor support - Implement new reporting tools and interfaces for connections to internal accounts payable/account receivable systems - Automate various manual processes that interacts with internal accounting systems - Stand up new servers running in parallel with latest version of Windows OS	

- Upgrade existing interfaces to back-end systems
- Upgrade user interfaces to interact with cloud applications

Given the complexity of the system and work required for interconnection to other internal applications and databases (e.g., Energy Management Analytics), this project will require coordination between the vendor and additional internal resources such as a Solutions Engineer, developers and other contractors to successfully complete the project.

Justification Summary:

The application will be out of compliance for full vendor support by 2027, necessitating an upgrade to the latest version. Upgrading to the newest version with enhanced functionalities requires migrating the current application to a cloud environment as newer versions will only be in the cloud.

Currently, users must access the application through both on-prem and web-based interfaces, which is slower and less productive. Modernizing this software platform will enable users to access all functionality and perform all activities using the web-based interface version of the application, resulting in increased accessibility, faster system response and application performance, and increase in productive time. The users will no longer need to log into two systems to perform their daily activities as the user interface will be more streamlined, consolidating the two systems into one platform, and therefore enhance overall efficiency and productivity. Moving to a cloud-based solution provides improved security, cyber vulnerability mitigation and data visibility and traceability.

Additionally, this is in alignment with the business continuity plan and will help alleviate the substantial effort to support and maintain 2 versions of the client interface (i.e., local/web-based user interface). The gas industry is changing rapidly and migration to the cloud provides increased flexibility and the ability to innovate faster using modern technologies which address potential cyber vulnerabilities and operational risks. Similarly, the workforce is changing and expect their interactions with systems to be intuitive and similar to their consumer experience. (from old whitepaper)

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This project will help sustain or improve the current risk assessment likelihood and controllability of the following Energy Management department risks:

- Inability to Transact with Counterparties - FIS GTS enables recording and transfer of information with counterparties. It also helps maintain adequate pipeline capacity that enables the company to access a broad spectrum of suppliers in different geographic locations.
- Inaccurate Data - The proposed project enhancement will help mitigate the reliance on manual data input, processing, and reporting.
- Transactions Are Improperly Executed - Automating interfaces between the transaction system and EDI pipeline will reduce manual tasks and reduce the chance for errors.

2. Supplemental Information

Alternatives

The alternative would be to not upgrade to the latest version of the application and not have a vendor supported application, due to non-compliance. Not migrating to the cloud and not addressing stakeholder enhancements is not a viable. The FIS Gas Transaction System is essential for maintaining compliance, improving operational efficiency, and enhancing data management capabilities. By transitioning to a cloud-based infrastructure, upgrading system versions, and implementing necessary enhancements and automations, Energy Management will be better equipped to handle current and future regulatory requirements, optimize costs and productivity, and improve overall service reliability.

Risk of No Action

See section called Alternatives.

Non-Financial Benefits

See section called Alternatives.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)
2. Major financial benefits
3. Basis for estimate

The estimate was prepared in partnership with IT, discussions with the company that developed FIS Align, external benchmarking, historical capital costs from similar projects. O&M expenses account Phase 0 and upon project completion for cloud maintenance, increase in software maintenance fees, and ongoing professional services support.

Project Risks and Mitigation Plan

The risk of going over-budget and project delays will be mitigated by utilizing Energy Management's project management operating model including governance meetings and leveraging tools to monitor and proactively mitigate project risk.

Technical Evaluation / Analysis

Project Relationships (if applicable)

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		481		1,125	1,181
Regulatory Asset					
Capital (Total)			3,976	3,438	
Labor			513	256	
M&S					
Contract Svcs.			2,981	2,754	
Other			225	300	
Overheads			257	128	

CECONY and O&R / Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Obsolete Oracle GRC Software Replacement and Enterprise Segregation of Duties (SoD) Tool	
Project/Program Manager: Tracy Lau	Project/Program Number (Level 1): 24626913
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2023	Estimated Date In Service: 12/31/2029
2025-2029 Funding Request Capital: \$1,871 O&M:	
Work Description: <u>Requested Solution:</u> The requested solution, Fastpath, is an application will be used to monitor for SoD risks, supplier, and system changes. The Company has historically used Oracle GRC to provide segregation of duties controls, supplier changes, and system change monitoring for Oracle E-Business Suite (Oracle EBS). Starting in 2024, we are expanding the use of this software for monitoring and addressing risks for other SOX applications. The objectives of implementing Fastpath for various enterprise systems include: streamlining role design for security and SoD; automating the internal controls and compliance processes that ensure financial reporting integrity; and continuously monitoring for insider threats and policy violations, such as the risk of inappropriate access in key systems addressed in SOX control AS-15, <i>Application Access Segregation of Duties</i> and ELC-20, <i>Segregation of Duties</i>. This software solution will improve the Company's ability to better mitigate/improve controllability for the risk of financial misstatement and adhere to regulatory requirements through continuous monitoring and automated notifications of issues requiring resolution. We began implementing Fastpath in January 2024 by integrating Oracle EBS and CC&B with Fastpath. The Company has increased its focus on segregation of duties and change tracking and monitoring. After deploying Fastpath's configuration change tracking module within the environment for Oracle EBS in 2025, we plan to integrate Fastpath with The Employee Hub/Oracle HCM in 2025, which went live in July 2024. The Employee Hub/Oracle HCM team built their segregation of duties models manually in partnership with a consultant in 2024. These models will be added to Fastpath in 2025. A consultant will be required to gather requirements, design, implement, test, and deploy the expansion to the Fastpath solution in 2025 to perform segregation of duties analysis and control for	

additional applications. The team will leverage the configurations built by The Employee Hub/Oracle HCM team and deploy them within the Fastpath expansion.

As part of our strategy to expand the system and manage segregation of duties risks across the enterprise, we will plan to integrate with one additional SOX system each year, from 2026 to 2029.

Background:

The purpose of the SOX organization is to provide guidance for and oversight of the continuing design, documentation, review, results of testing, and updating of internal controls over financial reporting for compliance with Section 404 and Section 302 of the Sarbanes-Oxley Act of 2002 (SOX). The Company has the obligation to meet these regulatory requirements. The activities of CEI, O&R, CET, and CECONY organizations fall within scope. The SOX program impacts the identification, assessment, mitigation, monitoring, and reporting of financial misstatement risks.

We currently use Oracle Governance, Risk Management, Compliance (GRC) which has been instrumental in our Company's monitoring for Segregation of Duties (SOD) risks within system roles and responsibilities, as well as supplier changes such as banking and address updates, and system changes to key financial functions in selected applications, primarily in Oracle E-Business Suite (EBS). Our on-premises GRC software will be unsupported by Oracle in 2025. GRC will also lose functionality when the company moves from Oracle EBS to Oracle EBS Cloud because the current on premises Oracle GRC is incompatible with Oracle EBS Cloud. Based on the aforementioned timeline, we are requesting funding for implementation of Fastpath, a software that performs SoD analysis and also change tracking. When the Company implemented its new billing system, Customer Care & Billing (CC&B) in 2023, we developed a new SOX Control: AS-15 - *Application Access Segregation of Duties*. This control relied upon Fastpath as its SoD analysis tool to identify and review segregation of duties risks for the roles within applications. We are requesting capital funding to implement Fastpath as the replacement for Oracle GRC, and O&M to fund annual license fees for Fastpath.

Major activities, responsibilities, and costs (see capital request table for detailed breakdown of costs per year in the \$000s) for the implementation of Fastpath integrations include:

- Requirements Gathering and Integration
 - Develop functional requirements for system integrations.
 - Build, test, and activate approved integration, including any data conversions.
 - Required resources: SOX PMO, Information Technology.
 - Projected costs - 2025 - 2029: \$729K, IT labor; \$146K, software license; \$70K, hardware.
- Configuration and Testing, Handoff
 - Integrator consultant configures risk ruleset for target system.
 - User acceptance testing.
 - Integrator develops ruleset documentation and training.
 - Integrator hands off approved finalized ruleset to stakeholders.
 - Required resources: SOX PMO, integrator consultant, business users (part time assistance)
 - Projected Costs - 2025 - 2029: \$544K , integration consultant services.

Capabilities:

- The tool supports current detective SoD analysis with the ability to be configured to provide SoD conflict alerts prior to granting of access as a preventative measure.

- The tool can be utilized to perform change tracking and monitoring to identify high risk configuration changes, and help detect inappropriate changes.
- The tool will drive automatic action and issue information sharing as required and designed through the identification of access conflicts.
- The tool can be leveraged to automate additional SOX Controls in the future which are currently performed manually providing an opportunity for cost savings.
- The tool reduces and manages financial misstatement risk, strengthens company processes, and promotes "One" enterprise.

Expected Benefits:

Company Benefits

- Risk Mitigation: Reduces the risk of fraud, errors, and unauthorized access by ensuring no single person has control over all aspects of any critical process.
- Compliance: Helps meet regulatory requirements, such as Sarbanes-Oxley (SOX), by maintaining effective internal controls.
- Efficiency: Streamlines compliance reporting, saving time and reducing costs.
- Enhanced Control: Provides better oversight and control over user access and activities, improving overall governance.

Customer Benefits

- Trust and Transparency: Increases customer confidence by demonstrating strong internal controls and commitment to security.
- Service Reliability: Reduces the likelihood of service disruptions caused by internal errors or fraud.
- Data Protection: Ensures customer data is handled securely, minimizing the risk of data breaches.

System Benefits

- Integration: Works seamlessly with multiple business applications with minimal maintenance required.
- Scalability: Supports unlimited users and can grow as needed.
- Automation: Automates the tracking and reporting of SoD conflicts, making it easier to manage and review access controls.
- User-Friendly: Offers easy installation and user-friendly interfaces for managing and reviewing controls.

Justification Summary:

The SOX Program Management office's (SOX PMO) stakeholders represent many groups across the Company and provide best practices to the Company to address SoD risks. Based on best practices from the external auditors and advisory firms, an implementation of software with an automated detective SoD control is needed to address SoD risks across the Company. To expand the monitoring provided by this control, SOX PMO needs to retire Oracle GRC on-premises software, which only connects to Oracle EBS. In implementing Fastpath, Oracle GRC's replacement, SOX PMO will roll out this tool for SoD analysis for multiple SOX systems. After the initial implementation, SOX PMO will pursue the integration of one new SOX system each year with Fastpath, for example, we will integrate the Treasury Management System, PowerPlan, for the purposes of single system and cross-system SoD

analysis. Furthermore, FastPath offers built-in functionality addressing specific access security risks that may provide additional options to SOX system owners to improve SOX control efficiency.

The benefit realized from a SOX perspective will be a centralized internal control monitoring tool with automated prompting for resolution of issues identified.

Items Needed to Address: Automate Sensitive Access and SoD Monitoring Process

- There is a defined foundation for monitoring and reporting while looking for improvement opportunities.
- Few automation tools are being used, leading to processes that are manual and time-consuming.
- Current monitoring is more reactive than proactive in nature.
- Proposed solution
 - Begin adoption of continuous monitoring processes with an enterprise solution
 - Adopting this new tool will encourage a more proactive risk management mindset throughout the enterprise.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The purpose of the SOX organization is to provide guidance for and oversight of the continuing design, documentation, review, testing, and updating of internal controls over financial reporting for compliance with Section 404 and Section 302 of the Sarbanes-Oxley Act of 2002 (SOX). The Company has an obligation to meet these regulatory requirements. The activities of CEL, O&R, CET and CECONY organizations fall within scope. The SOX program impacts the identification, assessment, mitigation, monitoring, and reporting of financial misstatement risks.

This software solution will improve the Company's ability to better mitigate/improve controllability for the risk of financial misstatement and adhere to regulatory requirements through continuous monitoring and automated notifications of issues requiring resolution. For information regarding the benefits of the solution, please see capabilities and expected benefits in the Work Description section as well as the list of non-financial benefits in the Justification section.

2. Supplemental Information

Alternatives

The Oracle Cloud SoD module was considered as a reasonable alternative. It was rejected as an option because it cannot integrate with other applications outside of Oracle and we have numerous SOX applications outside the Oracle suites. . This compatibility is a requirement for the Company and for SOX PMO, as we need SoD analysis for high risk SOX applications and are planning to integrate with one new application each year.

Risk of No Action

Risk 1 - Inability to execute SOX controls including Segregation of Duties Analysis. SOX controls are required to be executed annually and no action will result in our Internal Auditors/External Auditor (PWC) issuing the Company a SOX deficiency. Without Fastpath, control owners would not be able to execute the controls timely, and it would rely on manual processes which would result in completeness and accuracy risks. The analytic insights delivered by Fastpath are complex, and it would be difficult to deliver the same results manually.

Risk 2 - Using an automated software tool for Oracle EBS and CC&B and other SOX Systems helps to mitigate the department's compliance risk. We must replace the system to continue the SoD monitoring for these applications. Incorporating additional SOX systems into the automated tool will further reduce risk. Without the SoD in place, we will not be in compliance with our SOX program as we do not have the detective control in place to mitigate SoD conflicts.

As previously stated, SOX controls are required to be executed annually and no action will result in our Internal Auditors/External Auditor (PwC) issuing the Company a SOX deficiency.

Risk 3 - Fastpath will manage SoD conflicts within our SOX systems, helping to reduce the risk of financial statement fraud. No action will result in increased risk to the Company and all of its stakeholders.

Non-Financial Benefits

- Risk Mitigation: Reduces the risk of fraud, errors, and unauthorized access by ensuring no single person has control over all aspects of any critical process.
- Compliance: Helps meet regulatory requirements, such as Sarbanes-Oxley (SOX), by maintaining effective internal controls.
- Efficiency: Streamlines compliance reporting, saving time and reducing costs.
- Enhanced Control: Provides better oversight and control over user access and activities, improving overall governance.

Overall, ensuring regulatory compliance as well as increased efficiency for our stakeholders helps them execute their SOX internal control processes. The Company's control environment is maintained as a result.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A - We expect to see process efficiency gains for SOX staff and its stakeholders, but do not expect full time employee reductions to result from this investment.

3. Basis for estimate

Total capitalized cost is broken down by category and year in the Funding Details section of the Whitepaper. The total project implementation cost is as follows:

Total capitalized implementation cost from 2025 - 2029: \$1.871M. Please refer to Funding Details. For segregation of costs, excluding overheads, please see the following breakdown:

- **Feasibility, Requirements Gathering and Integration**

○ Develop functional requirements for system integrations. ○ Build, test, and activate approved integration, including any data conversions. ▪ Required resources: SOX PMO, Information Technology. ▪ Projected costs – 2025 – 2029: \$729K, IT labor; \$146K, software license; \$70K, hardware. • Development, Configuration and Testing, Production Implementation and Handoff ○ Integrator consultant configures risk ruleset for target system. ○ User acceptance testing. ○ Integrator develops ruleset documentation and training. ○ Integrator hands off approved finalized ruleset to stakeholders. ▪ Required resources: SOX PMO, integrator consultant, business users (part time assistance) ▪ Projected Costs – 2025 – 2029: \$544K, integration consultant services. The estimate was prepared in partnership with IT, an external consultant, and via benchmarking. The major elements of work for this project include: • Capital (see earlier breakdown of key milestone activities, responsibilities, and costs under Work Description section of Whitepaper) ○ Procurement of SOX related modules (i.e., FastPath Access Control Core and Integration Pack, Change Tracking, and integration with The Employee Hub) and SOX project manager labor to support the life cycle of the project. ○ Hiring of a consultant/system integrator to gather requirements, design, implement, test, and deploy the software solution. ○ IT labor to assist the consultants to design, build, and deploy modules. ○ IT and vendor support during the stabilization period, post-deployment. • O&M ○ Ongoing IT support. ○ Annual Subscription Fee.
Project Risks and Mitigation Plan N/A
Technical Evaluation/ Analysis N/A
Project Relationships (if applicable) N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						

Regulatory Asset						
Capital				76		390

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	260	0	0	0	0
Regulatory Asset					
Capital (Total)	232	356	374	424	485
Labor	86	156	150	171	196
M&S	10	12	14	16	18
Contract Svcs.	80	92	110	122	140
Other	16	25	30	35	40
Overheads	40	71	70	80	91



Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Outage Scheduling System (OSS) Replacement	
Project/Program Manager: Bhavna Kumar	Project/Program Number (Level 1): 27729433
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/01/2026	Estimated Date In Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: 9,901 O&M: 0	
Work Description: The Outage Scheduling System (OSS) manages work being performed on the company's distribution and transmission system equipment, which includes but is not limited to feeders, breakers, transformers, protective relays, and bus sections. The Outage Scheduling System allows users to create Outage Requests and assists the Scheduling District Operator in consolidating related Outage Requests. This project will replace the current on-premise implementation of the OSS Pega platform with a new product, ITOA, which was developed and is used by multiple utilities (including Orange & Rockland Utility) for outage scheduling. The new system will address performance issues, will replace a soon to be outdated Pega technology platform (Q1 2027). Furthermore, key stakeholders will be involved to identify additional business requirements to ensure that the new software meets their needs, including integrations to a government agency (New York Independent System Operators -NYISO). An integrator will be onboarded in Q1 2026 to conduct workshops to confirm business requirements, design and configure the new ITOA system, perform User Acceptance Testing and implement the ITOA system in Production over a three year period (2026-2028). Integrations with existing systems such as Maximo and Primavera will also be tested and possibly modified. The high-level timeline for this effort is as follows: - 2026: • Requirement Gathering • Design and Development • Testing 2027: • Design and Development • Testing	

2028:

- Design and Development
- Testing
- Release
- Hypercare

Justification Summary:

The Outage Schedule System must be on a supported technology platform from a technology obsolescence perspective. If the current OSS system is not upgraded by Q1 2027, support from the vendor (Pega) will expire. Should the OSS system have any failures after this time, the vendor will not support the system with fixes, potentially resulting in this critical application being rendered unusable. The vendor's (Pega) upgrade path is to migrate OSS to the Cloud, however due to the sensitive nature of the system (it is used by the control centers), OSS needs to be on-premise. The plan is to begin work on the migration of OSS to the ITOA on-premise platform in 2026, followed by the implementation of the new system in 2028, to be on a supported version of Con Edison's Outage Scheduling System.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

N/A.

2. Supplemental Information

Alternatives

Continue with current system until it is no longer supported (technology obsolescence), which will result in most of the processes being done manually, resulting in likely conflicts in scheduled work as well as missed opportunities for outages. This will negatively impact system reliability and the safety of personnel, and result in non-compliance with NYISO and NERC notification requirements.

Risk of No Action

Risk 1:

From a business perspective, if the current system stops functioning, all outage scheduling work would have to be performed manually and it would not be possible to schedule all necessary outages and make all appropriate notifications in a timely manner. This will lead to a) likely conflicts in scheduled work as well as missed opportunities for outages, both of which will negatively impact system reliability and the safety of personnel; and b) non-compliance with NYISO and NERC notification requirements.

The technology landscape in computer systems poses a challenge due to the impending obsolescence of the current on-premise solution. The current on-premise version utilized by Con Edison will be unsupported by Q1 2027.

Non-Financial Benefits

Prevent late internal and external notifications resulting in missed opportunities to maintain equipment properly.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A.

2. Major financial benefits

N/A.

3. Basis for estimate

The Cost Estimate includes hardware for the new infrastructure (4 Application servers, 4 Database servers, and 2 Load balancer servers), and software development costs for 5.5 FTEs (3.5 IT FTEs and 2 business FTEs) to work on the project, and an integrator (ITOA vendor) for 3 years to work on the OSS implementation of the new ITOA software.

Project Risks and Mitigation Plan

Risk 1:

Implementation of the vendor product needs additional time than estimated.

Mitigation plan:

Leverage knowledge of in-house team that used the vendor production in another area of the company.

Technical Evaluation / Analysis

N/A.

Project Relationships (if applicable)

N/A.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	0.0	\$6,080.7	\$2,025.4	\$1,795.2	
Labor		\$928.7	\$967.7	\$995.0	
M&S		\$154.5	\$0	\$0	
Contract Svcs.		\$0	\$0	\$0	
Other		\$4,437.2	\$597.9	\$334.8	
Overheads		\$560.3	\$459.8	\$465.4	

*The test year runs from 10/1/2023 to 9/30/2024

A discrepancy was noted in the dollars requested for this program after the revenue requirement was calculated. This will be corrected at update.

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Phased Replacement of Legal Technology	
Project/Program Manager: Teresa Barillas	Project/Program Number (Level 1): 25496794
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2025	Estimated Date In Service: 12/31/2029
2025-2029 Funding Request Capital: 11,325 O&M: 2,963	
Work Description: The Law Department (Law) is taking a phased approach to the replacement of its obsolete legal technology. Current Law technology does not meet the needs of a next-generation law department. Law requires capital funding each year to make progress on its legal technology roadmap. The matter management software in use today, which is the main hub of all law department operations, has been sunset by the vendor in 2017, and they are no longer supporting the update and maintenance of the application. This means if any piece of the software or any of the integrations break, it will bring the department's operations to a standstill until repaired. If the repairs are even possible based on the age of technology, they will also become more costly and difficult, as the technology behind the software and integrations is becoming obsolete. Thus, the urgency of this request escalates every year. The Department's multi-year Transformation Initiative project was completed at the end of 2022. The purpose of the Transformation was to evaluate the work of the department and reorganize to keep up with the changing landscape of the utility. Law is now focused on implementing the work that was identified during the project and enabling a sustainable path for the future. To achieve the three "pillars" of the Transformation project (Focus on the Customer, improve our People Experience, and Promote Sustainable Change), it is imperative that we have the resources and tools to enable continuous improvement and change agility, which requires sufficient technology funding. Our phased approach is set forth as follows: <u>Phase 0: RFP, Vendor Selection and Planning (2023-2024)</u> With the fast pace of technological changes, Law spends considerable time each year evaluating software and participating in demonstrations to keep up to date on trends and changes in the legal technology market. We issued an Request for Proposal, held software demos, and selected the top vendors. We are waiting for Supply Chain to finish their process with the RFP. Once completed, we will begin the Third Party Risk Management and Corporate Request for Evaluation & Approval of Technology processes for the selected software and vendor. We are requesting full funding of this project to ensure selection of the product that best meets Law's technology needs. <u>Phase 1: Enterprise Legal Management Implementation (2025-2027)</u>	

Phase 1 consists of the implementation of cloud-based enterprise legal management solutions (ELM). Law currently does not have an ELM solution; instead, there are individual software components, including e-billing and matter management. The current matter management system is not aligned with current legal industry software and is in urgent need of replacement, particularly because the vendor no longer supports it. State-of-the-art ELM solutions include integrated workflow capabilities, dashboards and reporting, matter management, e-billing, contract management, and other capabilities. These systems provide sophisticated reporting and analytic tools to manage and track matters, financials, and other metrics. In addition, there is a need for ancillary systems, software, and other support services to integrate with the ELM platform. The ability to use metrics for strategic decision-making, resource management and accountability will be extremely valuable to the business. This project will include the migration of data from the existing obsolete systems to the new systems and better system integrations with the Autonomous Data Warehouse, Human Resources, Oracle, e-billing, document management, and other internal and external third-party applications including Medicare. Law Manager currently has two inbound and two outbound interfaces with Center for Medicare and Medicaid Services [CMMS], the federal agency that manages the Medicare program which requires us to report settlements made to Medicare recipients. The penalty for failure to report is \$1000 per matter, per day.

Phase 2: Document Management System Implementation (2027-2028)

Phase 2 consists of the implementation of a cloud-based document management system (DMS). Document management systems is a digital tool that stores, organizes, and manages electronic documents and files. They help business increase workflow efficiency, reduce storage costs, and ensure compliance with data regulations. Law currently has an obsolete DMS that is on premises (server-based) and is another technology tool in urgent need of replacement. A cloud based, state-of-the-art DMS will provide document management capabilities that Law's current system is lacking. The current system is slow, difficult to use, and has a low rate of user adoption. The current system is also very unreliable, and the critical integrations to Microsoft Windows and Office products frequently break, lowering productivity for the department. The new system will better interface with Law's new ELM, Microsoft products such as Office 365 (O365), workflow automation systems, and other Company third-party applications, allowing for improved user experience and easier collaboration across the Company. Additionally, being a cloud based solution, in a cyber event, the law department will still have access to the new system, allowing the continuation of work even during such an event.

This project will require two additional Project Specialists in the Legal Innovation and Operations team to support and assist in the implementation of the necessary technologies. The additional team members will charge approximately 90% of their time to the capital projects for 2025 and 2026. Thereafter they will charge to O&M and their responsibilities will shift to the administration and maintenance of the new legal technology systems.

Justification Summary:

Law continues to move forward on its post-Transformation Initiative, as explained above. As the Department transitions activities and launches new ways of working based on our reorganization, upgraded technology is vital. Digital transformation continues to shift expectations about how legal departments drive value for their entire organizations. Law must be able to meet the challenges of a changing landscape to move the business forward. Investment in legal technology solutions drive Department, business, and practice value.

Phase 1: Law requires technology resources that are as agile as the Department. At the core of any legal operation is its matter management system. These specialized tools are designed to help law firms and legal departments efficiently manage their cases and related tasks. It centralizes various aspects of legal practice such as, data storage, access, and analysis, billing, invoicing, reporting, document storage, and

allows for collaboration on legal matters between the members of the department. LawManager, the Law Department's existing matter management system, is overdue for replacement, as it was sunset by the vendor in 2017 and leaves the Department at risk. As mentioned previously, the vendor is no longer supporting the update and maintenance of the application, so if any piece of the software or any of the integrations break, it will bring the department's operations to a standstill until repaired. If the repairs are even possible based on the age of technology, they will also become more costly and difficult, as the technology behind the software and integrations is becoming obsolete. For additional information on risk mitigation, please see the Relationship to Broader Company Plans and Initiatives section. In addition, it has limited functionality and lacks important capabilities such as reporting and mobile operations. LawManager currently resides on obsolete, end of life technology. Patches and bug fixes are not provided for end of life, unsupported application, and technology components. Expired technologies not only result in operational deficiencies but poses a threat to the cybersecurity of the application, and therefore the Law Department. Law's reliance on LawManager restricts the effective management of resources and inhibits the ability to effectively track and respond to changing business and technology trends. Cloud-based ELM systems with integrated matter management, workflow, reporting, analytics, and mobile device capabilities are current industry standard. Investing in ELM will allow Law to leverage corporate technology and enhance intra- and interdepartmental exchange of information. Corporate benefits of this project include easier intake of matters, workflows for self-service items, sharing of information, and better visibility with and for our customers outside the Department.

The need for reporting capabilities is one of the most urgent drivers for legal tech investment. ELM will give Law access to dashboard reporting and allow the Department to analyze transactional and spend data with greater sophistication. Having robust details on spend and workload trends is critical to ensuring clear expectations are set within the Department and with outside counsel. This functionality will enable Law to move from metrics to insight to action, using benchmarking and strategic planning. Some examples where metrics can provide insight and guidance include:

- Diversity Labs partnership to increase Diversity, Equity, & Inclusion: Instead of manually tracking outside counsel diversity via surveys and through continuous follow-up, a robust ELM with e-billing integration would allow Law to measure and report on the diversity of legal teams staffed on Con Edison projects. More sophisticated, automated reporting capabilities will provide opportunities for the Department to measure data by evaluating claim exposure, forecasting, budgeting, controlling costs, and evaluating law firm performance.

- Risk Management: Currently, Law does not have the ability to report on the over \$35M in annual Company payments in judgment and settlements with data that could provide risk management opportunities. With an integrated ELM in place, Law could drill deeply into the metrics to identify trends and patterns, as well as detect areas that are consuming many legal resources to implement targeted cost management initiatives. These insights will lead to improved effectiveness, efficiency, and outcomes.

Phase 2: The Department's document management system, eDOCS, is a 15+ year-old legacy system. It may have been best-in-class at one point, but it is not currently up to industry standards. eDOCS has limited navigational capability, is not user friendly, and has a continuously declining user adoption rate. Newer DMS systems provide mobile device capabilities, better functionality, are faster and more user friendly and allow integration with ELM and other third-party applications such as Microsoft O365. Law seeks cloud-based systems for both phases of this project. As the Company has been moving applications off premises for several years, Law should be adopting technologies following the same next-generation approach.

This project will require two additional Project Specialists in the Legal Innovation and Operations team to support and assist in the implementation of the desired technologies. These additional team

members will charge 90% of their time to the capital projects for 2025 and 2026. Thereafter they will charge to O&M and their responsibilities will shift to the administration and maintenance of the new legal technology systems.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This project is critical to the Department's 5-year and long-range plans.

Law's Transformation Initiative included an update to its technology roadmap and defined the Department's forward-thinking, long-range plan. The goal is to enable the Department to do the best work, the best way, while enabling everyone to fulfill their highest and best potential. The three pillars of the Transformation (Focus on the Customer, improve our People Experience, Promote Sustainable Change) inform and guide our ongoing work:

Focus on the Customer involves making internal and external customers' journeys as seamless as possible. ELM will allow us to give our customers some self-service and reporting capabilities and a view into their matters at their convenience.

Improving our People Experience involves making our work easier and offering opportunities for learning and development.

Promote Sustainable Change means equipping Law with practical tools and coping mechanisms to encourage a change-agile mindset.

As Law embarks on its strategic plan and moves beyond the Transformation, it is critical that the Department has innovative legal technologies. The additional resource requested is integral to the implementation, maintenance and growth of the new technology and related processes. Law's existing technologies are outdated and, other than software upgrades, there has not been an enterprise-wide overhaul of technology systems to meet the Department's ever-changing needs. Outdated technology results in inefficiencies and limits Law's ability to respond to the needs of the organization and to changes in the industry.

More broadly, the Law Department plays a critical role in the Company's support of NYS CLCPA initiatives, and modern legal technology will allow Law to assist the Company more effectively and efficiently. As a result of the clean energy transition, the Law Department has seen, and expects to continue to see, an increase in contract activity and other legal agreements for the interconnection of clean resources, the siting of storage facilities and EV charging facilities, procurements of clean energy products, and Commission required data-sharing. Outdated legal technology can cause delays that frustrate the Company's and the State's goal of expeditiously advancing the clean energy transition.

This project is important to both the Company's and Department's risk mitigation efforts. It will address these identified risks:

Cybersecurity: Outdated software and systems leave the Department more vulnerable to attacks, and newer technology (particularly cloud-based applications) are more secure.

Development and Retention of Expertise: Modern legal technologies allow employees to work at a higher level of value and offer collaboration opportunities and new partnerships.

Records Management: Automated records management solutions drive compliance with Company policies and monitor performance and efficiency.

PII: Loss of personally identifiable information continues to be a major risk for the Company as any compromise of such personal information can expose many thousands of customers to identity theft and fraud. Data breaches continue to occur with increasing frequency and widespread impact.

Finally, there is a serious risk of working with technology that is no longer supported by the vendor or has reached its end-of-life. This project addresses Law's technology risk assessment and the business impact of technology obsolescence. As noted earlier, LawManager was sunset by its vendor in 2017, and eDOCS is nearing the end of its lifecycle. The Department wants to continue its agile-minded and forward-thinking approach to its technology landscape. Understanding that the upgrade of systems and the migration of data will involve considerable time and effort, Law seeks to be proactive about managing end-of-life technology and retiring out risky technology components in an effective way.

Risk 1 Name: Department.Law.Records Management	Risk 1 Description: Inability to keep up with Records Management and PII policies puts the Department at risk with regulators and customers. Current solutions are ineffective and require expensive and manual efforts that could be improved and automated to ensure compliance.
Risk 2 Name: Department.Law.Cybersecurity	Risk 2 Description: Continued use of outdated software and systems is a Cybersecurity risk and would leave the Department open to system failures, outages, and downtime. Security lapses raise subsequent compliance issues.
Risk 3 Name: Department.Law.Development & Retention of Expertise	Risk 3 Description: Law's reliance on its current systems with limited functionality will lead to increased frustration and low productivity, counteracting the Department's efforts to attract, retain, and develop talent. Poor technology can have a long-term negative impact on morale and engagement.
Risk 4 Name: Department.Law.Personally Identifiable Information	Risk 4 Description: Inability to keep up with Records Management and PII policies puts the Department at risk with regulators and customers. Current solutions are ineffective and require expensive and manual efforts that could be improved and automated to ensure compliance.
Risk 5 Name: None	Risk 5 Description:

2. Supplemental Information

Alternatives

The alternative would be to engage with vendors in one project phase. The current Law software systems are outdated and at or nearing end-of-life. This project must be conducted in phases due to internal resource constraints and the complexity of legal data migration.

Risk of No Action

Risk 1:

Law may not be able to implement the technology roadmap and other objectives of the Transformation's Vision. As highlighted above, the Department needs the tools and resources to complete the process improvements and operational efficiencies outlined in the Transformation.

Risk 2:

Continued use of outdated software and systems is a Cybersecurity risk and would leave the Department open to system failures, outages, and downtime which could lead to the failure to timely complete business transaction. Security lapses raise subsequent compliance issues.

Risk 3:

Law's continued reliance on its current systems with limited functionality will lead to increased frustration, the inability to meet customer needs and expectations, and insufficient data to drive decisions and manage risks. Missed opportunities for information sharing and workflow automation counteract the Department's efforts to attract, retain, and develop talent. Obsolete technology has long-term negative impact on morale and engagement.

Risk 4:

Inability to keep up with Records Management and PII policies puts the Department at risk with regulators and customers. Current solutions are ineffective and require expensive and manual efforts that could be improved and automated to ensure compliance. Data breaches continue to occur with increasing frequency and widespread impact.

Risk 5:

The obsolescence of Law's technology and the associated risks have been discussed above, including the end-of-life risk assessments. Funding is necessary to bring the Law Department up to industry standard functionality as the current software is no longer available.

Non-Financial Benefits

Increased capacity by improved ability to manage work and resources. Spending time on more strategic work as opposed to time-consuming, lower-risk, routine tasks.

Focusing on the Customer by making internal and external customers' journeys as seamless as possible. ELM will allow us to give our customers some self-service abilities and a view into their matters at their convenience.

Improving our People Experience by making our work easier and offering opportunities for learning and development. Greater internal satisfaction.

Promoting Sustainable Change by equipping Law with practical tools and coping mechanisms to encourage a change-ready mindset. Improved workflows and process improvements increase collaboration within the Department and with other organizations. More of a seamless mobile and remote experience for end-users. Better data security and fewer risks. Investment in legal technology enables the Department to strategically align with the Transformation vision and has a cascading effect on the way we work.				
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) The CBA has been completed for this project and the data will be attached. 2. Major financial benefits The estimated ROI* on this project is 87%. ROI for legal technology investments typically range from 47-87%; as a best practice, legal technology investments should have an ROI of at least 65% percent. In fact, for every dollar invested in this project, the Company anticipates an ROI of \$1.87, using calculations based upon both annual time savings and time cost savings and considering investment and annual cost. The Company has determined that it will recoup its investment in this project in 14 months. *ROI was calculated according to legal operations industry guidelines, using financial metrics. 3. Basis for estimate Estimate is based on preliminary discussions with vendors, with actual costs subject to change based on current pricing and negotiations.				
Project Risks and Mitigation Plan <table border="0"> <tr> <td>Risk 1</td> <td>Mitigation plan</td> </tr> <tr> <td>Risk 2</td> <td>Mitigation plan</td> </tr> </table>	Risk 1	Mitigation plan	Risk 2	Mitigation plan
Risk 1	Mitigation plan			
Risk 2	Mitigation plan			
Technical Evaluation / Analysis				
Project Relationships (if applicable)				

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						307.8
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	30	163	780	995	995
Regulatory Asset					
Capital (Total)	466	5,152	3,307	2,400	
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Rapid Restore Re-architecture	
Project/Program Manager: Richard Dalton	Project/Program Number (Level 1): 27708291
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/01/2026	Estimated Date In Service: 8/31/2028
2025-2029 Funding Request (\$000) Capital: 4,894 O&M: 0	
Work Description: The Rapid Restore system, used by Electric Operations, System Operations and Substation Operations, reduces the restoration time of primary feeders by disseminating feeder restoration information and eliminating phone calls. The system allows electronic communication of operating orders between District Operators at the Energy Control Center and Transmission/Distribution Substations as well as transferring control between the District Operators and the Feeder Control Representatives at the Regional Control Centers. In addition, the system provides electronic communication of Field Operations Department (FOD)/No. 9 (emergency) orders between District Operators and the Field Operating Desk and No. 9 Representatives. The Rapid Restore system is highly complex. The objective of this project is to modernize and fortify the Rapid Restore application infrastructure, enhancing its resilience against cyber events and promoting business continuity. This modernization involves procuring data diodes (6) to communicate between the Feeder Management System (FMS) and Rapid Restore, and the upgrade of security controls (firewalls), and Rapid Restore software. A key part of this work involves redesigning Rapid Restore to interface seamlessly with the Feeder Management system via the Data Diode technology. When the corporate network and Rapid Restore is disconnected from the operational network during cyber events, this enhanced application, in Islanding mode, will enable District Operators at the Energy Control Center to issue Operating orders and Work Permits, using Data Diodes, to Rapid Restore. A Data Diode is a network communication device that ensures the safe transfer of data between segmented networks. The six Data Diodes will cost approximately \$1.2M, and the total project cost to redesign Rapid Restore to work in an Islanding mode during a cyber event, including hardware, is \$4.9M. The planned start date for the project is Q1 2026, with completion targeted for Q3 2028. In addition to Rapid Restore undergoing a comprehensive rewrite to fit the new Data Diode infrastructure, the system will incorporate the latest supported versions of the Windows operating system and SQLServer database. This upgrade will ensure compatibility with the latest supported software, thereby enhancing cyber security compliance. The system will also be enhanced to follow the latest User Interface (UI) standards, modernizing the software and incorporating consistency in look and feel, as well as accessibility standards.	

Justification Summary:

The project aims to enhance the reliability of our distribution and transmission system, a critical asset in our infrastructure. This enhancement boosts efficiency and safety and addresses Enterprise Risk Management (ERM) concerns related to system failure and service disruption during a cyber event. Currently, during a cyber event, Rapid Restore cannot communicate with the Feeder Management System (FMS), and District Operators need to communicate feeder restoration orders verbally to supervisors and field crews. This causes a delay in feeder restoration when all orders and work permits need to be communicated over the phone, and also introduces the potential for operator error. The new Data Diode solution will allow for orders and work permits to be electronically sent from FMS to Rapid Restore, thereby reducing potential operator errors and operational down time. The project benefits include reducing feeder restoration time, while non-financial benefits include improved customer satisfaction and enhanced the reliability of our services. In addition, the Rapid Restore servers need to be upgraded to the latest Windows Operating system by July 2027 in order to be supported by Microsoft and be in cyber compliance with the latest security patches.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

2. Supplemental Information

Alternatives

An alternative would be to do nothing. The operators will continue to use the same process as today. During a cyber event, the other critical interfacing systems will not be able to communicate with Rapid Restore without rearchitecting Rapid Restore. Instead, there would be manual communication between Rapid Restore and other critical interfacing systems, resulting in potentially slower equipment restoration time and potential for operator error. The Rapid Restore servers would not be upgraded to the latest version of the Windows operating system and database version, resulting in potential cyber threats and possible shut down of this critical application.

Risk of No Action

During a cyber event, manual communication is cumbersome, time consuming and not feasible, hence the need to modernize the architecture to enable automated communication between Rapid Restore and critical interfacing systems. Using automated communication between the Feeder Management System and Rapid Restore, operating errors can be reduced as compared to fully manual communication, and can avoid a catastrophic failure from occurring on the transmission system. If no action is taken, manual communication will be needed during cyber events when the connection from the operations network to the corporate network is severed, as Rapid Restore and the Feeder Management systems will no longer be able to interface with each other. In addition, if the Rapid Restore servers are not upgraded to the latest version of the operating system and database, it could expose cyber vulnerabilities and result in a possible shut down of this critical application.

Non-Financial Benefits

Improved reliability due to automated data flow of feeder restoration and order information during cyber events, between the Rapid Restore and the Feeder Management systems. The Rapid Restore servers will be on the latest supported operating and database versions.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required) Enter text here. When complete, remove instructions below. Enter "N/A" if this section does not apply. N/A.
2. Major financial benefits Enter text here. When complete, remove instructions below. Enter "N/A" if this section does not apply. None.
3. Basis for estimate The Cost Estimate includes hardware for the new infrastructure (est. 6 Data Diodes for \$1.2M), and software development costs for five resources for 2.5 years. Assumptions include the ability to use Data Diodes to communicate between the corporate network and the more restricted operations network where the Feeder Management system resides.
Project Risks and Mitigation Plan Risk 1: Data Diodes communication between corporate and operations network needs additional time Mitigation plan: Leverage experience from another project where a Data Diode was tested for a similar type of communication and work with that team to leverage knowledge transfer and project execution.
Technical Evaluation / Analysis Leverage experience from a similar use of Data Diodes at Con Edison to communicate between the corporate and operations network.
Project Relationships (if applicable) In a cybersecurity event, Rapid Restore needs to continue to communicate with the Feeder Management system, which is on the more restricted operations network. Electronic communication of feeder restoration and order information needs to continue as seamlessly as possible. The close integration between Rapid Restore and the Feeder Management systems requires both systems to be architected on the newer architecture platform, leveraging Data Diodes.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year*</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:
Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	0.0	\$3,207.4	\$1,447.1	\$240.0	\$0.0
Labor		\$205.4	\$214.0	\$121.7	
M&S		\$1,200.0	\$0	\$0	
Contract Svcs.		\$668.4	688.5	\$0	
Other		\$810.6	\$360.9	\$61.4	
Overheads		\$323.0	\$183.7	\$56.9	

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Rate Case Enhancements	
Project/Program Manager: Ricky Joe, Lucy Villeta, Yan Flishenbaum	Project/Program Number (Level 1): 20988719
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2018	Estimated Date In Service: 12/31/2029
2025-2029 Funding Request (\$000) Capital: \$3,750 O&M:	
Work Description: Rate Case Enhancements is a Project that will continue to streamline, enhance, and add functionality to the Rate Engineering Department's Customer Usage System ("CUS"). CUS is a strategic data warehouse used to centralize and summarize electric and gas billing determinants necessary for the Department to report on, analyze, and develop various rate structures, analyze load research and customer bill impacts and develop load shapes. To be effective, CUS must be an integrated and complete snapshot sales reporting system. Over the last several years, Rate Engineering has worked to replace and integrate the data and functionality of four disparate and obsolete mainframe systems into the CUS. This integration has eliminated the need to manually query multiple systems and facilitate more thorough and timely rate case analysis. With the integration to the new Customer Care and Billing System ("CC&B"), the focus in the past year was to replace the existing mainframe process of calculating customer bill impacts required under certain regulations (e.g., CRR-NY 720-2.2). An interface has been built with CC&B to accept usage data from CUS, utilize CC&B's rate check functionality to calculate customer bills, and interface back to CUS for reporting purposes. This required that a bill factor upload process be developed so the rates used to calculate the bill impacts can be changed dynamically. Looking forward, there is a need to continue adding functionality to CUS to accommodate the growing population of customers with complex and evolving billing structures stemming from various regulatory proceedings including Standby Rates, Solar, Electric Vehicles ("EVs"), Clean Heat, and Utility Thermal Energy Networks ("UTEN"). Specifically, with the Rate Case Enhancements Project, the Company plans to: Develop and implement system requirements associated with billing changes not included in the original scope of the CUS integration (e.g., Standby billing, Gas interruptible billing, EVs, incentive rate designs, solar, reactive power billing, capacity tag billing, updates to reflect changes in rate structures and future rate cases).	

- Implement technology and software enhancements, including developing additional fields and derivations, and data mining for additional customer usage and interval data information available from other data collection and software storage software.
- Implement further automation related to the creation and storage of load shapes in the CUS. These load shapes include New York Independent System Operator (NYISO) and market support activities, including wholesale energy reconciliation and retail supply pricing, and enhancements to the Company's existing Load Shape library.
- Develop new integration points to CC&B to accommodate data requests for programs described above and create new reports not originally in CUS scope to allow detailed data modelling and creation of historical databases to facilitate running billing impacts.

This project work will be completed by contractors hired to expand and enhance CUS functionality. It is crucial for Rate Engineering to swiftly implement the necessary functionalities to meet the outlined objectives described in a timely manner. The project timeline is dependent on evolving requests, requirements, and priorities from the scope of work for 2026 to 2028, as approved by the Public Service Commission (PSC) in the rate case and state proceedings mentioned above.

Justification Summary:

Rate Engineering continues to support the growing trend of evaluating and developing new rate structures that follow different models from existing rate structures. Without having these enhancements, we lose the ability to meet the ever-changing demands and requirements for rate case and state proceedings; to consider impacts and support public policy initiatives and goals.

- Create new billing determinates that do not exist in CUS and perform in depth, non-linear and iterative what-if analysis to assess the impact of a change in existing rate structures as well as to evaluate the effect of completely different rate forms.
- Expand and enhance functionality to support other Commission mandates and activities. For example, Rate Engineering must develop new and/or update existing load shapes used for energy settlement and market supply-pricing.
- Automate and streamline access to current and historical billing to respond to the needs and initiatives of various Company and Commission efforts including energy efficiency, electric vehicle, solar, and clean heat initiatives.
- Develop cross-functional training modules for Company staff on the use of available data and analytic tools to allow each user to focus their complex inquiries in a targeted way, allowing for improved automation and efficiency.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

There are several ongoing Commission statewide proceedings at various stages of development that are looking to facilitate New York State's clean energy transition in support of CLCPA's objectives. Standby, Solar, EVs, Clean Heat, and UTEN initiatives are some examples of proceedings that analyze the impact of these new customer load profiles on utility infrastructure. Changes in rate design facilitate these initiatives by analyzing how we bill our customers. For example, the cost related to Clean Energy and its impact to customers will need to be evaluated to determine an equitable way to assess the cost on customers. One question we endeavor to answer in this project is: What rate structures and price signals will entice and change consumer behavior to achieve the most cost effective and efficient use of utility infrastructure and enable the clean energy market in support of CLCPA objectives?

Continued added functionality to CUS of these growing population of customers and their billing determinants will allow the Company to perform ad hoc analyses and customer bill impacts of changes to existing rate structures or completely new rate structures.

2. Supplemental Information

Alternatives

Briefly describe reasonable alternatives and reason for rejection (e.g., costs, timing, etc.). At least one is required.

There are no viable alternatives other than to continue with further development of the CUS. The recently implemented CC&B and the Meter Data Management System ("MDMS") are dynamic databases. CUS, on the other hand, is a static database whose billing determinants are frozen at a point in time to allow ad hoc analysis of various pricing proposals on customer bill impacts. It would be impossible to ascertain the impact of different pricing models or completely new rate structures in a dynamic database whose billing determinants are moving targets that constantly change. Previous analyses would be impossible to replicate and would not meet the requirements or scrutiny of a rate case proceeding that is subject to Intervenor Discovery Requests and Commission Audit.

Additionally, the MDMS incorporates different business rules to its data clean-up and scrubbing logic. As an example, data scrubbing occurs at the premise level in CUS and at the account level in the MDMS. If a residential apartment vacates mid-year and is replaced by another resident, CUS would consider that one customer and one account whereas the MDMS would consider that two customers and two accounts. CUS seeks to replicate an annual customer bill at that premise regardless of who resides there. Furthermore, bill cancellations and rebills in CC&B and the MDMS cross multiple billing time periods whereas CUS seeks to isolate the demand and consumption data that relate to a specific month and trip date.

Risk of No Action

In its January 2023 *Order Establishing Framework for Alternatives to Traditional Demand-Based Rate Structures*, the Commission directed utilities to collect load data from EV charging customers for use in embedded cost of service studies through at least 2025. This data will be foundational in determining whether EV charging customers should continue to be grouped within the broader commercial service class or be separated into their own service class in the future. CUS is best positioned to be the warehouse of this data as it is already the source of billing data used in developing the Company's embedded cost of service studies. Continued enhancements to CUS are necessary to properly capture and report on this EV charging data for use in future cost studies.

On April 18, 2024, the Commission initiated *Proceeding on Motion of the Commission Regarding the Grid of the Future* (Case 24-E-0165). The proceeding will focus on promoting flexible resources (e.g., DERs, virtual power plants, managed charging, V2G, etc.) As part of this process the Commission plans to examine innovative compensation structures, equitable allocation of costs; and consider stronger time-varying rate option attractive to customer installing beneficial electrification among other priorities. Continued enhancements to CUS are necessary to enable the Company to effectively support this undertaking.

If no action is taken, Rate Engineering will continue to rely on existing processes and functionality built to date. Any new analysis related to various Commission proceedings and Orders will rely on existing and manual processes that are time consuming, inefficient and prone to error. Inaction will hinder

Commission Action on rate related options, will be an impediment to enabling the clean energy future, and will negatively impact customer satisfaction for those customers seeking customer choice on rate options beneficial to their specific technology end-uses, such as distributed energy resources, clean heat, solar, and electric vehicles. Many of these customers are active and vocal participants in the Company's rate case proceedings. The Company will be rendered ineffective in analyzing the impact of these new technologies on class load shapes, class revenue surpluses and deficiencies, and individual customer bill impacts. The Company will further be rendered ineffective in testing or enhancing alternate rate structures on this growing population of clean technology use cases.

Non-Financial Benefits

Non-financial benefits include promoting regulatory compliance by having the CUS database warehouse populated, scrubbed, and in place in time to meet various reporting requirements stemming from Commission Orders especially as they relate to the impact of pricing proposals on customer bills. Stronger relationships with our customers and regulators are fostered when the Company can provide ad-hoc analysis of the effects of various proposals on customer bills, especially during settlement negotiations during Rate Cases. The Company has previously leveraged functionality built to date by providing the number of customers impacted at various usage ranges by different pricing proposals. As the population of customers on different rate structures is incorporated into CUS, the Company will be able to provide more of these types of analysis that will better inform parties to the rate case providing a better customer experience. Incorporating these added billing determinants into CUS will allow for automated and timely impact analysis that otherwise would not be provided or, if provided, would rely on manual and error prone processes. In summary, benefits include:

- **Improved Customer Engagement and Enhanced Regulatory Compliance:** Expanded and enhanced functionality will support both internal stakeholders and as well as Commission mandates and activities. For example, Rate Engineering must update, develop new, and/or enhance existing load shapes used for energy settlement and market supply pricing
- **Streamlined Data Access:** Automated and streamlined access to current and historical billing is critical to respond to the needs and initiatives of various Company and Commission efforts, including energy efficiency, electric vehicle, solar, and clean heat initiatives.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)
2. Major financial benefits
3. Basis for estimate

This project is expected to cost \$9.8 million over a period of twelve years beginning 2018 of which \$4.3 million has been spent to date including \$1.2 million of data storage purchases. The estimate was developed based upon prior experience with Business Intelligence efforts. Regarding financial benefits, while this project will increase Rate Engineering's efficiency at performing certain tasks, we also expect the level of required work will continue to increase.

Project Risks and Mitigation Plan

Building the grid of the future is a multifaceted endeavor that touches upon numerous stakeholders including the Company, our customers, regulators, government, developers, and other interested parties. As such, Rate Case Enhancements have been designed in sprints to add functionality as required. It is often a long regulatory process from concept to implementation. New technologies such as clean heat and solar must first be analyzed from an existing population of customers on existing rate schedules before new rate structures can be implemented. Once these new rate structures are implemented it will then take more time to capture a sufficient amount of load, billing, and usage data to analyze the load shapes, seasonality, time of use profiles of these growing populations of customers. Change does not happen overnight and requires much analysis, debate, and incremental movement forward. Capital funding must be in place in advance of the need to be able to respond to Commission directives in a timely manner, which oftentimes begins as conceptual.

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

The goal of Rate Engineering's CUS is an integrated system with ease of reporting and inquiries. The ongoing updates and enhancements are critical to the success of this effort. The project will touch on numerous extant processes that can be leveraged to any inquiry that requires analysis of historical billing determinants. Once the data is cleaned and scrubbed, it can be made available to other organizations and departments for their own unique uses including the evaluation of energy efficiency, clean heat programs, solar, and electric vehicles. Static historical data stored over time can inform changing consumer behavior and the elasticity of varying price signals.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital	851	662	808	857		750

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	750	750	750	750	750
Labor					
M&S	250	250	250	250	250
Contract Svcs.	440	440	440	440	440
Other					
Overheads	60	60	60	60	60

Gas Operations 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Service Line Inspection GIS Routing & Traceability	
Project/Program Manager: Thomas Riviello	Project/Program Number (Level 1): 27708325
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date In Service: 1/1/2027
2025-2029 Funding Request (\$000) Capital: \$4,000 O&M: \$100	
Work Description: The Service Line Inspection program mandates the inspection of an average of 60,000 premises and 200,000 inside gas meters per year. All of these gas meters require a customer to provide access for the technician to perform the inspection and, in many cases, gas meters reside inside a customer's apartment within a large residential building. On average, this program has roughly 150 technicians, including both company and contractor personnel, performing these mandated inspections per day. Currently, the Asset & Resource Management (ARM) system is used to route the work to a corrosion application. Biztalk provides the middleware to interface to the Customer Care & Billing (CC&B) system and retrieve the gas meter(s) associated with the premise that requires inspection. The corrosion application is accessible on the technician's mobile device and enables the technician to complete the work remotely on an iPhone or iPad. The result of the work is sent back to ARM, where the inspection record is stored. The daily routes consist of scheduled appointments with time allocations as well as non-scheduled mandated premises that are in need of an inspection attempt. On a daily basis, the supervisor/s will manually review the work locations and communicate to the employee who is routing the work. The supervisors attempt to optimize the routes for each technician manually for all 150 technicians daily. Once the work is routed from ARM to the Corrosion app, the supervisor lacks the real time visibility of their technician's work status. This lack of visibility prevents the effective redeployment of work to the closest technician to a location. The ability to effectively redeploy resources is essential in instances where a leak is discovered and the existing technician must remain on site until relieved by a leak responder, which may negatively impact the technician from proceeding to their next scheduled appointment. In these instances, the supervisor must make numerous calls to various other	

technicians to find out their location instead of just seeing on a real-time application the whereabouts of all technicians.

This project will enhance the field manager app (FM2), leveraging the existing capabilities in FM2 while utilizing features that exist in Service Link. The development of an advanced mobile product set will allow for a flexible set of system interfaces which will be device-agnostic, able to work on iOS, Android, or Windows tablets and phones. This project will allow for tracking field crews in real time which enables optimal dispatching and scheduling for planned and emergent work. While this feature currently exists in FM2, the features are limited and need specific enhancements. In addition, this feature does not exist in the Corrosion application. This feature will be enhanced in FM2 and bolt into the Corrosion application as the optimal Service Line Inspection mobile solution.

Justification Summary:

The high volume of work requires real-time visibility into the planning and execution of the work. This will result in route optimization. This will improve the overall customer experience by ensuring manual efforts do not result in missed or late appointments. This project will also ensure that the supervisor and the technician are leveraging technology solutions to optimize their daily route. Currently, routes are manually extracted from the scheduled appointments in CRMS and a manual extract of opportunistic locations in work manager. The work is routed to a supervisor who then will manually assign the locations each technician must attempt in a given day. On any given day, there could be 150 technicians with as many as 20 locations assigned to inspect or attempt. This project will ensure that the Gas Operation's largest and most challenging customer-facing compliance program has the latest technology enhancements to optimize the routing and visibility of the work. This compliance program directly improves the safety and reliability of the gas system through identifying and remedying leaks and atmospheric corrosion discovered on gas service line piping inside a customer's premise. This project will reduce the manual efforts to assign work and leverage technology to more efficiently create the optimal route for each technician on every given work day. This will result in more locations being attempted daily and reduce delays due to inefficient routes.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The service line inspection program requires a leak survey and atmospheric corrosion inspection of the gas pipe from the point of entry to the outlet of every gas meter that resides inside a premise. When leaks or atmospheric corrosion are discovered, the condition is remedied either immediately or scheduled for remediation. Not only does identifying and correcting these situations improve gas safety, but it also reduces the potential of methane emissions.

The Service Line Inspection program was a PSC order in 2017. The program is targeting all premises that have an inside gas meter. The program targets disadvantaged communities (DAC) as well as non-DAC locations.

2. Supplemental Information

Alternatives

- Exclusively use Service Link, which has no interface with any of the Gas Service Line Inspection programs. This will result in significantly higher implementation cost.
- Continue manual processes leveraging excel spreadsheets to review and assign work while having no real-time visibility.

Risk of No Action

- Risk 1: Missed or late appointments due to the manual redeployment of available technicians
- Risk 2: Continued manual daily routing assignments could lead to less optimal routes being assigned which will result in longer commutes to and from each location, which increases the overall cost per unit for the program

Non-Financial Benefits

- Increased efficiency of the technician routes which will improve the overall customer experience by ensuring an efficient route for the technician while adhering to prioritized customer requested scheduled appointment time frames

Summary of Financial Benefits and Costs

This project is expected to improve technician efficiency. The improved efficiency would lead to a lower cost per inspection. The Service Line Inspection program is bundled with the AMI-enabled natural gas detector (NGD) program. Where an NGD is needed to be installed, the technician will perform both the service line inspection and the installation of the NGD. The combined time to install and inspect the premise varies based on the premise and the total scope of the inspection. However, on average the work may take no more than 30 minutes to complete followed by an additional 15 minutes for the required system/paperwork updates. The technician is then required to travel to their next location. This effort will reduce the travel time to and from each location. If travel time can be minimized significantly, then the technician can attempt more premises and associated gas meters in each day. This project will help to quantify travel time, optimizing the routes to reduce unproductive time due to less-than-optimal routes which increase travel times to and from each location.

Project Risks and Mitigation Plan

The initial business requirement gathering will provide the full scope and any modifications that may be needed to ensure the project is implemented on time and on budget.

Technical Evaluation / Analysis The initial business requirement gathering will provide the full scope and any modifications that may be needed to ensure the project is implemented on time and on budget.
Project Relationships (if applicable) None

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M				100	
Regulatory Asset					
Capital (Total)		2,000	2,000		
Labor		1,000	1,000		
M&S		1,500	1,500		
Contract Svcs.					
Other					
Overheads		500	500		

Gas Operations 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Service Line Inspection Program Customer Communication Automation	
Project/Program Manager: Thomas Riviello	Project/Program Number (Level 1): 27708327
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 3/1/2026	Estimated Date In Service: 1/1/2027
2025-2029 Funding Request (\$000) Capital: \$1,500 O&M: \$900	
Work Description: The Service Line Inspection is a regulatory mandated program, requiring the Company to inspect all gas service lines from the point of gas entry to the outlet of every inside gas meter. The most significant challenge for this program continues to be accessing a customer's premises to perform the inspection. Currently, the process to communicate with customers via mailed letters requires numerous manual efforts to extract data from various systems that are not fully integrated with one another. This manual process creates delays in communication and limits visibility for the end-to-end process. Due to manual integration efforts and a lack of data integrity, there are timing issues between inspection data and customer data. The scope of this project is to fully automate a manual process by integrating the following systems: Gas Central – ARM, Customer Care & Billing (CC&B), PEGA, CRMS. This project will automate the communication process for existing customers and will allow CC&B to communicate directly to PEGA when a new customer is added, or a new customer moves into an existing location which will initiate the introductory letter as soon as their account becomes active. The integration with CRMS, our scheduling system, will also allow us to exclude sending letters to customers with scheduled appointments when necessary. The current process starts through extracting the locations and associated gas meters due for inspection each year from Gas Central – ARM then a manual match is facilitated to CC&B to identify the customer's name, address, account, and access controller among other customer information data. The next step is to send this data to PEGA, which tracks the various letters which includes introductory, fine warning, fines assessed, termination warning, and re-occurring termination warning letters. As a program requirement, the Company sends an initial introductory letter and if the customer does not respond requesting an appointment, we will make at least two attempts to access the customer's premises. If these attempts are unsuccessful, then the Company will proceed to issuing a \$100 or \$500 (commercial customers in a BD area only) no access fee, which will be applied monthly until the customer complies by providing access for the company to inspect the service line.	

The scope of this project will eliminate the need for manual intervention, as well as ensure the process can be planned to ensure compliance through a fully inspected premise or termination of the premise prior to the premise being due for their next inspection. The project will provide integration, facilitating customer communication, while providing full transparency for this program at every step of the process.

The project will start with identifying the business requirements and functional design. Information technology will work with all applicable systems to facilitate the functional design. The estimate to identify the full project scope is 6 months followed by 6 months to build the required interfaces.

Justification Summary:

The primary driver for this project is to automate an existing manual process. The manual process takes significantly longer to facilitate than automating the process and lends itself to a lack of visibility and transparency for a regulatory mandated compliance program. The total volume of buildings that have at least 1 inside gas meter is ~300K and consists of ~1M gas meters. The inspection frequency currently ranges from annually to once every 5 years. At minimum, the Company would be inspecting an average of 60K premises and 200K gas meters. In ~15% of the cases, gas meters reside inside a customer's apartment, which also provides additional challenges to gain access to inspect. Even when gas meters reside inside the customer's basement, allowing access for this inspection continues to be challenging. This project will facilitate the company's ability to better manage the inspection work and enhance resolution prior to the next inspection due date for a given premise. The automation of this process will enhance the customer experience. It will ensure that customers are receiving the right letter at the right time with minimal possibility of time delays due to manual processing through numerous systems that are currently not integrated with one another.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The service line inspection program requires a leak survey and atmospheric corrosion inspection of the gas pipe from the point of entry to the outlet of every gas meter that resides inside a premise. When leaks are discovered or atmospheric corrosion (which could eventually result in a leak) the condition is remedied either immediately or scheduled for remediation. Not only does identifying and correcting these situations improve gas safety, but it also reduces the potential of methane emissions.

The Service Line Inspection program was a PSC order in 2017. The program is targeting all premises that have an inside gas meter. The program targets DAC as well as non-DAC locations.

2. Supplemental Information

Alternatives

One alternative is the continuation of this manual process.

Risk of No Action

- Increased time from end-to-end to attempt to gain access or terminate service
- Increased risk of ineffective or gaps in communication to internal and external stakeholders
- Increased likelihood of mistakes due to manual intervention instead of automated solutions

Non-Financial Benefits
- Increased safety & reliability by facilitating a streamlined process for access to perform this mandatory safety inspection in a timely fashion - Improved workflow and communication among departments - Stronger relationships with community or with regulators - Promoting regulatory compliance through completing a service line inspection or terminating a service prior to the date the next inspection is due
Summary of Financial Benefits and Costs (attach backup) NOT APPLICABLE
Project Risks and Mitigation Plan The initial business requirement gathering will provide the full scope and any modifications that may be needed to ensure the project is implemented on time and on budget.
Technical Evaluation / Analysis The initial gathering of business requirements will lead to a technical assessment and analysis that will aid in the implementation of the project.
Project Relationships (if applicable) NONE

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M			300	300	300
Regulatory Asset					
Capital (Total)		1,500			
Labor		1,000			
M&S					
Contract Svcs.					
Other					
Overheads		500			

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Substation Technology Improvements Program	
Project/Program Manager: Shaun Ramkishun	Project/Program Number (Level 1):
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2021	Estimated Date In Service: 12/31/2027
2025-2029 Funding Request (\$000) Capital: 6,500.0 O&M:	
Work Description: The Program, Substation Technology Improvements Program involves multiple projects with upgrading both software and hardware to support technology initiatives to enhance safety, operational excellence, asset health and automated data collection. The Program Involves the implementation of upgrades to the Maximo work management platform that can be summarized as four main components: •Upgrading the version of Maximo Anywhere to enable the use of Maximo on mobile devices; •Cloning and optimizing the Maximo reporting database with a data lake solution to leverage analytics which would provide a robust and easily supportable method of utilizing Maximo information by other software products; •Expansion of the use of automated work scheduling and assignment in Maximo •Replacing the Central Engineering Feeder Rating System (FRED) by creating functionality in Maximo to ensure this important program has continuous support within an enterprise system.	
Justification Summary: Maximo is the enterprise work management solution for Central Operations. The proposed upgrades will enable the use of Maximo on mobile devices, improve the reliability and maintainability of work management products that utilize Maximo data, and leverage technology to lower O&M costs by implementing automated work scheduling and assignment. This project will also ensure the Central Engineering Feeder Rating System functionality is housed and maintained in an enterprise system that will be supported in the future. This system is currently home-grown and will be migrated to an enterprise solution Cascase to have support. There will be integration to Maximo to track all assets consistently across the platforms. Implementation of these upgrades will lower overall costs, improve reliability, and promote regulatory compliance. We will also leverage ambient air ratings to assess the stability of the grid as we embark on our Climate Change clean initiatives with electrification.	
Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act Department.Substation Operations.Loss of Substation. Reduces the likelihood failure and loss of a substation.	

Department.System & Transmission Ops.Equipment Failure. Improved planning, scheduling, and work assignment tools will ensure the right corrective maintenance work is performed to prevent equipment failures.

2. Supplemental Information

Alternatives

An alternative would be to do nothing. The reason for rejecting this alternative is because the proposed work will leverage functionality in Maximo to lower business costs and reduce risk by eliminating an unsupported software product.

Risk of No Action

- The inability to leverage Maximo as a mobile solution at a time when the Company requires mobile solutions to lower costs and ensure a safe work environment;
- The high probability of the loss of key work management functionality if the current reporting database becomes unavailable as has happened numerous times in the past;
- The missed opportunity to improve the planning, scheduling, and work assignment functions by driving standardization, improving quality, and lowering costs through automation;
- The risk of not being able to support the Feeder Rating System which is critical for Central Engineering to manage equipment ratings that are calculated and reported to the NYISO to ensure system reliability.

Non-Financial Benefits

- Improved reliability due to better asset and work management software tools.
- Improved employee utilization through the auto-assign features of the automation.
- Greater use of enterprise work management systems.
- Promotion of technology through mobile computing and automation.
- Lower risk of unsupported operationally required software.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)
2. Major financial benefits
3. Basis for estimate
 - Automation of scheduling and work assignment will result in the reduction of approximately 5-10 FTE in Central Operations.
 - Implementation of mobile computing for Maximo should provide an increase in productivity and has the potential to replace Datasplce in the future thereby lowering software maintenance costs.

The estimate for this project is based on the actual costs of similar initiatives previously completed.
Project Risks and Mitigation Plan New test server for Bentley projects. PM Basis using current environment as workaround; Steam distribution environment will be available by 6/17 for Bentley projects.
Technical Evaluation / Analysis
Project Relationships (if applicable)

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital	3,705.7	2,082.6	4,665.5	2,184.7		1,000.0

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	1,500.0	2,500.0	2,500.0		
Labor					
M&S					
Contract Svcs.					
Other	1,500.0	2,500.0	2,500.0		
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

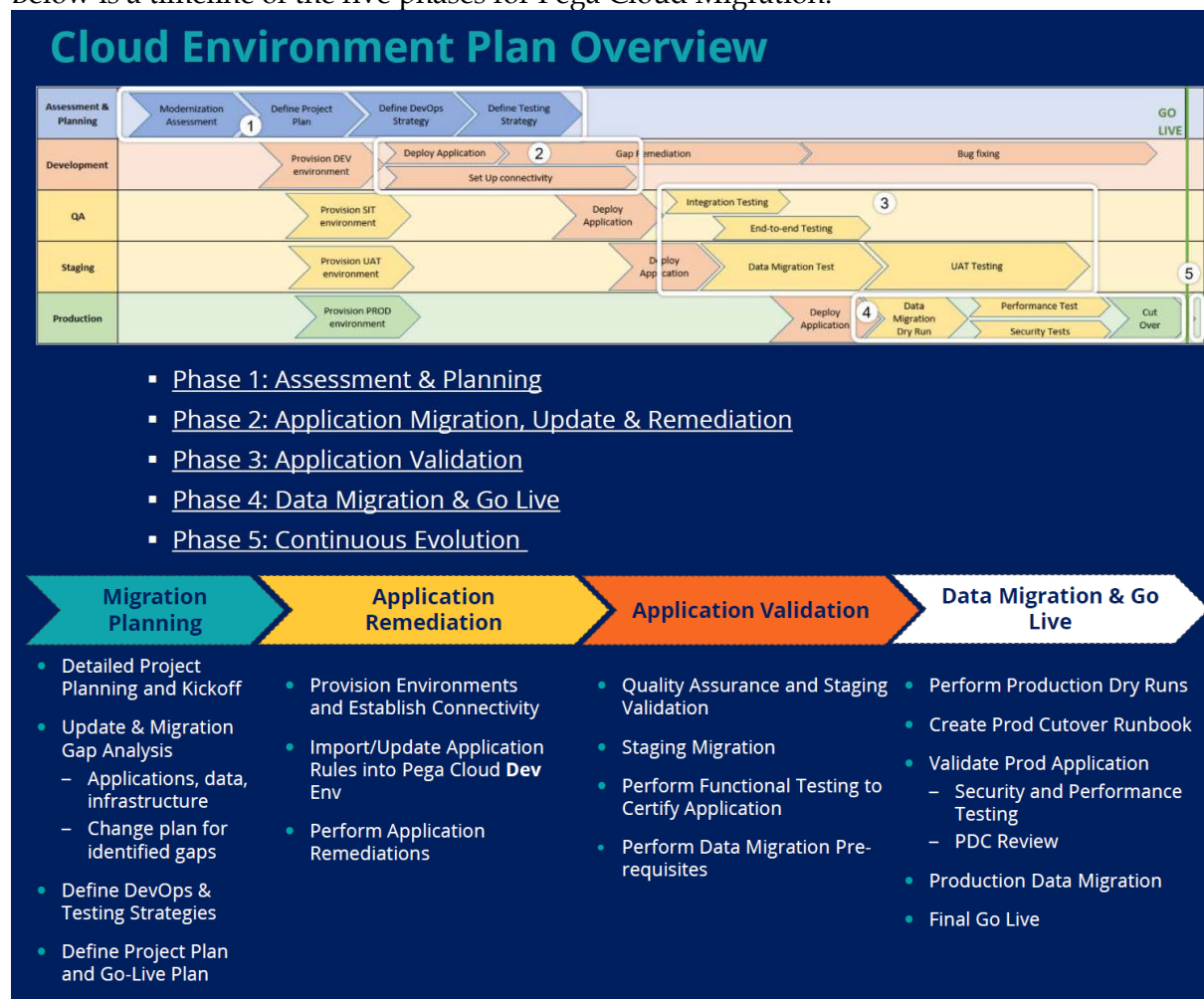
Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Tech Modernization for PEGA Applications	
Project/Program Manager: Rawal, Preeti, Hla-Htay, Cherry	Project/Program Number (Level 1): 27708280
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: Q1 2026	Estimated Date In Service: Q3 2026
2025-2029 Funding Request Capital: \$52,834 O&M: \$5,700	
Work Description: This project aims to move three key applications (CPMS, CRMS, CXS) that run on the Pega Systems platform from the on-premises Con Edison-managed platform to the cloud-based Pega Systems “Pega Cloud” platform. This migration has many benefits, as explained below. All Pega application teams will work together to make decisions and coordinate efforts for the migration/implementation approach and consider each team's needs. Con Edison's Pega Systems platform runs on physical servers that are managed by Con Ed and third parties, which means that Con Ed must pay for all the costs of keeping and managing the on-prem hardware platforms. Con Ed also must take care of the Pega software implementation and management that supports the applications that use it, such as updating the version and applying patches. Pega Systems has assisted with these maintenance tasks, but Con Edison still needs its own support staff. Other software maintenance needs related to these on-prem servers also exist and have related costs. As part of the move to Pega Cloud, we will review and validate all business requirements thoroughly. We will identify any functionality gaps, find suitable solutions, and establish standardized processes for Cloud applications, with configurations expected to address most gaps. The three systems that use the Pega platform have many customizations that are specific to Con Edison (e.g., Functional Extensions, Inbound Interfaces, Outbound Interfaces, Custom Reports, Custom Workflows) that require careful evaluation and testing to match Con Edison's business practices. Testing will cover all Pega application functions, interfaces with other Con Edison systems, and all internal and external integrations. The migration will involve moving case information and other application data from the on-prem systems built on the Pega Platform to Pega's cloud solution hosted by AWS (Amazon Web Services or Google depending on Con Edison’s choice). For the code base, a lift-and-shift of application code will be done so that code works on the new platform as it does now. All security	

hardness and other cyber penetration testing will also be done and assessed in the early and pre-Production phases.

Below is a timeline of the five phases for Pega Cloud Migration:



Assessment

The table below shows the assessment of the elements that will be migrated to Pega Cloud.

Element	Pega Cloud	Client Managed Cloud
Pega Applications	ConEd	ConEd
Pega Platform	Pega	Pega
Uptime Monitoring	Pega	ConEd
Resource Monitoring	Pega	ConEd
Infrastructure Monitoring	Pega	ConEd
Proactive Database Monitoring	Pega	ConEd
Vulnerability Scanning	Pega	ConEd
API Connects	Pega	ConEd
Scaling	Pega	ConEd
Multi Factor Authentication	Pega	ConEd
Task Management	Pega	ConEd
Resource Coordination	Pega	ConEd
Package Management	Pega	ConEd
Stack Configuration	Pega	ConEd
Performance Tuning	Pega	ConEd
Environmental Access	Pega	ConEd
Penetration Testing	Pega	ConEd
Anti Virus	Pega	ConEd
Encryption	Pega	ConEd
SSH Key Management	Pega	ConEd
Intrusion Detection & Prevention	Pega	ConEd
Firewall	Pega	ConEd
Business Continuity	Pega	ConEd
Failover	Pega	ConEd
Backup	Pega	ConEd
Auto Deployment	Pega	ConEd
Load Balancers	Pega	ConEd
Container Orchestration	Pega	ConEd
Cassandra	Pega	ConEd
Kafka	Pega	ConEd
Database	Pega	ConEd
Containers	Pega	ConEd
Operating System	Pega	ConEd
Servers	Pega	ConEd
Storage	Pega	ConEd
Networking	Pega	ConEd

Current Integrations (CPMS, CRMS, CXS)

Application Name	# of Current Integrations
CPMS	18
CRMS	18
CXS	24

*See list of integrations in Appendix

Justification Summary:

The Pega Cloud platform at Con Edison can save costs and time by reducing infrastructure and support expenses and letting the Con Edison team focus on business value instead of maintenance. Here are the details of these benefits.

Justification:

Con Edison's strategic objectives align with this transition to Pega's cloud product, which supports the company's dedication to technological innovation and efficient support systems. Additionally, it enables the production of reliable, precise, and prompt financials for internal and external stakeholders, reducing the risk of customer frustrations and complaints due to system failures. The cloud product's inherent cost and productivity savings also strengthen Con Edison's overall operational efficiency. Pega's cloud version provides a streamlined and more effective workflow process, as well as powerful DevOps capabilities, both native and seamlessly integrated with internal tools. This means less technical debt, faster innovation deployment, increased software releases/enhancements, less dependence on internal IT resources, and improved fraud and security protections as well as facilitated compliance. Security improvements, such as encryption keys only accessible to authorized security personnel at Con Edison, lead to enhanced data protection. At the same time, the cloud product's reliability, with a 99.95% uptime, ensures a consistent operational environment. Pega's current cloud user interface and development portals, demonstrated by tools like Developer Studio and App Studio, have a modern and user-friendly design. For example, the latest version of Pega incorporates ADA/accessibility features, offering a more compliant and smooth experience for end consumers. Over the next few years, Pega's cloud product is set to undergo further enhancements, giving Con Edison a sophisticated yet contemporary solution. Notable improvements include the standardization of workflow approvals in the cloud, simplifying processes compared to the on-prem Pega counterpart, which tends to add complexity and costs to system architecture and performance scaling for existing and anticipated workloads.

Cost

We want to compare the costs and benefits of implementing Pega Cloud with the current on prem server and application support that Con Edison manages. To do this, we need to quantify each of the specific capabilities and costs related to the on-prem support, and then contrast them with the equivalent capabilities and costs of the Pega Cloud implementation. With Pega Cloud, many aspects of server and application support are done by Pega in the cloud environment, so Con Ed staff would no longer need to do this work.

These infrastructure and support costs at Con Edison are only linked to the Pega platform itself, which supports the three applications that use it. Other applications that do not use the Pega platform will not see any benefits from this migration.

The existing support structure for the Pega Systems implementation at Con Ed currently includes the following components, and with each there are quantifiable costs associated.

- Support staffing, System Admins, developers, and testers.
- Operational monitoring of systems
- Server support and operations, upgrades/patching, application/middleware/database
- Hardware and network infrastructure costs
- Data center capacity
- Pega software updates and patches (included with the Pega maintenance contract)
- Security monitoring and compliance
- Audit management
- Application Downtime, current scheduled outage level is 6 hours+ every 6 weeks.

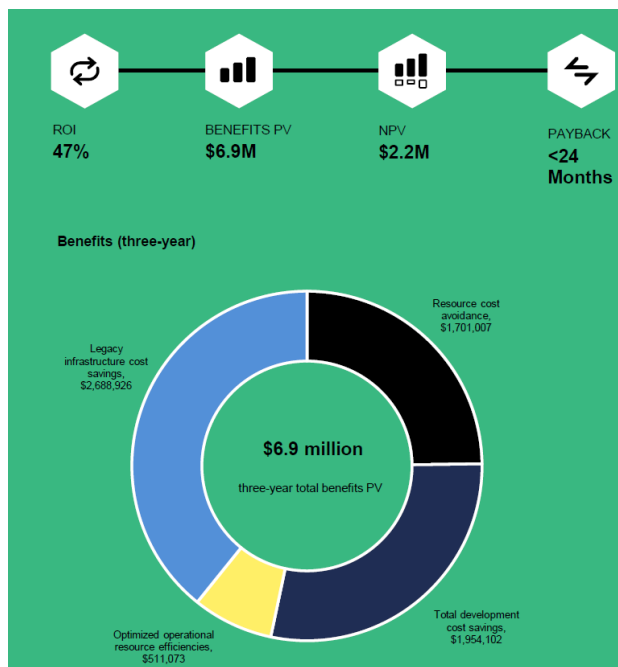
The Pega Cloud environment can provide many tangible benefits, offsetting most of the related costs noted in the above list.

- Pega's Platform as a Service (PAAS) provides all supporting infrastructure and preventative maintenance, patching and software releases for server and Pega software.
- The Con Edison Pega Cloud instance would operate as its own VPC (Virtual Private Cloud), ensuring application isolation and security.
- Infrastructure monitoring, 24/7/365, Con Ed will no longer need platform level monitoring, allowing a reduction of in-house resources.
- Client Monitoring of system health with Pega's self-service console
- TLS 1.2+, encryption in motion/at rest, security keys maintained by Con Edison (for cloud to Con Edison systems and external interfaces)
- Top tier security monitoring
- 99.95% reliability, less than 5 hours per year for planned/unplanned downtime.
- Capacity scaling on demand, scale system resources up and down as needed.
- Always the latest versions for OS and application infrastructure software
- Always the latest Pega Systems software version including advanced features such as GenAI.
- Included with the Pega Cloud platform are many compliance certifications, minimizing audit risk and associated exposure/cost.

Incorporated Cost:

- The \$58.5M investment for 2026-2029 rate case, the current contractual software costs of \$4.9M for annual maintenance and new license growth is incorporated.
- Additionally, \$1.5M of IT Tech Arch Support will be avoided during this same period, for a total of \$6M.

According to a recent study by Forrester Research, the total cost of ownership (TCO) for Pega Cloud is 50% lower than the on-premises solution over a five-year period. See stats below:



Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Migrating to a more efficient platform, such as Pega, would allow for more efficient data storage, high availability, redundancy, and compute resources including cooling, energy usage, and multi-server location. This transition would optimize the way the environment is managed, leading to significant improvements in processing efficiency and application availability. By reducing the need for extensive server presence in all related systems, while minimizing energy usage, the migration would contribute to a decrease in greenhouse gas emissions. Consequently, this shift would not only enhance operational efficiency but also have a positive impact on the environment by promoting sustainability and reducing the carbon footprint.

2. Supplemental Information

Alternatives

Instead of using Pega's cloud-based platform, as Con Edison planned, they could keep using the platform on their own premises. This means keeping a technical support team and the infrastructure for storage, networking, and servers. If Con Edison does not move to the cloud, they will face constant uptime and performance issues with their own deployment, unlike the 99.95% uptime guaranteed by Pega Systems in their contract for the cloud deployment.

With this, the uptime on-prem compared to this 99.95% for cloud deployment can benefit with

- **No Downtime During Major Events (ex: deployment, unexpected outages):** The applications would not have to be taken offline during any major production event.
- **Automatic Evolution:** The applications automatically evolve as Pega evolves.
- **Always Up to Date:** The Pega software will always be up to date.

Some of the alternatives include:

Amazon Web Services (AWS):

Pros:

- 1) **Vast Service Offerings:** AWS offers a wide range of services and features, providing flexibility in building and scaling Pega applications.
- 2) **Mature Ecosystem:** AWS has been in the market for a long time, resulting in a mature ecosystem with extensive documentation, support, and third-party integrations.
- 3) **Global Infrastructure:** With numerous data centers worldwide, AWS provides high availability and low latency for users across different geographic regions.
- 4) **Strong Security:** AWS prioritizes security and compliance, offering advanced security features and compliance certifications.
- 5) **Cost-Effective Pricing:** AWS offers various pricing models, including pay-as-you-go and reserved instances, allowing businesses to optimize costs based on usage.

Cons:

- 1) **Complexity:** The vast array of services and features can be overwhelming for newcomers, leading to a steep learning curve.

- 2) Potential for Cost Overruns: Without careful monitoring and management, costs can escalate, especially with complex architectures and high usage.
- 3) Vendor Lock-In: Deep integration with AWS services may result in vendor lock-in, making it challenging to migrate to other platforms in the future.

Microsoft Azure:

Pros:

- 1) Integration with Microsoft Ecosystem: Azure seamlessly integrates with other Microsoft products and services, such as Office 365 and Active Directory, providing a cohesive environment for businesses already using Microsoft technologies.
- 2) Hybrid Capabilities: Azure offers strong support for hybrid cloud deployments, allowing businesses to seamlessly integrate on-prem infrastructure with cloud resources.
- 3) Comprehensive AI and Machine Learning Services: Azure provides a broad range of AI and machine learning tools, enabling businesses to build intelligent Pega applications.
- 4) Strong Enterprise Focus: Azure is well-suited for enterprise-level deployments, with robust support for compliance, governance, and enterprise-grade security features.
- 5) Global Reach: Like AWS, Azure has a global presence with data centers located in various regions worldwide.

Cons:

- 1) Less Mature than AWS: While Azure has made significant strides, it may still lag AWS in terms of maturity, particularly in certain services and features.
- 2) Limited Availability Zones: Azure may have fewer availability zones compared to AWS, which could affect high availability and disaster recovery strategies for some applications.
- 3) Complex Pricing Structure: Azure's pricing structure can be complex, making it challenging to predict and manage costs effectively.

Google Cloud Platform (GCP):

Pros:

- 1) Strong Emphasis on Data Analytics and Machine Learning: GCP offers a wide range of advanced data analytics and machine learning services, enabling businesses to leverage data-driven insights in their Pega applications.
- 2) Networking Infrastructure: GCP provides a robust networking infrastructure, including a global fiber network and edge locations, ensuring low-latency connectivity for users.
- 3) Innovative Technologies: Google is known for its innovation, and GCP often leads in introducing cutting-edge technologies and services to the cloud market.
- 4) Simple Pricing Model: GCP's pricing model is relatively straightforward, with transparent pricing and discounts available for sustained usage.
- 5) Strong Container Support: GCP has strong support for containers, with Kubernetes being a first-class citizen, making it well-suited for containerized Pega applications.

Cons:

- 1) Smaller Market Share: GCP has a smaller market share compared to AWS and Azure, resulting in fewer third-party integrations and a smaller ecosystem.

- 2) Less Enterprise Focus: While GCP is gaining traction in the enterprise market, it may not offer the same level of enterprise-focused features and support as AWS and Azure.
- 3) Limited Global Presence: Although GCP has been expanding its data center footprint, it may have fewer regions and availability zones compared to AWS and Azure, potentially impacting global deployments.

On-Prem

Pros:

- 1) ConEd would have control over server upgrades.
- 2) ConEd would retain control over the technical support team and the management of on-prem infrastructure encompassing storage, networking, and servers.
- 3) ConEd would have control over the uptime and performance of the Pega platform.

Cons:

- 1) In future, PEGA may prioritize the cloud version of the application over on-prem.
- 2) Capital cost would be higher and would need to be decided proactively.
- 3) Need to plan emergencies for critical upgrades.
- 4) High maintenance cost

Risk of No Action

IT Systems Technology Obsolescence

The technology landscape in computer systems poses a challenge due to the impending obsolescence of the current on-prem solution. Pega, the software vendor, is transitioning all applications to Pega Cloud (AWS and Google). Pega's cloud operations and deployments have already established maturity in the cloud environment over the past few years.



As Pega prioritizes the development of its cloud solutions over its on-prem offerings, ConEd may end up lagging behind the latest and greatest enhancements of the product. Although the current on-prem Pega application would remain operational, it may not progress as swiftly as its cloud counterpart. Consequently, this could impede the company's ability to take advantage of advancements in the product and the significant computing capabilities provided by cloud infrastructure.

Non-Financial Benefits

Tech Modernization for Pega Applications project offers several non-financial benefits:

1. **Operational Efficiency:** The migration to the Pega Cloud platform will ensure that the applications are always up to date and evolve automatically as Pega evolves. This reduces the need for manual updates and maintenance.
2. **Improved User Experience:** The applications will not need to be taken offline during major production events, ensuring continuous availability and better user experience.
3. **Enhanced Security:** The project includes thorough security hardening and cyber penetration testing, which will enhance the overall security of the applications.
4. **Innovation and Collaboration:** The partnership with Pega aims to innovate new technologies, improve business processes, and enhance customer service. It also leverages Con Edison's industry knowledge to assist Pega in enhancing their solutions.

These benefits contribute to the overall strategic goals of the project, including boosting operational efficiency and enhancing customer experience with technology innovation.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

2. Major financial benefits

3. Basis for estimate

We examined the present state of all Pega applications. We identified the main features, and the technology used currently. Pega gave us their feedback and we used that to evaluate the usage and develop a migration plan which then resulted in migration costs.

Project Risks and Mitigation Plan

Unexpected issues may delay the timeline.	Address the unexpected problems to help maintain the project timeline.

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

This program for upgrading the Pega applications technology platform will go hand in hand with the CPMS Customer Data Self-Service and Data Governance and Compliance Modernization program. The technology advances within the Pega platform will enhance the capabilities for incorporation of AI/ML and GenAI capabilities for assisting with the chat feature future position, the ability to pivot the applications more easily for changes required for coming Clean Energy and other mandated projects, and with the improved Data Management supporting each of these initiatives.

This program will also support the Corporate Digital Customer Experience (DCX) initiative, which aims to enhance the external customer's experience by using and simplifying web technologies. It also supports the DCO initiative, which tries to lower costs while keeping a +1 Customer Experience.

3. Funding Detail

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M					<u>700</u>	<u>700</u>
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	\$700	\$1,125	\$1,225	\$1,325	\$1,325
Regulatory Asset					
Capital (Total)		\$13,233.46	\$13,233.46	\$13,183.46	\$13,183.46
Labor		\$12,883.46	\$12,883.46	\$12,833.46	\$12,833.46
M&S					
Contract Svcs.		\$350	\$350	\$350	\$350
Other					
Overheads					

Appendix

Appendix: Current Integrations (CPMS, CRMS, CXS)

App Name	Integration system	On-Prem/ Cloud	Batch/Real time	Protocol/Method
CPMS	EV	Cloud	Realtime	JSON
CPMS	ESD	Cloud	Realtime	JSON
CPMS	WMS	On-Prem	Batch & Realtime	XML
CPMS	Gas Central	On-Prem	Batch & Realtime	XML
CPMS	ProField	On-Prem	Batch	XML
CPMS	STAR	On-Prem	Realtime	XML
CPMS	MAMS	On-Prem	Batch & Realtime	JSON
CPMS	MIIG	On-Prem	Realtime	XML
CPMS	CCB	On-Prem	Batch & Realtime	JSON
CPMS	CRMS	On-Prem	Realtime	JSON
CPMS	Project Center	Cloud	Realtime	JSON
CPMS	EBS	On-Prem	Batch & Realtime	XML
CPMS	PowerClerk	Cloud	Realtime	XML
CPMS	Cufflink	On-Prem	Realtime	XML
CPMS	Spectrum (address validation)	Cloud	Realtime	JSON
CPMS	Qualtrics	Cloud	Realtime	JSON
CPMS	CARP	On Prem	Realtime/Batch	WIP
CPMS	NYCDOB	Cloud	Realtime	JSON
CXS	WMS	On-Prem	Batch & Realtime	MQ
CXS	Gas Central	On-Prem	Batch & Realtime	MQ
CXS	ProField	On-Prem	Batch	MQ
CXS	Powerclerk	Cloud	Batch & Real Time	MQ
CXS	STAR	On-Prem	Real Time	MQ
CXS	Enterprise Calendar	On-Prem	Batch & Realtime	SQL
CXS	CRMS	On-Prem	Real Time	SOAP
CXS	CCB	On-Prem	Batch & Realtime	Rest
CXS	MAMS	On-Prem	Batch & Realtime	Rest
CXS	Project Center	Cloud	Real Time	Rest
CXS	EV	Cloud	Real Time	Rest
CXS	EDAP	On-Prem	Real Time	Rest
CXS	PVL	On-Prem	Real Time	Rest
CXS	Qualtrix	On-Prem	Real Time	Rest
CXS	Bing Maps API	On-Prem	Real Time	Rest
CXS	Bing Maps	On-Prem	Real Time	http
CXS	Spectrum	On-Prem	Real Time	http
CXS	Load Aggregator	On-Prem	Real Time	http
CXS	NYC DOB	On-Prem	Real Time	http
CXS	ADEPT	On-Prem	Real Time	http
CXS	EGIS	On-Prem	Real Time	http
CXS	EBS	On-Prem	Batch	File
CXS	EBS	On-Prem	Real Time	SOAP

CXS	BizTalk	On-Prem	Batch & RealTime	SQL/File/Soap/Rest /MQ
CRMS	WMS (Work Management System)	On-Prem	Batch & Realtime	JMS Listeners
CRMS	Enterprise Calendar	On-Prem	Batch & Realtime	SQL
CRMS	CPMS (Customer Project Management System)	On-Prem	Real Time	SOAP (Simple Object Access Protocol) & REST, Through BizTalk
CRMS	CCB	On-Prem	Real Time	SQL
CRMS	Project Center	Cloud	Real Time	Rest
CRMS	Message Broadcast	Cloud	Real Time	Rest
CRMS	ORDS (Oracle RESTful Data Services)	On-Prem	Real Time	Rest
CRMS	JSSE	On-Prem	RealTime	SQL
CRMS	SHIMS Reporting	On-Prem	RealTime	SQL
CRMS	PegaDATAReporting	On-Prem	RealTime	SQL
CRMS	SmartApp eDamage	On-Prem	RealTime	SQL
CRMS	Contractor Oversight Report	On-Prem	RealTime	SQL
CRMS	Summons	On-Prem	RealTime	SQL
CRMS	Paving	On-Prem	RealTime	SQL
CRMS	Obvient File Listener	On-Prem	Real Time	File Listener
CRMS	Safety File Listeners (Audit, Focal Point, Workhours)	On-Prem	Real Time	File Listener
CRMS	Bing Maps	On-Prem	Real Time	http
CRMS	BizTalk	On-Prem	Batch & Realtime	SOAP/REST

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: The Employee Hub System Improvements	
Project/Program Manager: Shena Sealy	Project/Program Number (Level 1): 27706160
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 2/1/2026	Estimated Date In Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: 20,700 O&M: 1,235	
Work Description: This represents a three-year program consisting of several Oracle Human Capital Management (HCM) related projects providing enhancements and improvements to processes and reporting along with system performance enhancements. The enhancement work is expected to continue through 2029. Funding is requested to strengthen our access measures for non-employee users (retirees and pending workers), for testing and integration of larger scale architectural changes released by Oracle, to accommodate changes required as a result of business changes (e.g., addition of new benefit vendors), as well as to prepare for expansion of nine-digit employee numbers to additional applications. The Employee Hub (Oracle HCM Cloud) system was implemented in 2024, consolidating several disparate on-premises applications into a single Oracle Cloud platform. During the initial implementation, several enhancements were identified, and additional improvements will be necessary as Oracle introduces significant updates to the technology framework beyond standard quarterly updates. As users become more familiar with the system and data, further enhancements will be made to ensure the ongoing sustainability of Oracle HCM Cloud. This includes integrating technology and cybersecurity advancements that become available over time. The enhancement work is expected to continue through 2029. This program consists of updates to the HCM implementation as technology continues to improve and mature. Among the activities to be included in this program: 1. Implementing Oracle's Redwood User Interface (UI) Platform Changes and Future Upgrades Within 6 months of our go-live of HCM, Oracle outlined a roadmap for the transition to the Redwood UI platform, aiming to modernize and unify the user experience across all its Cloud applications. This transition is part of Oracle's broader strategy to enhance usability, performance, and integration across its product suites. Oracle plans to complete the migration of all its Cloud applications to the Redwood UI by 2026. This timeline indicates that organizations using Oracle Cloud applications will need to adopt the Redwood UI to stay compliant with Oracle's updates and support policies. Redwood UI features will be automatically rolled out to all Cloud environments over time. Organizations will not have the option to opt-out of these updates, making the transition	

inevitable. We anticipate that our initial conversion to Redwood will be complete by 2026 but must plan for equivalent Oracle technology and platform upgrades requiring retesting and redevelopment within the rate period.

Such upgrades require retesting and redevelopment due to foundational impacted components. Existing integrations with other systems and applications need to be thoroughly evaluated to ensure compatibility with the Redwood UI. This may involve updating Application Programming Interface (APIs), middleware, and other integration to align with the new framework. Con Edison specific configurations within Oracle Fusion HCM Cloud will need to be reviewed and potentially modified to work seamlessly with the Redwood UI. This includes custom fields, workflows, and user roles that may be affected by the new interface. Fast formulas used for calculations, validations, and other automated processes will need to be tested and possibly rebuilt to ensure they function correctly within the Redwood UI environment. Custom reports and dashboards will also require evaluation and potential updates. A thorough testing phase is essential to identify and address any issues arising from the transition to the Redwood UI. This includes functional testing, user acceptance testing (UAT), and performance testing to ensure all aspects of the system operate as expected. Potential Training programs will be necessary to familiarize users with the new interface and any changes in workflows or processes.

2. Improvements to The Employee Hub (Oracle HCM Cloud) External User access configuration

The current external access to Oracle HCM Cloud is overly complicated, requiring multiple steps through Palo Alto's Prisma Access Network, and involves routing external user traffic through known, whitelisted Coned IP spaces via the Coned Network, enabling Cyber Security Monitoring and Intervention. More importantly, there is an opportunity to add an additional security layer to the solution. To simplify the configuration, improve usability and user experience for external users, and improve security, the below solution is proposed:

Custom Portal or Off-the-shelf solution for External access

Develop a custom portal or implement an Off-the-shelf solution for retirees and pending worker login with multifactor authentication. The portal would facilitate retiree and pending worker personal information management and sync their data to Oracle HCM, only for data that is accessible by these user roles. Off-the-shelf Oracle integrations are available to leverage, using the Oracle Visual Builder Cloud Service (a cloud-based software development Platform). Benefits: Using a custom portal as an intermediary between the user and HCM removes direct connections. A threat actor can't exploit backend misconfigurations or security vulnerabilities to gain elevated access and data outside of these user roles is not available in the portal.

3. Enhancements to The Employee Hub (Oracle HCM Cloud) to Incorporate Changes resulting from contract negotiations and renewals

Implement all system enhancements resulting from Union contract negotiations set to take place in 2026 and 2027.

4. Enhancements to The Employee Hub resulting from onboarding new benefits providers during rate period

Execute system enhancements and implement vendor integrations prompted by onboarding of any new benefits providers throughout the rate period.

5. Employee ID and Section Number size expansion

The Employee Hub was established by creating a custom solution that generates unique five-digit Employee-IDs, ensuring integration with approximately 300 downstream systems for backward compatibility, rather than expanding to a larger seven-digit Person number as

initially designed. As the five-digit IDs need to be unique for Employees, Retirees, and dependents/beneficiaries, there's a finite limit on the number of individuals that can be added before these numbers are exhausted. Similarly, the three-digit section numbers must also be expanded before their combinations are depleted. This task will necessitate changes within HCM Cloud and any system utilizing five-digit employee IDs and three-digit sections. Originally, this change was deferred to prevent disruption in downstream applications and major systems like Oracle Customer Care and Billing (CC&B). However, it is now critical to implement these updates to avoid running out of unique Employee-IDs and section numbers.

6. **Analytics Platform Consolidation**

Consolidate the Oracle Analytics Cloud (OAC) platform for Finance, Human Resources, and Learning & Inclusion departments. This consolidation will result in: (1) a single platform and backend data repository that creates opportunities for cross-functional reports, (2) reduced administrative system overhead (fewer environments to maintain), (3) better alignment with database and middle-tier app consolidation strategy (e.g., Oracle Data Integrator (ODI)), and (4) a potential reduction in cloud costs. Achieving this goal would require a catalog merge, fixes and validations for object-level security, and new test cases and overall testing effort.

Justification Summary:

The Employee Hub (Oracle HCM Cloud) system was implemented in 2024, consolidating several disparate on-premises applications into a single Oracle Fusion Cloud platform. During the initial implementation, several enhancements were identified, and additional improvements will be necessary as 1) Oracle introduces significant updates to the technology framework beyond standard quarterly updates and 2) users become more familiar with the system and data and request further enhancements.

Within the first year since go-live, we have had two major updates to HCM- the release of Oracle Integration Cloud Generation 3 (OIC GEN3) and Redwood- that necessitate retesting and redevelopment. OIC is used for most integrations between HCM and other applications. Redwood is a new architecture and User Interface for HCM. We do not have an option not to accept these upgrades; they involve retesting all interfaces and all pages, and redevelopment of existing integrations in some cases. Oracle indicates that these types of foundational upgrades occur every few years, so we must anticipate this work to keep HCM operational.

Our current external access method is overly complicated, which leads to confusion and frustration for retirees and pending workers. This results in calls to the HR Assistance centers that are time consuming, taking the HR Assistants away from other value-added tasks. Also, the current, standard architecture grants access for these populations into the same environment used by employees. While this is fully supported and access within the application is fully controlled by restrictive user roles, the company wants to take the additional measure of removing that access entirely and building a custom portal for non-employees, which further reduces the risk that a threat actor could potentially exploit misconfigurations or CVEs (publicly disclosed cybersecurity vulnerabilities) in an attempt to gain access.

Additionally, we must be able to accommodate changes related to operational needs, for example the onboarding of new benefit vendors may require new integrations, and changes resulting from union contract negotiations will need to be incorporated into the system.

This program consists of updates to the HCM implementation as technology continues to improve and mature. As cybersecurity advancements become available, we want to incorporate those updates into

the HCM environment. This includes integrating technology and cybersecurity advancements that become available over time. The enhancement work is expected to continue through 2029.

O&M includes cost to onboard additional IT resources to support The Employee Hub.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Greenhouse Gas Emissions – no impact

Disadvantaged Communities – no impact.

Clean Energy, Sustainability, and Climate Resilience – no impact

Company Risk mitigation - The implementation will mitigate the risks listed below

Risk 1 Name: **Cybersecurity (Access to critical /PII data)**

Risk 2 Name: **Privacy & Data Use (Access to critical /PII data)**

Risk 3 Name: **Failure of Critical Business System (Unavailability of system critical to business operation)**

Risk 4 Name: **Develop, Attract and Retain Talent**

Enabling additional security and functionality will allow us to better support the employees and retirees and foster continuous improvement of HR and Learning &Inclusion (L&I) business processes. Implementing the Redwood UI changes is not just a visual upgrade but a strategic move to enhance user experience, increase productivity, and future-proof the system.

The sustainability program will enable the most current cyber and platform technology to reduce cyber risk to PII data, reduce compliance risk and continue to strengthen the system.

A modern, user-friendly interface can be a significant factor in attracting and retaining top talent.

Redwood UI incorporates new tech stack for faster UI pages and enhanced extensibility capabilities.

Oracle is adding newer technology like generative AI, for which Redwood UI is a pre-requisite.

Adding Generative AI would give every worker access to programs that can function as personal assistants and help them complete repetitive tasks, brainstorm, and simplify routine daily activities

2. Supplemental Information

Alternatives

Briefly describe reasonable alternatives and reason for rejection (e.g., costs, timing, etc.). At least one is required.

Do Nothing

Risk of No Action

Risk 1:

If updates are not performed, Oracle may not support the environment, putting the application at risk. The migration process is being implemented through Oracle's Mandatory Quarterly Updates. This means that the Redwood UI features will be automatically rolled out to all Cloud environments over

time. Organizations will not have the option to opt-out of these updates, making the transition inevitable and impacting the application usability or integrations.

Risk 2:

Regarding the employee ID expansion, there is a finite number of individuals which can be assigned unique five-digit numbers which will be exhausted if we do not take any action.

Risk 3

The current Oracle HCM Cloud external user access will continue to provide a highly complex user experience. This complexity may discourage applicants and retirees from using the application and might cause the company to lose talent. After authentication, the current solution establishes a direct connection between a user and HCM. A threat actor could potentially exploit misconfigurations or CVEs (publicly disclosed cybersecurity vulnerabilities) in an attempt to gain access.

Non-Financial Benefits

Implementing the HCM enhancements will provide for better HR processes and L&I reporting and analysis and maintain a strong and secure environment.

Consolidation of the Oracle Analytics Cloud (OAC) Business Intelligence (BI) Environments for Finance & HR, will increase efficiency by using a shared platform (instead of maintaining separate platforms) and there would be potential business benefits of having the same data accessible to both HCM and BI within the unified platform allowing new reports to become possible.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

Not Applicable

2. Major financial benefits

None

3. Basis for estimate

Used percentage of implementation cost

Project Risks and Mitigation Plan

Evaluate and describe any risks that might extend the project timeline, prevent completion, or lead to cost overruns. Explain plan to minimize these risks.

Risk 1: Resource availability

Mitigation plan: Provide clear project timeline and work to keep on schedule.

Technical Evaluation / Analysis

Describe any specific studies or analysis related to the project such as: trend analysis, internal/external studies, social studies, and related KPI's (e.g. System Average Interruption Frequency Index (SAIFI) or Customer Average Interruption Duration Index (CAIDI)). Load forecasts, failure trends, etc., may also be presented in this section. However, these analyses are not available for all projects or programs.

N/A

Project Relationships (if applicable)

Explain whether this project/program will impact other projects/programs. Some projects must be done together due to outages, or one project may depend on another (e.g. Mohansic/Buchanan projects or movement of distribution work due to Substation service date change).

N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		243.0	496.0	496.0	
Regulatory Asset					
Capital (Total)		6,000.0	8,000.0	6,700	
Labor		1,406.0	1,046.0	1462.0	
M&S					
Contract Svcs.		3,552.0	5,336.0	4,106.0	
Other		315.0	473.0	364.0	
Overheads		725.0	785.0	768.0	

Energy Management / Retail Services 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Transmission Owners Data Reporting System (TODRS) Market Demand Enhancements	
Project/Program Manager: Nelson Eng	Project/Program Number (Level 1): 27696116
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/2/2026	Estimated Date In Service: 12/30/2028
2026-2029 Funding Request (\$000) Capital: \$2,745 O&M: \$366	
Work Description: The Transmission Owner Data Reporting System (TODRS) liaises between electric wholesale and retail markets, reconciling small retail meters with market settlements at the New York Independent System Operator (NYISO) and PJM. Because the wholesale markets (i.e., NYISO and PJM), and CECONY and ORU retail programs change continuously, these changes trigger modifications on the existing code, requires building of new SQL code, and the addition of new interfaces with billing and customer information systems around the company and external ISOs. With the increasing frequency of market changes, TODRS has made changes, in the past few years, addressing: - NYISO ICAP Market Changes - Before 2022, annual ICAP process used to follow single peak date. Post 2022, TODRS has capability to calculate ICAP based on multiple peak dates (max 5) - Functionality to obtain hourly interval data in meter ID level from EDAP - Implementation of a new business rule to get Zone and Substation information based on network, feeder, and account's borough from Customer Care and Billing System (CC&B). This project will address anticipated market changes, regulatory policies, and system needs requiring enhancements to TODRS, for CECONY and ORU. The scope of work for this project includes: - Data reconciliation functionality to comply with FERC 2222, NYISO and PSC regulations. - Enhancing interface with EDAP to retrieve meter level data (Meter data hub), new fields of data (e.g., CC&B account ID). For example, if multiple meters exist for an account, this functionality will enable the collection and processing of that scenario. This functionality is mainly geared towards Traction and Streetlight accounts. It may also assist with the accuracy of other account level details. - Resourcing the Con Edison Enterprise Data and Analytics team to build an interface to Data Distribution Hub (DDH), which would enable TODRS to spot-fill null account usage reads with aggregated estimates and request hourly data, to improve the energy reconciliation process. The development of this interface will entail creating application jobs for both TODRS and DDH that enable file transfers containing account-level information on hourly electric interval reads. This will not replace the integration with EDAP.	

- Automate the monthly PJM Financial Reports to internal backend systems
- Add functionality to enable editability of the Transmission Owner Load (TOL) data that is currently automatically submitted to the NYISO
- Implement required modifications to TODRS Application Programming Interface (API) with NYISO necessary for evolving NYISO Settlements Data Exchange (SDX) process. TODRS will use the newly required API from NYISO, as the existing API will be retired (SDX).

Justification Summary:

As the NYISO, PJM, and NYISERDA reporting requirements change to accommodate the clean energy future, it is essential to enhance the system to continue to report accurate consumption data that reflects the evolving electric market. The enhancements would also comply with the regulatory requirements of FERC 2222.

Additionally, the company will not be able to manage these changes without hiring additional employees and increasing other resources to manually comply with new requirements. Without the foregoing TODRS upgrades, the Company will be required to make daily ad-hoc manual changes to keep up with the evolving markets. As such, the company would need to hire additional employees to compile and manually manage customer consumption data and input into TODRS.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This software reports large amounts of energy data in the wholesale market monthly to the NYISO and PJM. Therefore, continuous improvement reduces exposure to the following risks:

- **Inaccurate Record Keeping and Counterparty Data**
 - Because TODRS reports involve a large amount of monthly energy data and data from more than 150 ESCOs, the risk of misreporting is high if small errors are made. For example, in 2018, a small code error resulted in an \$8 million overcharge to some ESCOs. At the wholesale level these types of issues can only be resolved with FERC approval after the NYISO/PJM market settles; a process that will take several months. The financial cost of the amounts not settled is paid by customers until the issue is resolved. As a result, the Retail Services team has committed to investing in continuous enhancements to TODRS, in order to prevent reoccurrence of such an error.
 - Future Retail Choice application, currently known as Retail Access Information Systems (RAIS), will be migrating into CC&B. TODRS will modify its architecture and functionality to streamline the transition, mitigating potential operational disruptions
- **Compliance (Federal and State orders and market changes)**
 - Implementing the aforementioned proposed enhancements will enable the company to address the market changes in TODRS architecture and capabilities. It will help maintain the current levels of reliability on the calculations and will avoid adding FTEs to the group to perform such calculations manually for the evolving markets.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

The alternative would be to delay the necessary enhancements and to hire additional FTEs to manually adjust data and perform only essential activities to continue to support evolving regulatory reporting requirements.

Risk of No Action

Risk 1

The risk of no action is that manual processes will be required to extract and modify data from systems (e.g., EDAP and DDH) that have been changed and/or modified, to accommodate market participants' requests, and to continue support evolving regulatory reporting requirements. The manual processes will be labor intensive, requiring the need for three more full-time employees, and manual processes increase the risk of errors.

Non-Financial Benefits

The non-financial benefits of this project are to assist the company in meeting evolving regulatory reporting requirements with FERC 2222, NYISO and the PSC address market changes to improve market transparency and accuracy with Retail Access participants/ESCOs and other market participants, and to continuously improve forecasting performance.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

2. Major financial benefits

The benefits of this project are in keeping up with ESCOs and market participants' requests for information and new market demand and opportunities, due to market developments and new regulatory requirements.

3. Basis for estimate

The estimate was prepared in partnership with IT, discussions with the company that helped develop TODRS, and benchmarking against historical costs for TODRS enhancements.

Project Risks and Mitigation Plan

The risk of going over-budget and project delays will be mitigated by utilizing Energy Management's project management operating model including governance meetings and leveraging tools to monitor and proactively mitigate project risk.

Technical Evaluation / Analysis

In the initial development of the TODRS application in 2014,, an outside consultant developed the technical requirements and work scope associated with TODRS. This system was designed for future expandability to enable market participant web user interface, as well as to support the REV developments and AMI implementations. Subsequent application development include enabling ESCO customer logging into the TODRS through RAIS, optimizing EDAP data retrieval, and enhancing functionality to include reconciliation of retail meters at the feeder level. The enhancements ensured regulatory compliance, the meeting of evolving market changes, and the optimization of processes.

Project Relationships (if applicable)

This project is closely related to AMI project, MetrixIDR, and Metering Authority. It collects billing information from all billing systems in the Company, including street lighting and CC&B.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital				<u>\$399</u>		<u>\$411</u>

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		<u>85</u>	<u>90</u>	<u>94</u>	<u>99</u>
Regulatory Asset					
Capital (Total)		<u>1,040</u>	<u>848</u>	<u>857</u>	
Labor		<u>187</u>	<u>152</u>	<u>151</u>	
M&S					
Contract Svcs.		<u>759</u>	<u>621</u>	<u>631</u>	
Other					
Overheads		<u>94</u>	<u>75</u>	<u>75</u>	

Gas Operations / Transmission Integrity Management 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Transmission Pipeline Integrity Information Management System (PIIMS) Replacement	
Project/Program Manager: Molly Cifelli	Project/Program Number (Level 1): 27708328
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date In Service: 6/1/2027
2025-2029 Funding Request (\$000) Capital: \$1,000 O&M: \$25	
Work Description: The project aims to replace the aging PIIMS model currently utilized by Transmission Integrity Management (TIMP), which operates out of the DNV Uptime software. The Uptime program has reached its end of life. After December 2024, it will no longer receive updates or patch support. The primary goal is to seamlessly transition from the legacy PIIMS system to a new, robust software solution. This will require bringing a vendor on board to perform the transition of the gas transmission data currently housed in PIIMS from an ArcGIS Pipeline Data Model (APDM) data model to a Utility and Pipeline Data Model (UPDM). This data transition will allow the data to be managed and updated in ArcPro Software, which has data management tools that parallel the PIIMS system. This transition ensures continuity in managing transmission assets while adhering to federal code requirements. The upgraded software will integrate seamlessly with several critical components: 1) TIMP Risk Model: Enhancing risk assessment and mitigation strategies. 2) Work Management Software: Streamlining operational workflows. 3) Mapping Solutions by CECONY: Providing accurate geospatial data for efficient asset management. Under federal regulations, the Company must maintain up-to-date records and historical data related to transmission assets. The new software will leverage the enterprise eGIS solution and improve efficiency on the transmission records filing process.	
Justification Summary: The current PIIMS system has reached the end of product life. The vendor no longer provides updates or patches. To maintain operational efficiency and reliability, we must transition to a more robust and sustainable updated system solution. Under Public Law 107-355, known as "The Pipeline Safety Improvement Act of 2002," specific requirements govern transmission pipelines within High Consequence Areas (HCAs). The final rule,	

effective since February 14, 2004, mandates operational oversight and management standards. Our upgraded data model managed in ArcPro software should ensure compliance by maintaining essential information related to the Con Edison gas transmission network.

Key functionalities include:

- 1) Transmission System Mapping: Accurate visualization and record keeping of our pipeline network.
- 2) Inspection & Test Records: Tracking various tests and inspections.
- 3) Enhanced Cybersecurity: Being an aging system, it may have vulnerabilities that expose us to cyber risks.

In summary, this upgrade not only addresses the imminent retirement of the current PIIMS software but also aligns with regulatory guidelines and enhances our ability to manage and safeguard our gas transmission assets effectively while mitigating cybersecurity risks.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The new transmission integrity solution will allow for filing and organization of transmission integrity documents to be used in the gas transmission risk model. This regulatory-required risk model will allow Gas Engineering to risk rank gas transmission assets to influence replacement and mitigation activities and budgets.

2. Supplemental Information

Alternatives

One alternative is to take no action in replacing PIIMS. This would eliminate the company's data system that is used to file mandatory regulatory reports such as the PHMSA F 7100.2-1 report.

Risk of No Action

Risk 1

Failure to establish a transmission mapping system would result in non-compliance with the requirement to file the PHMSA F 7100.2-1 report.

Risk 2

The 'no action' alternative would necessitate the continued use of the existing Uptime software. However, it is crucial to recognize that the vendor will discontinue updates and patch support for Uptime software after December 2024.

Risk 3

Maintaining an antiquated, unsupported software solution leaves our organization vulnerable to critical cybersecurity threats.

Non-Financial Benefits

Integrity Management can streamline and optimize various processes.

The new system will be designed to align with federal regulations and industry standards. It provides built-in compliance checks, ensuring that our operations adhere to legal requirements. By maintaining accurate records and automating compliance-related tasks, we reduce the risk of penalties and operational disruptions.

The new system should seamlessly connect with other software and databases within our ecosystem enhancing overall organizational effectiveness. This will allow for a quicker turn around on regulatory reporting and ad-hoc requests.

Summary of Financial Benefits and Costs (attach backup)

An updated solution will provide more efficient integration with the Company's Gas Transmission Risk Model, enhancing the ability to assess risk. By prioritizing risk, there is an opportunity to replace assets before they fail resulting in avoided O&M and potential liability costs.

Project Risks and Mitigation Plan

Risk	Mitigation Plan
The vendor will discontinue support for Uptime software after December 2024.	Integrity Management has discussed with the vendor to get an extension on the support contract. This will allow for some additional time to plan and coordinate the transition.

Technical Evaluation / Analysis

Upgrading PIIMS is essential for several reasons. By focusing on the infrastructure of the mapping layers, we can seamlessly integrate the new software with our existing mapping systems. This integration streamlines workflows, enhances data accuracy, and facilitates decision-making. Additionally, upgrading removes outdated technology, improves security, introduces new functionalities, and ensures compliance with regulatory rules.

Project Relationships (if applicable)

This project will entail integrating with the recently established TIMP risk model, work management system (Gas Central), and mapping systems (eGIS).

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M			\$25	\$25	
Regulatory Asset					
Capital (Total)		\$500	\$500		
Labor					
M&S					

Contract Svcs.					
Other					
Overheads					

Energy Management / Retail Services 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Transportation Customer Information System (TCIS) Reporting and Infrastructure Enhancements	
Project/Program Manager: Nelson Eng	Project/Program Number (Level 1): 27696113
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/2/2026	Estimated Date In Service: 6/30/2028
2025-2029 Funding Request (\$000) Capital: \$4,317 O&M: \$646	
Work Description: The Transportation Customer Information System (TCIS) is software used by Energy Service Companies (ESCOs) to communicate gas operational information with Con Edison. TCIS-NG has many functions, including the ability to communicate gas scheduling information, control access security, generate reports, post messages to the internet, store rates, create invoices and vouchers, and track enrollments/de-enrollments. The goal of this project aims to improve the user experience of both internal and external gas market participants (i.e. ESCOs) through incremental enhancements to the Reports/Billing module, creating an analytics dashboard, enhancing underlying infrastructure to align with enterprise requirements and leveraging the new technical capabilities brought about by the Retail Access System Replacement, to further develop application's offerings. The scope of this project includes: - Enhance user interface by creating a net new dashboard with interface to AMI/EDAP (Meter data hub) - Net new report called Interruptible Customer Report - Modify existing Reports/Billing module functionality to include additional capabilities to meet new regulatory requirements - Migrate remaining Retail Services functionality from Retail Choice Information System (RCIS) to TCIS-NG - Upgrade infrastructure to meet cyber and corporate requirements/standards (e.g., technical upgrade from API technology to APIM to implement more reliable user access security measures) - Incorporate interfaces and new functionality into TCIS-NG (e.g., reports, conversions and extensions) made possible by RAIS Modernization. The scope of this project is a separate effort from the work to be completed in the RAIS Modernization initiative.	

This effort will be delivered by outsourced technical experts including, but not limited to, software developers, solutions engineers, and testers, under the guidance of internal IT Build System Managers and Analysts. This effort is comprised of the two following, high-level milestones:

- Delivery of the functional and user-facing enhancements; including the AMI/EDAP dashboard, Interruptible Customer Report, existing report modifications, and migration of RCIS functionality
- Infrastructure upgrades and newly available interfaces, including the transition to APIM and implementation of connections to new data sources made available by the RAIS Modernization initiative.

Justification Summary:

This project aims to refine the TCIS-NG application's data reporting accuracy and enables gas consumption transparency for gas ESCOs. The project would impact the reported consumption usage of transportation customers, which comprises approximately 50% of all gas customer load. The use of AMI information allows for a more granular view of data, which allows the Company to improve the accuracy of the reports provided to ESCOs, to facilitate ESCO analytics. This would result in more accurate delivery amounts by ESCOs on behalf of their customers and reduce the number of cashouts. Cashouts are a monthly gas reconciliation mechanism that provides for adjustments due to differences between delivered quantities and actual gas consumption by Natural Gas Supplier Customers. Cashouts have the potential to impact all gas customers due to price differentials. In 2024, these imbalances averaged to approximately \$400K in monthly deficits, an amount Con Edison had to spend on the commodity on behalf of the marketer.

AMI data will allow the company to provide the ESCOs with daily consumption information, improving their ability to more accurately meet the demands of their gas customers. The largest variations in supply compared to demand exist in the shoulder months where city gate allocations are the lowest. Providing more accurate consumption data, especially during the shoulder months, would decrease the amounts to the city gates, decrease the true up at the end of the month, and decrease the imbalance on the system. The financial implications vary by season and market conditions. However, the program's goal is to decrease the cashout because it causes a difference between the cost spent to provide the gas and the revenue the company receives for the gas. This would negatively impact the Company and Marketers, due to inaccurate cashflow that can potentially increase month to month credit rating from operational debt.

Additionally, this project would enhance TCIS-NG to enable the Retail Services team to better serve ESCOs and their customers through enhanced reporting capabilities, regulatory compliance, improved usability for internal employees and capitalizing on access to newly available data sources. These enhancements empower Retail Services employees, strengthen the company's relationships with ESCOs, and ensure that the system continues to be up to standard to comply with the regulatory bodies governing the gas portfolio.

To bolster cybersecurity, it is recommended to advance our API technology by transitioning to an API Management (APIM) platform. APIM provides a gateway for API access, which simplifies the process for IT system support groups to manage Representational State Transfer Application Programming Interface (REST API) endpoints, which is technology that establishes interconnectivity between TCIS-NG and other systems it needs to communicate and share data with. It also enhances security and improves operational efficiency by requiring subscription keys to be issued by the APIM team to further control access to endpoints and enabling support of mainframe migration to distributed server environments.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Continuous improvement reduces exposure to the following risks:

- **Inaccurate Record Keeping and Counterparty Data**
 - TCIS-NG provides the capability for the company to generate invoices for gas ESCOs. This requires ongoing monitoring to ensure that invoicing is accurately aligned with gas consumption data. Given the populous pool of gas customers, there are occasional anomalies in invoicing that require correction once discovered. The reporting enhancements and new interface to EDAP would allow access to real-time AMI data that can be queried in comprehensive views, resulting in more proactive resolution of these anomalies before there are financial impacts.
- **Compliance (Federal and State orders and market changes)**
 - Implementing the proposed enhancements will permit the Company to address anomalies found in invoicing, by improving the processing duration of invoicing by weeks. It will also help improve the current accuracy level of reported gas consumption, by leveraging real-time AMI data, consequently allowing the Company to provide service that meets the reliability standards of the PSC.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

The alternative would be to continue existing processes without incorporating AMI data into the reporting process. However, this is not recommended as the PSC and ESCOs have suggested changes.

Risk of No Action

Risk 1

Legacy data streams that occasionally produce inaccurate or incomplete data will still serve as the primary backbone for analysis that directly impacts reporting of gas consumption. Access to real-time AMI data reduces this risk and its downstream impacts.

Risk 2

The company's cyber requirements continue to evolve as technology advances and risk exposure increases. If this system's infrastructure is not enhanced to meet the demands of the evolving cyber environment, it can be left prone to security vulnerabilities, unaddressed failure points, and unplanned system outages.

Risk 3

The company has been asked by DPS Staff to utilize AMI data in its forecasting methodology. If this is not addressed in a timely manner, then this may result in poor relationships with our regulators, customers, and other key stakeholders.

Non-Financial Benefits

This project can improve the experience and satisfaction of ESCOs who routinely ask questions about the existing consumption data. Lastly, this could keep customer costs as close to actual spend as possible by reducing the volume of ESCO cashouts.

The reporting enhancements also improve efficiency and assist with ensuring regulatory compliance, as more meaningful data can be queried and analyzed to allow for a more proactive approach to eliminating inaccuracy in invoicing and forecasting.
Summary of Financial Benefits and Costs (attach backup) 2. Major financial benefits 3. Basis for estimate The cost estimate is based on historical expenditures of several contracted software developers and discussions with a contracted business analyst and company employees.
Project Risks and Mitigation Plan To mitigate the potential of project overruns in time and costs, the project team will catalog the deliverables into the Azure work management system and track deliverables to meet deadlines and proactively drive remedial action, as necessary.
Technical Evaluation / Analysis An analysis was conducted on estimated usage vs consumption during the shoulder months of October and April using the monthly data for forecast. The data indicates there is a differential in the estimated usage during the periods of constrained city gate allocations and has opportunities to improve.
Project Relationships (if applicable)

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital			<u>540</u>	<u>450</u>		<u>1,527</u>

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M			<u>205</u>	<u>215</u>	<u>226</u>
Regulatory Asset					
Capital (Total)		<u>1,675</u>	<u>1,834</u>	<u>808</u>	
Labor		<u>355</u>	<u>323</u>	<u>139</u>	
M&S					

Contract Svcs.		<u>1,142</u>	<u>1,349</u>	<u>599</u>	
Other					
Overheads		<u>178</u>	<u>162</u>	<u>70</u>	

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Wiring Access Raceway System (WARS)	
Project/Program Manager: Donal Fortune	Project/Program Number (Level 1):
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 3/01/2026	Estimated Date In Service: 8/31/2026
2025-2029 Funding Request (\$000) Capital: 440 O&M:	
Work Description: The objective of this project is to replace WARS with AutoCAD Electrical. WARS is a custom solution developed over 30 years ago to meet some of Central Engineering's specific engineering needs. WARS allows the end-user to engineer plant configuration by identifying all major infrastructure components such as conduits, cables, equipment, and connection data points. Once a configuration is developed, WARS can generate the reports necessary to provide the construction technician with the appropriate documentation required for construction. WARS is organized by location and project and provides existing conditions information for locations as a starting point for future design. WARS is also utilized to develop the various material lists required for procurement. These reports are driven by the design model and facilitate procurement works. Today, there is no automated integration between these documents and procurement. WARS also provides the necessary reports to develop the equipment nameplates that are used for tagging equipment during construction. AutoCAD Electrical will be primarily utilized to identify all major infrastructure components like conduits, cables, equipment, and connection data points. However, functions such as generation of material lists and the development of equipment nameplates will be picked by a separate system. Details about the project will be fleshed out once a scope of work is finalized. Ideally, we would like to put AutoCAD Electrical in service by August 2026.	
Justification Summary: WARS was developed over 30 years ago and is based on Array Processing Language (APL). Unfortunately, APL is considered a legacy programming language and has limited support or scalability capabilities. WARS is supported by a small private consulting firm whose owner/developer had expressed the desire to retire and stop supporting the system. Future support will become more difficult as there are few developers with APL knowledge and experience on the market today. Additionally, WARS legacy architecture also makes it difficult to integrate with modern software or application platforms.	

Furthermore, WARS relies heavily on manual input from its administrators who must leverage existing information as a starting point for future designs and to keep the system operational.

While WARS provides adequate plant engineering functionalities, its primary limitations lie in the architecture of its legacy information and future viability.

WARS is a custom solution developed for Central Engineering to meet specific requirements. Therefore, it's virtually impossible to find an out-of-the-box solution to replace it entirely. AutoCAD Electrical was identified as a potential replacement for WARS because it offers the main capabilities currently available in WARS, but not all. For instance, functions such as the generation of material lists for procurement, as well as reports for equipment nameplate tags will be performed by another system. Be that as it may, AutoCAD Electrical can easily be included in one of our existing Autodesk software collections, which will make it easier to package and deploy to the users, however, new licenses will need to be procured.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

N/A

2. Supplemental Information

Alternatives

An alternative is to keep the system as-is and run the risk of not being able to support or make changes to it in the future, which would prevent the engineers and designers from supporting operations adequately. Another alternative is to develop a replacement application from the ground up in a programming language that is current and future-proof. Such an attempt was made in the past but was unsuccessful. Additionally, developing a custom solution to replace WARS would cost far more than implementing AutoCAD Electrical.

Risk of No Action

The original developer of WARS has made it clear he's retired and no longer wants to assume the responsibility of supporting the system. We run the risk of not being able to engineer plant configuration and generate material lists and equipment nameplates to support daily operations.

Non-Financial Benefits

N/A

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

Implementing AutoCAD Electrical as a replacement for WARS is a far more economical option than developing a like-kind replacement from the ground up, which is estimated at around one million dollars.

3. Basis for estimate N/A
Project Risks and Mitigation Plan N/A
Technical Evaluation / Analysis N/A
Project Relationships (if applicable) N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)		\$440	\$0.0	\$0.0	\$0.0
Labor		\$300	\$0.0	\$0.0	\$0.0
M&S		\$0.0	\$0.0	\$0.0	\$0.0
Contract Svcs.		\$0.0	\$0.0	\$0.0	\$0.0
Other		\$100	\$0.0	\$0.0	\$0.0
Overheads		\$40	\$0.0	\$0.0	\$0.0

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2026-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: WMS Exadata Hardware Upgrade To Avoid Tech Debt	
Project/Program Manager: Frank Racaniello	Project/Program Number (Level 1): 27697968
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date:	Estimated Date In Service: 7/2027
2025-2029 Funding Request (\$000) Capital: 11,150 O&M: 0	
Work Description: Oracle Exadata is a specialized appliance designed to deliver optimized performance, high availability, and security for Oracle databases. This engineered appliance is tailored specifically for running Oracle databases. In 2017, IT acquired and installed Oracle Exadata hardware to support the WMS Electric and Gas ARM Oracle databases. This setup provides a high availability solution for the Electric and Gas Work Management systems, which minimizes or eliminates the downtime required for patching and upgrades. Since database downtime equates to application downtime, the Oracle databases on Exadata were implemented to ensure an uptime of 24 hours, 7 days a week (24/7) for the work management system used by the Gas Emergency Response Center (GERC), allowing patches and upgrades to be performed without causing outages. Oracle has notified us that our current hardware is nearing its end-of-support life, which is set at five years after the last production model was shipped (2019/2020). While Oracle will continue to support our hardware for at least the next five years, there are several significant risks such as the lack of guaranteed immediate availability of replacement parts and decreased performance, and limited scalability. This project aims to replace the three existing WMS Exadata racks (development/test, production, and disaster recovery) with the latest Oracle Exadata hardware and backup solution. Additionally, it involves upgrading the standard Oracle 19c hardware (generic Linux machines) for Maximo applications used by Central Operations, Facilities Management, Construction Management, and Steam to Exadata. This effort will standardize the hardware used for DBMS across the work management application portfolio. A high-level project outline will include the following activities: • Analysis: Review current hardware capacities and data size to ensure the new environment provides optimal performance and supports conservative growth in system data. • Installation: Procure hardware, install, and configure equipment within our data centers	

- **Build:** Migrate existing data, configure environment tools to administratively manage and monitor the data and hardware performance.
- **Testing:** Both technical and business teams will perform a series of tests to ensure accessibility, performance, and reliability.
A disaster recovery test will be performed prior to production implementation.
- **Implementation:** Migrate and configure production data and systems to the new hardware.

Using a waterfall project management approach, these activities will be repeated for each environment (development, test, production) supporting each commodity (Gas, Electric, Steam) and business unit (Central Operations, Facilities Management, Construction Management). The work is planned to be completed in 12-18 months, beginning in 2026.

The staffing plan includes three categories of resources:

- **Hardware Integrator** -- resources from Oracle who specializes in the installation, configuration, and troubleshooting of Exadata hardware systems.
- **Information Technology** -- resources from the ConEd IT department such as Database Administrators and Infrastructure Technology team members.
- **Business Unit** -- resources from ConEd business units for environment testing and data verification.

Justification Summary:

The current Exadata hardware supporting databases for WMS applications in Electric Operations and Gas Central (including GERC) is nearing its end of support life. Once hardware reaches this stage, Oracle will no longer provide maintenance services, updates, or support. The industry standard for support life is five years from the production model release, which for our Exadata hardware was in 2019/2020. Continuing to use hardware past its end of support life introduces several significant risks:

- **Security:** The hardware becomes vulnerable to security threats due to the lack of maintenance services, such as patching and updates.
- **Performance Decline:** Older hardware is prone to failures and often shows decreased efficiency. Failures can disrupt business operations due to delayed delivery times for replacements, while efficiency declines reduce productivity and slow operations.
- **Increased Costs:** Outdated hardware is not readily available on the market, making it difficult and expensive to locate and procure replacement equipment from reliable sources.
- **Scalability Issues:** Outdated hardware does not adequately support newer technologies, such as cloud technologies and increased workloads.

Upgrading the Exadata hardware before it reaches its end of support life will help mitigate these risks and reduce potential security threats. Additionally, as technology advances and becomes more mainstream, parts of the infrastructure may be transitioned to the cloud.

Broadening the use of Exadata for Maximo applications within the work management portfolio enables the company to achieve the following improvements:

- **Standardization:** Standardizing on Oracle Exadata across the work management portfolio ensures consistency and simplifies management.

- **High Availability:** Taking advantage of the high availability setup for other workstreams using Maximo EAM software, ensuring minimal downtime and continuous operations.
- **Streamlined Coordination:** Streamlined coordination of patches and upgrades across the entire portfolio, reducing the complexity and risk of errors.
- **Enhanced Performance:** Leveraging Exadata's optimized performance capabilities to improve the efficiency and responsiveness of the work management systems.

Safety of Our Employees and Our Customers

The Work Management Systems for Gas and Electric are implemented on Oracle Exadata hardware. The GERC is required to respond to a gas leak within 30 minutes. A delayed response to a gas emergency will potentially expose the public and our crews to hazardous conditions. The Oracle Exadata hardware has proven to be a reliable and highly available solution to host the databases. This allows the applications to perform at the levels required by the business units.

System Performance and Reliability

Both Electric Operations and Gas Central use the ARM suite of software supported by the hardware to schedule and record inspections and maintenance on critical infrastructure. As with the safety item above, the Oracle Exadata hardware has provided a highly responsive, highly available database solution to support the needed level of performance of the Electric and Gas WMS systems.

Cost Avoidance

None

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

2. Supplemental Information

Alternatives

Alternative 1 – Migrate to a cloud based solution

An alternative is to migrate the databases and all of application components to a cloud-based solution hosted by Oracle. This solution risks the applications being offline due to a cyber-attack that isolates the Company from the outside world. All work would have to be recorded manually and entered into the systems later. Also, cloud subscription costs would raise O&M yearly O&M expenses for the company.

Oracle has reviewed a cloud based solution and determined that migrating only the databases to cloud based would not provide an acceptable performance level. Oracle would require all application server components (ARM suite, ARM Field Manager, MQ and Biztalk) be migrated as well. This would involve a longer term initiative and require certification of the CGI vendor product as well as additional license funding for the other components to be hosted outside of Con Ed.

Risk of No Action While the existing hardware is still supported by Oracle, replacement parts not guaranteed to be readily available. Should a production server fail it could mean an extended outage to source the parts and repair it. That would leave the Company in a single mode failure position while the applications are running on the disaster recovery servers. Loss of the disaster recovery server during that time would result in a total system outage until parts could be sourced and replaced.
Non-Financial Benefits N/A
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) 2. Major financial benefits 3. Basis for estimate Internal estimate using quote from Vendor (Oracle)
Project Risks and Mitigation Plan <u>Risk 1</u> <u>Mitigation:</u>
Technical Evaluation/ Analysis N/A
Project Relationships (if applicable) N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	0	7,575	3,575		
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

The WMS Exadata Replacement project will involve staffing resources from both ConEd IT and Oracle. Oracle has quoted \$7M for hardware and migration services. Additionally, there will be \$1M in costs for internal labor and data center expenses. O&M expenditures during the project and the first year after completion will also amount to \$1M. All future O&M costs will be covered as a clearing account line item for Electric Operations and Gas Central.

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M	☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☐ Strategic		
Project/Program Title: WMS Sustainability Project - Phase 3		
Project/Program Manager: Lisa Gotay	Project/Program Number (Level 1): 27548645	
Status: ☒ Initiation ☐ Planning ☐ Execution ☐ On-going ☐ Other: _____		
Estimated Start Date: 4/1/2025		Estimated Date In Service: 12/31/2029
2025-2029 Funding Request (\$000) Capital: \$11,500 O&M:		
Work Description: The scope of work includes enhancement to the OpenGrid Suite for Con Edison Electric. These enhancements will drive business and technical improvements for Con Edison's business with a focus on automating routine tasks and improving visibility of programs and performance. Costs include vendor costs for software changes and labor for internal Con Ed to build custom code to leverage the enhancements delivered by the vendor. Key project activities include: Project scope • Pre-Requisite Management – Developing and automating the life cycle to provide clear visibility. • Time Access Restrictions – Automating the accuracy of location based access data – When can a job be worked. • iOS Capabilities within Open Grid Field – Build functionality for users on a mobile device to drive adoption. • AI work request designs and pre-requisite generation – Using AI models to reduce manual repetitive actions. • Follow-up work generation – Automating the design and build of follow-up work resulting from emergency responses. • Vendor Inspection Program – Drive improved efficiency by syncing data between vendor system and WMS. • Productivity and Awareness Tools – Enhance visibility for focus areas to improve operations. • False Start Management – All of the above items add to the complex false start mitigation strategy which is designed to reduce truck rolls that result in no work being completed. • Organizational change management – A critical item to ensure the resulting process enhancements are understood and followed by the end users. System changes: • Enhancements introduced to suite of products for Electric WMS - OpenGrid Work and Asset, Open Grid Field ○ Image recognition, iOS Form Factor development, AI models supporting design automation, work closure, and pre-requisite activities. • Improvements to ConEd custom code for automation and validation against above listed areas ○ Development of ConEd custom code to automate the work readiness using the above referenced enhancements paired with work processes and historical work data. ○ Development of ConEd custom code to automate the scheduling of high value work, ensuring priority work is assigned, crews are appropriately booked, and schedules are efficiently routed.		

Justification Summary:

Successful Pre-Requisite Management and accurate Time Access Restrictions have direct impacts to the rate of false starts and subsequent costs associated with their inefficiencies. Enhancements to this area of the software allows for better control of the data, improved user experience with automated management of the solution, and increased cost controls associated to vendor charges supporting Pre-Requisite activities by providing visibility and automation within the system of record(WMS). The cost category associated with vendor supported Pre-Requisites has increased at a high-rate year over year for many reasons. Increased minimum wage, and increased usage resulting from a reduction in Municipality controlled access times and permit stipulations requiring flagging services for street work are among the highest impact. The enhancements to the software solution are designed to improve the efficiency of these services which equate to about \$50M/yr. iOS Capabilities will enhance the user experience and directly drive increased adoption of work management processes for field users by enabling our users to access the software from devices they are more comfortable using(iPhone/iPad). Building new AI models to assist in generating work request designs, automating pre-requisites for scheduling activities, and capturing work closure will provide a strong baseline for ensuring quality work is available for field crews to perform. The scheduling of work is currently dependent on users performing the identification and scheduling function. This series of enhancements reduces the dependency on the user to set an initial schedule and provides more time to focus attention on higher value tasks. In addition to providing an improved schedule and enhancing the management of pre-requisites, enhancing crew productivity tools will empower Managers to identify false start patterns and trends and take action to mitigate false start occurrences. The impact of False Starts accounts for delay costs upwards of \$100M/yr that can be avoided. Further enhancing integrations for Vender Inspection programs into OpenGrid Work and Asset will reduce the administrative costs associated with manual data entries which currently cost about \$100K/ yr.

Benefits of the Solution

- Improved management of pre-requisites and the spend associated to the vendor requests will improve work readiness, work completion, and mitigate increased vendor costs associated with preparing a job to be worked.
- Improved data quality related to Facility Access and Work Request Designs will improve work completion on an initial truck roll, increasing crew thruput.
- Improved adoption of Field Software usage by leveraging new form factors for iPhone and iPad will enhance worker safety, timely work closure, and improve more timely release of vendor support – a direct cost to the job.
- Reduction in false starts will improve our operational efficiency and allow Electric Operations to complete more scheduled work with the same resources.
- Reduction in direct data entry allows current administrative staff to provide higher value functions within their shift.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This project is part of the 5 Year Plan to provide enhancements to the Electric WMS users. Historical spend of approximately \$3,000,000 each year from 2014 to 2021. We reduced the request down to about \$2,700,000 from 2022-2023 and again reduced the request to \$2,300,000 for 2024 thru 2029.

2. Supplemental Information

Alternatives
Risk of No Action
This project allows the Electric WMS Application Suite to stay current with other internal and external applications and drive new technology improvements to internal and external customers to reduce delays. Not making the identified improvements will result in a reduced ability to leverage cost avoidance and efficiencies for Electric Operations daily work. Also, development of parallel processes and/or technology can lead to double work and probable data discrepancy when users try to find other solutions to ease processes.
Non-Financial Benefits
Enhancements on this project reduce the need for users to use multiple applications to perform their job functions, improve ease of use, increase visibility of performance to drive actions, and introduces automations using AI to enhance data quality on work generation and scheduling. Providing users with a one-stop-shop is the overall vision to ensure positive adoption of work processes and data quality. Automations and enhanced visibility of critical data elements will provide increased safety as it relates to jobs site details for the Schedulers, Supervisors, and Crews. These same enhancements will improve reliability as it relates to appropriately scheduling and completing priority work more efficiently, reducing false starts. Reductions in false starts also improve community relations as a result of reduced company visits to the same location, reduced permit applications, and reduced street openings.
Summary of Financial Benefits and Costs (attach backup)
1. Cost-benefit analysis (if required)
2. Major financial benefits
This project is not intended to achieve immediate cost benefits. It is instead intended to continuously improve the Electric WMS platform to keep it current and minimize work delays. However, false starts and costs associated with pre-requisites are estimated at \$150M annually (\$100M False Start / \$50M Vendor Support). Duplicate data entry is estimated at \$100K annually. This project is designed to reduce the occurrence of false starts by leveraging technology to improve the data, automate administrative functions, and allow the human element to focus on high value tasks which will ultimately drive improved efficiencies across the organization.
3. Basis for estimate
Estimate is based on historic SOW submittals from vendor work being performed and an estimate of company labor broken down by each assigned role for the project on IT and Business teams.
Project Risks and Mitigation Plan
Technical Evaluation / Analysis
N/A
Project Relationships (if applicable)
N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital	3,000	2,200	2,300	1,900		2,300

2025-2029 Request:

Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
Regulatory Asset					
O&M					
Regulatory Asset					
Capital (Total)	2,300	2,300	2,300	2,300	2,300
Labor	1,500	1,500	1,500	1,500	1,500
M&S					
Contract Svcs.	800	800	800	800	800
Other					
Overheads					

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☐ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Work Management Mobility	
Project/Program Manager: Omar Bryson / Kavitha Subbiah	Project/Program Number (Level 1):
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date In Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: 15,000 O&M: 2,250	
Work Description: The Digital Factory (DF) project developed a portfolio of standalone mobile applications for the Electric Work Management System. The portfolio includes applications undergoing development as well as production applications. These applications while playing critical operational roles, example, the Job Briefing and MIA (My Inspection App) applications, are limited in their value and impact due to fact that they are standalone applications with no integrations to enterprise systems. Additionally, some of the applications are on obsolete technologies and require refactoring to reduce technical debt and improve security. The Work Management Mobility (WMS Mobility) project will provide value-added mobility products that support electric, gas, and other commodities. The project will enhance the features and capabilities of applications that were developed by the Digital Factory for Electric Work Management and extend those capabilities to other commodities and areas such as gas and steam. The scope of the WMS Mobility project includes: i. Integrate standalone mobility applications with enterprise systems – the project will integrate standalone mobile applications developed by the Digital Factory with enterprise systems. These will include integrations with enterprise work management applications (Asset Resource Manager (ARM) and Maximo) for the Job Briefing, MIA and Public Hazard applications. ii. Reduce technical debt and improve application security – the project will upgrade all applications that are on obsolete technologies as well as refactor and redevelop where necessary, to mitigate other security vulnerabilities. iii. Improve user experience – the project will implement the backlog of features and capabilities identified by users for the various applications that were not already implemented.	

- iv. Extend capabilities to other areas – applications such as the Job Briefing and Public Hazard apps are currently being used by the Electric work management groups. The WMS Mobility project will extend these capabilities to make them available enterprise-wide so they can be used by gas and steam and other areas of the company where they can add value.

The WMS Mobility project will provide improved efficiency to critical work management processes, improve the quality and efficiency of data transfers as well as improve the user experience.

The project is estimated to take 3 years to complete at a projected cost of \$5 million per year in capital funding, for a total of \$15 million over the 3 years. Additionally, the project will require \$750, 000 in O&M per year to support the 7 production applications currently in the portfolio.

Justification Summary:

Electric and Gas operations currently use CGI's ARM or OpenGrid platform for asset and work management, while other business organizations (Steam, CentralOps, Construction etc.) have moved or moving to our enterprise platform IBM Maximo product. The mobility solutions offered by ARM platform provide limited capabilities and cannot service the growing business needs – Gas has implemented OpenGrid Field while Electric is still operating on a legacy version of Field Manager. As a result, IT has been developing micro applications to meet the gaps and were funded in the previous rate case. Some of the apps in the work management roadmap have been deployed while others are in the implementation phase. Most of these apps are non-integrated with core work management systems. In addition, many of the standalone mobile applications are dependent on a generic component library which is also used by all IT developers across all domains and not WMS alone. The coded component library is a set of re-usable code and user interface components that reduce development of applications by at-least 30%. The component library needs to be enhanced to include additional functionalities and eliminate obsolete technologies such as out of support Angular and Microsoft .Net versions. This will improve application security, reduce the company's cyber exposure as well as reduce the technical debt of all applications that utilizes the tool.

The requested capital funding is needed to complete development of remaining apps and build integrations that will maximize the investments already made in these applications. These integrations will significantly reduce data discrepancy between work management systems, improve process efficiency and reduce manual data entry. The O&M funding is needed to continue to support applications already in production. These applications support critical operations and processes that will benefit from the improved efficiencies that will result from the implementation of this project. Additionally, there is significant unquantifiable value that will be realized from improving the company's cyber posture by reducing application security risks posed by obsolete technologies and other application security vulnerabilities. It is for these reasons that it is imperative that we undertake these investments to implement the WMS Mobility project at the earliest.

The scope of the capabilities and integrations that will be implemented as part of this project includes but not limited to:

- **Job Briefing**
 - Extend the Job Briefing App to make available for enterprise-wide use
 - Integrate the app with work management and other related systems to optimize workflow and improve efficiency by automating link between job briefing and work request

- **Hazard reporting**
 - Integrate the Public Hazard application with enterprise work management (Electrical, Gas, Steam, and Construction) and other related systems to optimize the workflow by automatically generating work for hazards that were confirmed and assigned
- **Environmental resources**
 - Expand ERA Axis to help Environmental Ops Supervisors manage flush requests and provide the requestors an ETA for their request to be fulfilled
 - Integration with Electric WMS to automate and improve flush work creation and completion process
 - Add contractor time management (submission and approval) feature to ERA
- **Inspection**
 - Integrate the MIA app with Electric work management and other related systems to automatically generate inspections
 - Implement the capability that integrates the MIA app into Central Connect to help with missed hot spots and to help streamline Distribution Engineering's review of uploaded thermal images
 - Create a map of the SIP Inspections due in the current year and cycles to help Work Organizers prioritize work on assets. This map will also help assist with the monitoring of the SIP Program
 - Utilize geo location data to improve accuracy of locating and identifying WMS structures
 - Utilize machine learning to identify pain points
- **Reusable Components**
 - Extend the Coded Component Library to include work management specific components as well as current industry trending components
 - Add Multi-Thumbnails Image update component
 - Improve technical debt by eliminating / upgrading obsolete technologies (.Net6, Angular v14, etc.)
 - Add components with ability to rotate photos & perform multiple uploads

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Work Management Mobility will help to promote one enterprise by creating enterprise-wide solutions that reduce process time, reduce redundancy and system maintenance leading to reduce costs.

Additionally, the project will provide enterprise-wide solutions that promote a safe environment for our staff, community and environment.

2. Supplemental Information

Alternatives

An alternative to implementing the Work Management Mobility project is to leave the current processes and applications the way they are. This means, no integration with our Work Management Systems for the Job Briefing, MyInspection and Public Hazard applications. As a result, the risk of missing follow-up work as well as the no timely communication of safety risks and issues between our systems will remain. Additionally, this option was rejected because there are no viable alternatives to mitigate potential cyber risks associated with outdated technologies.

Risk of No Action

Current applications in the portfolio will continue to be standalone, leaving in place existing manual business processes that result in inefficiencies, increased risk of missing follow up work, redundant work efforts and unnecessary costs, while also posing safety and compliance risks. In addition, the coded component library used in all modern web applications in IT can run into cyber risk with obsolete versions/code.

Non-Financial Benefits

Con Edison is estimating non-financial savings associated with an increase in operational efficiency, streamlining business processes and proactive safety risk management.

Non-financial benefit include:

- Increased safety
- Ensuring regulatory compliance
- Improved user experience leading to better customer relationships
- Improved data quality

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

The Coded Component Library is widely used by software developers across the company, significantly reducing application development and project implementation times. The estimated savings from using the Coded Component Library is approximately \$250k/year. This estimate is based on the current usage of the Coded Component Library components. There are over 20 applications using various aspects of the Coded Component Library.

2. Major financial benefits

The estimated savings from using the Coded Component Library is approximately \$250k/year. This estimate is based on the current usage of the Coded Component Library components. There are over 20 applications using various aspects of the Coded Component Library.

3. Basis for estimate

The estimate for this program is based on comparison to similar sized projects (past years and team size) developed using the same technology and methodology.

Project Risks and Mitigation Plan

N/A

Technical Evaluation/ Analysis

Analysis is driven by IT's Enterprise Architecture standards and guidelines. The goal of the WMS Mobility project is to work with proven technologies in the market and to integrate with other WMS systems to improve job workflows and processes to reduce duplicity, increase productivity and increase efficiencies.

Project Relationships (if applicable)
N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	0.0	5,000	5,000	5,000	0.0
Labor		1,371.8	1,371.8	1,380.0	
M&S					
Contract Svcs.		3,628.2	3,628.2	3,620.0	
Other					
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology / IT Engineering & Operations 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset																																										
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic																																											
Project/Program Title: CCTN Program																																											
Project/Program Manager: Ronald Sta. Rosa	Project/Program Number (Level 1): 23292903																																										
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)																																											
Estimated Start Date: January 1, 2025	Estimated Date In Service: December 31, 2029																																										
2025-2029 Funding Request (\$000) Capital: \$87,018.02 O&M: (See IT Telecom O&M White Paper and Budget)																																											
Work Description: The Corporate Communication Transmission Network (CCTN) is a high-speed telecommunication network. As a cornerstone of the Company's substation and modernization blueprint, the CCTN framework is pivotal for the operational efficiency of substations, energy control centers, data centers, microwave facilities, and corporate premises. It allows critical functions to operate, including data management, security protocols, voice communications, wireless services, substation feeder protection, the control center's Supervisory Control/Data Acquisition (SCADA) systems, and data storage solutions. The CCTN's robust and versatile architecture not only bolsters the consolidation of computing resources but also fortifies disaster recovery capabilities. There are over 120 company locations hosting the fiber optic, network equipment, wireless, and ancillary equipment used by CCTN. The components of the Company's CCTN Program include: 1. CCTN Fiber Expansion 2. CCTN Network Modernization 3. CCTN Facilities Improvement CCTN Expansion WiMAX "Wireless Mobile Access"																																											
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="6">2025-2029 CCTN Program Capital Expenditure Budget Request (\$000)</th> </tr> <tr> <th>Programs</th> <th>2025</th> <th>2026</th> <th>2027</th> <th>2028</th> <th>2029</th> </tr> </thead> <tbody> <tr> <td>CCTN Fiber Expansion</td> <td>\$5,274.23</td> <td>\$5,778.47</td> <td>\$6,612.22</td> <td>\$12,578.40</td> <td>\$2,940.19</td> </tr> <tr> <td>CCTN Network Modernization</td> <td>\$3,838.32</td> <td>\$10,653.16</td> <td>\$9,135.38</td> <td>\$2,876.84</td> <td>\$7,868.64</td> </tr> <tr> <td>CCTN Facilities Improvement</td> <td>\$1,749.80</td> <td>\$2,850.44</td> <td>\$3,063.46</td> <td>\$3,294.90</td> <td>\$3,546.49</td> </tr> <tr> <td>CCTN Expansion WiMAX</td> <td>\$537.65</td> <td>\$717.93</td> <td>\$1,188.94</td> <td>\$1,249.87</td> <td>\$1,262.70</td> </tr> <tr> <td>Total Per Year=</td> <td>\$11,400.00</td> <td>\$20,000.00</td> <td>\$20,000.00</td> <td>\$20,000.00</td> <td>\$15,618.02</td> </tr> </tbody> </table>		2025-2029 CCTN Program Capital Expenditure Budget Request (\$000)						Programs	2025	2026	2027	2028	2029	CCTN Fiber Expansion	\$5,274.23	\$5,778.47	\$6,612.22	\$12,578.40	\$2,940.19	CCTN Network Modernization	\$3,838.32	\$10,653.16	\$9,135.38	\$2,876.84	\$7,868.64	CCTN Facilities Improvement	\$1,749.80	\$2,850.44	\$3,063.46	\$3,294.90	\$3,546.49	CCTN Expansion WiMAX	\$537.65	\$717.93	\$1,188.94	\$1,249.87	\$1,262.70	Total Per Year=	\$11,400.00	\$20,000.00	\$20,000.00	\$20,000.00	\$15,618.02
2025-2029 CCTN Program Capital Expenditure Budget Request (\$000)																																											
Programs	2025	2026	2027	2028	2029																																						
CCTN Fiber Expansion	\$5,274.23	\$5,778.47	\$6,612.22	\$12,578.40	\$2,940.19																																						
CCTN Network Modernization	\$3,838.32	\$10,653.16	\$9,135.38	\$2,876.84	\$7,868.64																																						
CCTN Facilities Improvement	\$1,749.80	\$2,850.44	\$3,063.46	\$3,294.90	\$3,546.49																																						
CCTN Expansion WiMAX	\$537.65	\$717.93	\$1,188.94	\$1,249.87	\$1,262.70																																						
Total Per Year=	\$11,400.00	\$20,000.00	\$20,000.00	\$20,000.00	\$15,618.02																																						
Throughout 2025 to 2029, the Company will: Expand the CCTN Fiber Network, modernize the CCTN Network, enhance CCTN Facilities Improvement, and undertake the CCTN Mobile WIMAX Access Network. The sections below provide detail on the purpose and expected benefits of these initiatives.																																											
1. CCTN Fiber Expansion																																											

Con Edison is continuing its longstanding program of enhancing its CCTN fiber optic network, leveraging both proprietary fiber infrastructure and public carrier services. The CCTN fiber optics are strategically deployed across a variety of Con Edison-owned sites. The company harnesses this fiber optic network to facilitate CCTN connectivity, which is crucial for telecommunication and SCADA interactions between the energy control center and substations. It also provides feeder protection and connectivity with the rest of the corporate network, as well as supports our computing resources in our data centers. The company is planning to expand the fiber optic network to substations and data centers that currently lack CCTN. This is in an effort to fulfill critical and high-capacity service needs. The need for more sophisticated SCADA systems, Substation Feeder Tele-Protection, Automation, Security Monitoring, and high-bandwidth applications at data centers are driving the demand for greater and more sophisticated telecommunications services.

The installation of our CCTN Outside Fiber Plant commenced in the 1980s. Over time, these cables have been subjected to various environmental conditions both underground and overhead, which adversely affect the cables and can lead to failures. Our ongoing expansion projects are primarily driven by two goals. The first is to enhance capacity to cater to business requirements, such as the demand for extra fiber strands to support tele-protection of substation feeders. The second is to replace outdated fiber optic routes. The Information Technology department has devised a proactive strategy to maintain the fiber optic network by identifying and preemptively replacing sections vulnerable to failure, thus avoiding the need for more extensive and expensive replacements of entire cable stretches.

The Company's strategy for executing the CCTN Fiber Expansion and Network Modernization projects (Network Modernization project discussed below) considers the intricate interdependencies and complexities of the system. This approach promotes efficient and effective execution of these network enhancements.

For the budget years spanning 2025 to 2029, Con Edison has outlined a series of CCTN Fiber Expansion initiatives aimed at enhancing the company's telecommunications infrastructure.

- Develop and construct new fiber cable pathways and improvements across various boroughs lacking CCTN infrastructure and where communication services are essential because they support applications and systems critical to operations of the various energy delivery businesses.
- Assess fiber cable pathways for replacement based on criteria that includes the fiber cable's age, current condition, and the necessity for enhanced capacity.
- Procure fiber cables and related materials for initiatives encompassing the establishment of new CCTN fiber cable pathways and the modernization of existing, deteriorating fiber cable pathways to accommodate higher cable size.

2. CCTN Network Modernization

The CCTN Network Modernization initiative represents a comprehensive, multi-year effort to enhance the telecommunication framework that serves energy control centers, substations, data centers, and various company sites. It will replace obsolete equipment and expand capacity to meet emerging telecommunication demands. The project will involve implementing new network technologies across multiple CCTN sites.

The enhanced telecommunication services will facilitate SCADA interactions between energy control centers and substations, Provide feeder protection across substations, provide connectivity for the corporate network, as well as support our computing resources in our data centers. Additionally, the

project's rollout will involve expanding the physical space and electrical power capabilities at each site to accommodate the installation of the new equipment.

The Company's Synchronous Optical Network (SONET) and Microwave system, operating on a Time-Division Multiplexing (TDM) framework, has served telecom networks reliably for years. However, this unsupported technology and its associated equipment are in need of replacement. The difficulty in sourcing spare parts is growing while vendor support is waning, with many reducing or ceasing support for the aging SONET infrastructure.

Circuit Emulation (CEM) facilitates the seamless transmission of traditional applications, such as SONET and TDM, over the more recent IP/MPLS networks. It serves as a connector, bridging the gap between TDM networks and MPLS infrastructures. CEM is designed to reproduce the essential characteristics of circuit-switched technologies within a packet network, encompassing comprehensive operations, administration, and management capabilities, along with consistent and dependable data transmission.

The enhancement of DWDM technology is crucial for supporting the exponential growth in data traffic, particularly for energy control center and data center applications that require high-capacity data transfer over long distances with low latency. With the progression of digital technology, there's an increasing need for stronger data transmission and greater bandwidth. This is further driven by the development of new applications that necessitate increased server and data storage, leading to an increase in data traffic. The Company's existing Dense wavelength-division multiplexing (DWDM) infrastructure, which has been a cornerstone in telecom networks, is reaching its end-of-life. The aging equipment is increasingly challenging to maintain due to, as previously noted, the scarcity of replacement parts and diminishing vendor support. This obsolescence poses a risk to the reliability and scalability of our telecommunications services. Upgrading and enhancing the DWDM equipment is not merely a matter of maintaining the status quo but is a necessary step in maintaining the Company's network infrastructure.

The DWDM and MPLS interconnectivity is vital for implementing robust disaster recovery strategies, providing data redundancy, and maintaining uninterrupted service availability. The upgraded infrastructure will also facilitate the deployment of new services and applications that demand higher bandwidth, thereby keeping the Company in pace with relevant technological advancements.

In summary, the upgrade of end-of-life equipment is a necessary investment that will deliver benefits in terms of capacity, performance, and future readiness.

For the budget years spanning 2025 to 2029, the Company has outlined the following stages for the CCTN Network Modernization project:

- Establishing engineering parameters for project's architecture and implementation.
- Procuring required equipment and engaging in service contracts.
- Enhancing the infrastructure for communication rooms, including space and electrical power.
- Installing DWDM and MPLS equipment across various CCTN locations.
- Migrating CCTN telecommunication lines to the MPLS network.
- Transitioning high-capacity CCTN services to the enhanced DWDM network.
- Eliminating and phasing out antiquated equipment at locations that have transitioned to the updated system.

3. CCTN Facilities Improvement

The CCTN Facilities Improvement project permits the reliability and availability of CCTN sites. This program performs upgrades on the CCTN facilities at locations every year.

Each location with CCTN equipment in the network communication room is equipped with AC & DC backup power systems, cabling, heating, ventilation and cooling systems, single point grounding systems and security access systems. They also use a redundant and diverse network designs. When these components fail, they can affect the critical communication circuits that are essential for the operation of substations, energy delivery systems for electricity and gas, and computer networks.

Tasks under the CCTN Facility Improvement Program:

- Replacement of HVAC systems
- Cable segment upgrades
- UPS & DC power system upgrades based on location criticality
- Grounding upgrades
- Reconfiguration and expansion of CCTN communication rooms

Work on the CCTN Facilities Improvement program is typically done concurrently and on an ongoing basis, as conditions and circumstances allow or dictate.

The driver for upgrading our existing CCTN facilities is to emphasize modernization and security. The exact locations for upgrades from 2025 to 2029 will be determined based on how well each facility meets the latest standards and its vulnerability to security risks at the end of each rate year.

4. CCTN Expansion Wireless Mobile Access ("WiMAX")

The CCTN Expansion WiMAX project, which incorporates Long Term Evolution (LTE), 5G, and 802.11 Wi-Fi 6, is a crucial part of Con Edison's wireless broadband strategy. This strategy offers a radio communication system that our teams rely on during emergencies when other communication methods may not be available.

The radio systems that support voice and smart grid applications for field crews and machines use the wireless network infrastructure (including man-down dispatch applications) provided by the CCTN system. A single network technology that can solve the challenges of end point connectivity, data throughput, and coverage is needed. These technologies offer high performance for these applications without requiring direct line of sight between antennas.

For the fiscal period from 2025 to 2029, the Company has expects to undertake the following for the CCTN Expansion WiMAX initiative:

- Drafting the engineering scope for the project's design and execution.
- Upgrading the Wireless Radio system with new hardware and software at current control centers.
- Procuring necessary equipment, materials, and contractual services.
- Installing new equipment, along with wiring and cabling.
- Conducting refresher training for users. This includes establishing new cell sites at strategic Work Out Locations (WOL) as part of the radio technology deployment.
- Evaluating new technologies through Proof of Concept trials.
- Designing and detailing new or improved facilities.
- Providing consulting, along with engineering and technical services.

- Creating engineering packages to alter existing or construct new support structures and shared infrastructure.
- Expanding the capacity of existing HVAC, AC, and DC power systems to accommodate the new technology.

Justification Summary:

The CCTN system is pivotal in delivering high-speed and reliable communication for the Company, providing a diverse and redundant alternative to public carrier circuits. It supports essential services such as SCADA, electric feeder protection, and data services to key substations. The CCTN system is expected to continue as the communication backbone of the Company for the foreseeable future. The key role that CCTN plays in the company's operations necessitates capital investment to enhance reliability, diversity, and capacity at these sites.

The initiatives highlighted in this white paper are designed to mitigate risks at both the departmental and corporate levels, including:

- The risk of failure in critical corporate and operational infrastructure, such as network hardware, wireless communication systems, DC Power Plants, and Relay Protection Systems.
- Infrastructure vulnerabilities, such as the obsolescence and single-point failure risks in our fiber network, and the necessity for equipment redundancy for consistent network reliability at Company facilities, like data centers, control centers, substations, and workout locations.
- The criticality of radio system infrastructure at transmission and distribution stations, vital for staff communication and safety.
- The challenges associated with end-of-life equipment.

The deployment of the wireless broadband mobile network offers the opportunity to create diverse and redundant communication paths for facilities currently reliant on multiple backhaul circuits. This enhancement facilitates improved coordination between field personnel and control centers, which is crucial for expediting the restoration of services during customer outages. The CCTN system's network infrastructure has consistently surpassed carrier-based wireless services in reliability, especially during extensive communication failures caused by severe weather and other environmental factors.

Wired access networks, whether fiber-optic or copper, are susceptible to the same catastrophic events that damage public underground utilities, including significant operational incidents, contractor-related damages, and water main ruptures.

Ultimately, these initiatives will benefit the Company and our customers by enhancing the:

- Ensuring the reliability of SCADA and Smart Grid applications, as well as maintaining the integrity of critical radio system infrastructure.;
- robustness of essential business applications;
- Strengthens the company's ability to safeguard its assets and ensure the safety of employees, contractors, and the public.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

2. Supplemental Information

Alternatives

Alternative 1

The alternative to CCTN is to procure all communications from public carrier services. This approach is not recommended due to frequent failure rates associated with carrier circuits, unusually long lead times associated with repair and new service delivery, and especially, extensive costs.

Alternative 2

The alternative to Wireless Mobile Access & Interoperability is to continue to operate using fiber construction, existing narrowband private frequencies or carrier services.

Alternative 3

The alternative to MPLS is to maintain the current environment with its unsupported technology. As a precaution, the Company has acquired spares for its legacy equipment. However, this approach is not recommended due to failure rates associated with the devices and the inability to scale for new capacity requirements. This alternative would also risk sustainability of future platforms. Investments need to be made to keep the network sustainable and reliable.

Risk of No Action

Risk 1

CCTN risks include loss of service resulting from other infrastructure providers disrupting ConEd's Carrier lease dark fiber and Company owned fiber cable, thus, affecting service. Other risks include increased communications failures associated with HVAC, cabling, and power loss. The associated failures would need to be repaired on an emergency basis, increasing costs of procuring equipment, employee overtime and the loss of service while the repair is completed.

Risk 2

Wireless risks include limited communications to field assets that will degrade SCADA functionality.

Risk 3

There are risks tied to old and unsupported systems that could lead to communication problems. Fixing these issues could be difficult due to limited options and an inability to find spare parts. Fiber optic lasers, which send data as light, don't last forever. As they get older, they're likely to fail more often, needing more repairs. Over time, the shortage of spare parts and lack of support for these systems could create cybersecurity risks, as there are no more updates to fix issues in the software.

Non-Financial Benefits

Non-financial Benefits: These programs have resulted in an overall decrease in the number of trouble tickets over the past few years and corresponding reliability gain. The proposed projects and ConEd's use of CCTN offers the following non-financial benefits:

- Provides carrier diversity to critical communication circuits.
- Offers increased level of cyber and physical security.
- Provides a higher reliability level than carrier circuits.
- Scales capacity over time through card replacements.
- Improves recovery time from communications failures.
- Provides services outside of local telecommunications carriers.
- Avoids construction delays and costs needed for carrier services.
- ; and
- Provides reliable and diverse communications for REV, AMI, DSP, and other utility of the future applications.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

The development of additional Company-controlled infrastructure is crucial for supporting an expanding spectrum of communication devices and services. It involves a systematic decommissioning of the outdated communication network, paving the way for the adoption of sophisticated technologies. These new technologies are not only equipped to uphold the continuity of current communication services but are also flexible enough to meet evolving communication needs.

2. Major financial benefits

The advantages include enhancing the mean time to repair malfunctioning systems. Additionally, while some benefits are not directly measurable, they contribute to reducing communication breakdowns, as shown by the previously presented data.

3. Basis for estimate

The cost projections draw upon the Company's experience from prior fiber optic projects, labor valuations provided by construction management and in-house teams, and the latest vendor quotes for materials such as fiber optics, innerducts, and splicing services.

Furthermore, these estimates incorporate the standard expenses associated with trenching for new cables (as needed), as well as the costs for facilities, equipment, like fiber cables, routers, and optical devices, plus labor and overhead. They also account for the construction of additional equipment and facilities tailored to various communication infrastructures. These standard cost projections are informed by historical expenditure data for each communication category. However, actual costs may fluctuate based on the unique requirements of the deployment, such as additional length of cable or facility enhancements.

Project Risks and Mitigation Plan

A primary concern in any communications migration and enhancement initiative is the technical risk associated with the possibility that the current technology standard may be overtaken by new technological advancements and widespread adoption. To partially counter this risk, the project involves securing commitments for ongoing support from service and equipment providers, as well as the integration of components that are backward compatible.

Additionally, there is the risk of escalating costs related to materials, labor, and the leasing of public carrier dark fiber services necessary for the construction of external plant infrastructure. To lessen this risk, the Company prioritizes the deployment of the most operationally significant infrastructure, which will assure maximum utility and advantage.

Technical Evaluation / Analysis

Information Technology (IT) conducts planning and analysis on every new technology introduced. These solutions undergo a review process that aligns with the overarching IT strategy and future vision. Collaborative engagements with IT consultants, service providers, vendors, and company staff are instrumental in identifying and selecting the most suitable solutions.

Project Relationships (if applicable)

Information Technology (IT) initiatives, spanning various business sectors and encompassing both existing and prospective projects, depend on and anticipate a robust network performance. The CCTN serves as the foundational network infrastructure, facilitating the delivery of all applications to the workforce. Applications such as Work Management, Damage Assessment, and Mobile Dispatch stand to gain from this project, as do communication systems for REV, AMI, DSP, and additional emerging utility applications.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital	\$10,654.3	\$7,256.2	\$8,279.6	\$12,723.4		\$12,000.00

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	\$11,400.00	\$20,000.00	\$20,000.00	\$20,000.00	\$15,618.02
Labor	\$2,755.07	\$3,364.18	\$3,728.60	\$5,350.95	\$2,561.89
M&S	\$128.36	\$248.18	\$219.51	\$450.27	\$58.58
Contract Svcs.	\$6631.94	\$14,097.54	\$13,425.30	\$10,528.82	\$11,419.08
Other	\$143.91	\$217.49	\$336.62	\$355.50	\$63.18
Overheads	\$1,740.72	\$2,072.60	\$2,289.97	\$3,314.45	\$1,515.29

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Data Center and LAN Infrastructure Improvements	
Project/Program Manager: Michael Ribarich	Project/Program Number (Level 1): 21660691/10009295 / 23300178
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: January 1, 2026	Estimated Date In Service: December 31, 2028
2025-2029 Funding Request (\$000) Capital: \$44,870 O&M: See Computer Software and Hardware budget and Telecom O&M budget and whitepaper	
Work Description: The Company runs internal data centers across the CECONY and ORU service territory to support its growing server, storage, and disaster recovery demands. These data centers house critical systems and applications that are used for the planning, operations, and reliability of the electric, gas, steam energy delivery infrastructure. These applications and systems include SCADA, control center, and critical corporate applications like AMI, CORE, Outage Map, Feeder Board Display, and EMS systems as technology evolves. The Company has four internal Data Centers, located at 4 Irving Place, Van Nest, Spring Valley, and Worth Street. The data centers depend on the local area network (LAN) infrastructure to provide reliable high speed connectivity to the end users and creators of the data. These end users and creators are distributed throughout the service territory in multiple company facilities. While the Company has a long term strategy to reduce the number of data centers owned and operated by the company by using cloud services and co-location facilities, we must invest in and sustain the existing physical IT infrastructure of our data centers, control centers, substations, corporate offices, and both fixed and mobile work sites and data network on which they depend for reliable connectivity. Investments in this infrastructure the systems for cooling, power, control, monitoring and cabling are important to maintain the availability and reliability of the critical applications and communications that CECONY relies upon. Current infrastructure ranges between 5 and 15 years old with many components and systems reaching manufacturer recommended refreshes. Some older infrastructure contains single point-of-failure vulnerabilities and spare parts are becoming more difficult to procure. This program seeks to continue efforts to mitigate the risks associated with aging component lifecycles. The following Data Center Improvements capital projects are planned for budget years 2026-2028. The lifecycle improvements are the highest priority activities which are performed concurrently at all data centers on an on-going basis. The remediation towards tier three status is medium priority while the implementation of the new tools are the lowest priority. The resources are a pre-requirement to support the work:	

4IP DC11/MECC Data Centers (2027-28) – Remediation towards published higher industry uptime standards (Tier III Uptime Institute Standards) to meet OT occupancy requirements - \$15.720M

- Generator Redundancy Distribution
- Remediating Single Source HVAC & Generator Power
- Fully Redundant chilled water piping
- Mechanical upgrades
- White space life cycle upgrades (cabinets, in-row cooling, rack power equipment, cabling)
- Re-commissioning

4IP DC4 Data Center (2026-27)– Improvements and Lifecycle Upgrades - \$2M

- HVAC redundancy - \$800K
- Networked Building Management System (BMS)implementation
- Cabinet row power distribution
- White space life cycle upgrades (cabinets, rack power equipment, cabling)

Van Nest Data Center (2026-27)– Improvements and Lifecycle Upgrades - \$4.3M

- Chiller and mechanical upgrades
- Networked BMS implementation
- White space life cycle upgrades (cabinets, rack power equipment, cabling)
- Re-commissioning

Spring Valley Data Center (2027-28)– Improvements and Lifecycle Upgrades - \$5.1M

- New chiller with portable hookup
- HVAC redundancy
- Networked BMS implementation
- White space life cycle upgrades (cabinets, rack power equipment, cabling)
- Re-commissioning

Worth Street – (2026-28)Improvements and Lifecycle Upgrades - \$1M

- Exterior chilled water piping upgrade
- Onsite Facilities Operations Center
- BMS remote access control upgrades to meet TSA Gas requirements
- Environmental monitoring upgrades

Campus and Building LAN Infrastructure (2026-28)- Improvements and Lifecycle Upgrades – \$3M

- IT Room UPS and rack power distribution, HVAC, grounding/bonding
- Copper and Fiber structured cabling plants

Data Center Infrastructure Management Tools (2028) - \$250K

- DCE – Data Center Expert
- ITA – IT Advisor

FTEs – Two (2) IT Infrastructure Engineers (2026-28) - \$1M

We need two additional full-time Infrastructure Engineers due to the increased workload from the capital upgrade and expansion program. The current team is at full capacity, and additional engineers are essential to manage the workload without compromising quality or timelines. They will ensure continuity and reliability, act as multifunctional resources by contributing to various projects, and support the organization's growth and innovation goals.

Program Management – Two (2) Contract Project Managers (2026-28) - \$1.5M

We need two full-time contract Project Managers to handle the increased workload from the capital upgrade and expansion program. These projects are intricate and demand expertise in managing IT critical infrastructure facilities. With the current team already at capacity, additional Project Managers are crucial to ensure the workload is managed efficiently without sacrificing quality or deadlines. They will provide essential continuity and reliability, serve as versatile resources across various projects, and help drive the organization's growth and innovation objectives.

Justification Summary:

Information Technology meets the Company's on-premises server, storage, and disaster recovery needs by building and operating data centers. The main goal of the Data Center Improvements program is to sustain the availability and reliability of the data center infrastructure through enhancing, upgrading and new construction of:

- IT dedicated back-up power systems to mitigate against the loss of computing and communications availability due to disruption of utility power sources frequently experienced during weather-related events.
- IT dedicated cooling systems to mitigate against the risk of failure, premature aging, or damage of IT electronic and server/storage equipment due to environmental conditions.
- Racking and cabling systems to address the management of physical spaces to accommodate growth, moves, or changes in data center and network equipment.
- Infrastructure and environmental monitoring tools to enable quick assessment and resolution of unplanned events that can adversely affect IT system availability and help to automate complex decision making for power and cooling capacity planning and outage mitigation.

The program also intends to modernize and upgrade existing infrastructure equipment and systems that will reach end-of-life in the 3-year rate period to avoid risks such as lack of support, parts availability, and cyber exposure. The program will also address improvements to the older existing data center infrastructure to repurpose these facilities from legacy corporate data centers design standards to the high value network design standard levels of redundancy and resiliency to host the Operational Technology (OT) workloads that monitor and control the critical electric, gas, and steam distribution systems.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

N/A

2. Supplemental Information

Alternatives There are no alternatives to upgrading and operating data center infrastructure which is necessary to ensure high levels of reliability and availability to critical business systems. Onsite data center capacity is part of an overall hybrid strategy that includes colocation.
Risk of No Action No action will lead to the increased likelihood of malfunctions or failures to critical business systems hosted in the data centers. These applications and systems include SCADA, control center apps, critical corporate like AMI, CORE, outage map, feeder board display, and EMS systems. It would also limit the ability to deploy new or enhanced corporate and OT user facing applications.
Non-Financial Benefits Con Edison continues to implement redundancy and diversity for servers supporting business applications and computer resources. Environmental monitoring is utilized for early prediction and potential avoidance of service affecting incidents.
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) This approach to upgrade the existing data on-premise data centers to accommodate critical Operational Technology workloads removes the need to build a new on-prem data centers that would require significant capital to build and additional O&M expenses to maintain. 2. Major financial benefits The financial benefits include cost avoidance to repair failed systems out of warranty. Additional benefits include avoiding productivity loss due to downtime of data centers and unavailability of critical data 3. Basis for estimate Historic purchases are used as well as vendor presentations and Internet sources. The basis for the estimates is vendor rates, accommodation billing rates for internal labor, and cost estimates for equipment applied to the statements of work.
Project Risks and Mitigation Plan Escalating equipment and labor costs and evolving cybersecurity risks can potentially delay timely completion of certain aspects of the program and increase costs to implement.
Technical Evaluation/ Analysis Information Technology performs planning and analysis for upgrading and operating data center, and IT dedicated critical physical infrastructure. Redundant and diverse design and construction considerations are used and implemented. The effort also factors in any plans to build new data centers, and the long-term data center and critical infrastructure requirements. Solutions are investigated in conjunction with the IT strategy and vision planning process. Interaction with IT advisors, vendors, and Company employees ensure the selection of the optimal solutions. Each implementation is done with technology evaluations and commercial RFPs before selection and rollout. The results of prior years' preventative maintenance programs and predictive maintenance and failures are analyzed along with manufacturer recommendations to determine maintenance and support schedules and coverage.
Project Relationships (if applicable) All current and future IT systems and business applications require infrastructure platforms to be available and supportable for reliability, security, and accessibility

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital	1,844	2,208	1,712	4,498		7,000

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	6,000	4,770	13,150	15,950	5,000
Labor	1,600	1,554	2,960	3,790	1,600
M&S	1,800	1,000	2,300	3,200	1,000
Contract Svcs.	1,000	1,239	5,310	6,065	1,400
Other	800	500	1,400	1,300	500
Overheads	800	477	1,180	1,595	500

Business Unit / Division 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: End User Computing	
Project/Program Manager: Francesco Ciulla, Anuja Nakkana	Project/Program Number (Level 1): 26014107
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date In Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: \$6,862.00 O&M: \$0	
Work Description: This program aims to evaluate and upgrade End User Computing technologies in line with industry trends. Current technologies, with a five-year lifespan, need updates to improve user experience, productivity, and security. Outdated software and hardware pose risks without initiative-taking measures. This initiative seeks key technological advancements aligned with company goals, such as energy-efficient ARM-based mobile devices and augmented reality on Apple devices. These pilot investments will guide future adoption planning. The program will assess the feasibility, suitability, and implementation of both hardware and software, ensuring continuous improvements in efficiency and productivity. This represents an ongoing investment in our technological infrastructure: A key initiative is the evaluation of the next version of the Microsoft Windows operating system. At Con Edison, integrating our operations with technological advancements is important. Therefore, we are conducting a comprehensive evaluation of the forthcoming version of the Windows Operating System (OS). Our portfolio includes specialized business applications like work management, customer billing systems are compatible with the Windows platform. By assessing the new iteration of the OS, we aim to ensure a predictable and smooth transition, supporting the continuity of our services. As part of our technology assessment, we will evaluate the Windows operating system running on ARM (Advanced Risk Machine) architecture. This evaluation is essential for identifying the advantages of the ARM architecture, including improved energy efficiency, enhanced connectivity options, and hardware integration and replace the current Intel technology. Our goal is to analyze these benefits to inform us of our strategic planning and decision-making processes. To enhance the security of our critical applications, the company has recently implemented phishing-resistant Multi-Factor Authentication (MFA) using the Microsoft Authenticator application. To further improve our identity and access management capabilities and bolster our security posture, the company is now evaluating biometric technologies, including hardware tokens. This authentication method is designed to strengthen user accounts. These measures significantly increase the barriers to unauthorized access, thereby providing a higher level of protection for user identities. The project will necessitate the involvement of vendor resources, specialized skills, and Coned staff to design, plan, and evaluate the new Windows operating systems and all applications requiring	

installation and systematic testing. The company will invest in acquiring the necessary software licenses and various devices such as laptops, computers, and mobile devices like phones.

Con Edison is currently utilizing SharePoint services on-premises as a collaboration technology and a central repository for departmental documents, including procedures. We are planning to transition this infrastructure seamlessly to SharePoint Online on Azure cloud, aligning with modern cloud-based solutions to enhance our operational efficiency. A resolute team comprising vendors and Con Edison resources will plan and execute the migration, starting in 2026 and scheduled for completion in 2027. The migration process will necessitate specific software and hardware procedures to automate the transfer of user access and data to SharePoint Online. Additionally, the tool will facilitate the validation and testing of the migration process. Migrating from SharePoint on-premises to SharePoint Online offers several advantages, including:

- Reduced infrastructure costs: SharePoint Online eliminates the need for on-premises hardware and maintenance, thereby reducing infrastructure expenditures.
- Automatic updates: SharePoint Online is automatically updated by Microsoft, ensuring users have immediate access to the latest features and security enhancements.
- Scalability: SharePoint Online can scale to meet growing storage and user demands effectively.
- Security and Accessibility: SharePoint Online allows secure access from any location, enabling remote and mobile collaboration. Migrating data to SharePoint protects it from cyber-attacks or device loss, as no data is stored on end-user devices.
- Integration with other Microsoft services: SharePoint Online seamlessly integrates with other Microsoft services such as Office 365, OneDrive, and Teams, delivering an integrated user experience.
- By eliminating a sizable portion of the SharePoint on-premises infrastructure, we will achieve a one-time cost avoidance of \$250,000 by not having to manage or maintain the infrastructure. Migration to SharePoint Online will significantly enhance our operational efficiency by leveraging these benefits.

At Con Edison, enhancing mobility has improved our operational efficiency by equipping field crews with mobile devices such as iPhones. To further enhance our capabilities, we will conduct a comprehensive evaluation of the latest mobile device technology available from industry leaders. This initiative is designed to equip our field workforce with state-of-the-art technology, including mobile AI, ensuring they have the best tools at their disposal to serve our customers effectively and safely.

Justification Summary:

Technology is evolving rapidly, leading to a corresponding increase in cyber risk. To stay competitive and maintain secure, efficient operations, End User Computing capabilities must quickly adapt to meet changing user and business expectations. Various technologies, both foundational and emerging, are integrated to provide a seamless user experience. For example, end user computing devices need to keep software up-to-date and undergo regular security scans. These devices should also utilize cloud

capabilities for scalable performance and incorporate advancements such as augmented and virtual reality. These features have become standard, enhancing safety for all users.	
Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act	
Risk 1 Name: Department. Information Technology. Cybersecurity	Risk 1 Description: Outdated software makes Coned vulnerable to cyber attacks
Risk 2 Name: Department. Information Technology. Unauthorized access or loss of sensitive data	Risk 2 Description: Loss and/or misuse of sensitive information if access is not sufficiently secure

2. Supplemental Information

Alternatives	
The alternative is to maintain the current technology until inevitable business process disruptions necessitate a change, potentially resulting in sub-optimal technical decisions. This approach will lead to increased long-term risks and significant re-work. Utilizing outdated versions in the end-user computing environment can cause performance slowdowns, negatively impacting user experience and productivity, while also elevating cyber risks. If these issues are not addressed promptly, they can result in obsolescence and accumulate substantial technical debt and increased cyber risk.	
Risk of No Action	
Risk 1 Name: Department. Information Technology. Cybersecurity	Risk 1 Description: Outdated software makes Coned vulnerable to cyber-attack,
Risk 2 Name: Department. Information Technology. Unauthorized access or loss of sensitive data	Risk 2 Description: Loss and/or misuse of sensitive information if access is not sufficiently secure
Non-Financial Benefits	
Migrating to SharePoint Online grants immediate access to essential business content, including procedures and operational guides, thereby enabling field workers to execute their tasks efficiently. Furthermore, the ability to offer real-time video streaming permits subject matter experts (SMEs) to support teams remotely and provide timely assistance. Additionally, enhanced security measures bolster the organization's cybersecurity posture and safeguard against potential cyber threats.	

Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) "N/A" does not apply. 2. Major financial benefits "N/A" does not apply. 3. Basis for estimate Historic purchases and internet research are used as well as planning sessions with key vendors and internal SMEs.
Project Risks and Mitigation Plan "N/A" does not apply.
Technical Evaluation / Analysis Information Technology plans and analyzes all innovative technologies, aligning them with IT strategy. IT advisors, vendors, and company employees collaborate to choose the best solutions. Implementations undergo evaluations and commercial RFPs before rollout.
Project Relationships (if applicable) All current and future business applications necessitate that desktop software and end user devices are secure, up-to-date, efficient, scalable, and supportable. Company policies mandate that the computing environment complies with cybersecurity and software compliance policies. The evolving cyber threat landscape and company requirements determine the technologies chosen to manage and maintain a secure and stable computing environment for users, minimizing disruptions. This project will deliver a secure scalable and forward-looking end user computing environment by providing the following: a) Adopt and implement forward-looking advances in technology, with agility and in a timely fashion, to meet corporate goals safely and satisfy business expectations. This is critical to continue mitigating cyber risk, scale and provide a secure, functioning, and acceptable end user computing environment and positive user experience for company personnel. b) Maintain a reliable secure platform by implementing advanced security and emerging features and capabilities from leading software and hardware vendors. Build cross functional team and acquire skill sets and bench strength to help develop processes to implement, deliver the goals above and continue maintain and support the technology investments.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						

Regulatory Asset						
Capital			1,359	1,564	0	1,392

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	3,521.00	1,084.00	1189.00	509.00	559.00
Labor		300.00	300.00	450.0	300.00
M&S					
Contract Svcs.					
Other		784.00	889.00	59.00	259.00
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

Business Unit / Division 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Enterprise Architecture Modernization	
Project/Program Manager: Abhijit Kulkarni, Anuja Nakkana	Project/Program Number (Level 1):
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date In Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: 2,700.0 O&M: 1,813.0	
Work Description: Enter text here. When complete, remove instructions below. Enter "N/A" if this section does not apply. ENTERPRISE ARCHITECTURE: Enterprise Architecture is responsible for aligning an organization's technology strategy with its business goals. They develop architectural blueprints that illustrate the relationships between business processes, data, applications, and technology infrastructure. By collaborating with business leaders, they ensure that architectural strategies support strategic priorities. They also establish governance processes and guidelines to maintain architectural integrity across projects. Additionally, Enterprise Architects evaluates emerging technologies to drive innovation and improve IT capabilities. They manage risks associated with architectural decisions and ensure compliance with relevant standards. Ultimately, they facilitate communication among stakeholders and guide the organization through necessary technological transformations. Expanding Enterprise Architecture Program The Enterprise Architecture (EA) program within IT is growing rapidly, promoting technology standardization in an organized and industry-informed way. IT is adopting and maintaining new technologies to introduce new business capabilities and improve existing IT processes. Demand for Architecture Expertise and services. The Enterprise Architecture (EA) team and practice are rapidly evolving to address the growing need for architectural expertise. This expansion is fueled by swift advancements in multiple areas, including the merging of information and operational technologies, cloud-based solutions, data governance, and AI innovations, all of which significantly influence organizational structures and processes. Enabling Business Capabilities through Architecture	

The EA team is responsible evaluating the impact of technological advancements and positioning the IT organization to adopt and leverage as the team evaluates select technologies, helps build roadmaps, processes and tools, and implements solutions.

Facilitating Technological Transformation

By providing a structured and informed approach, the EA program facilitates the organization's technological transformation. It ensures modern technologies are integrated cohesively, aligning with industry best practices and strategic objectives, driving innovation and operational excellence.

Over the past three years, EA has established crucial capabilities. Future investments will enhance EA's impact in these areas:

1. Develop and upskill EA talent through hiring, training, and tool implementation.
2. Define and champion EA domains (e.g. cyber, integration, data analytics etc.), fostering an architecture-aware IT culture.
3. Create an operating model based on industry-standard frameworks for collaborative goal achievement.
4. Enhance governance processes and metrics.
5. Address stakeholder needs, resolve pain points, and improve processes and customer experience.
6. Develop a stakeholder matrix for better alignment and adoption.
7. Formulate a strategic roadmap targeting current and future business outcomes.

Justification Summary:

Enter text here. When complete, remove instructions below. Enter "N/A" if this section does not apply.

Over the past year, the demand for Enterprise Architecture (EA) services has grown significantly, driven by several factors:

1. Increased cloud adoption and infrastructure cost reduction by business IT
2. Implementation of platform solutions like Microsoft Teams and Office
3. Advancements in self-service analytics (e.g. MS power platform) to support business and technological innovation

The Common Approach to Federal Enterprise Architecture introduces a Consolidated Reference Model framework, which provides a standardized language for describing and analyzing investments. While originally designed for federal use, this framework can be adapted for private sector applications. It consists of six interconnected reference models:

Performance Reference Model

This model connects business strategy, internal components, and investments to evaluate their impact on strategic outcomes.

Business Reference Model

Instead of using a siloed organizational view, this model describes an organization through a taxonomy of common objectives and service areas, promoting collaboration and competition.

Data Reference Model

This model helps identify existing siloed data holdings, enabling better understanding, access, and utilization of data to support performance outcomes.

Application Reference Model

By categorizing system and application-related standards and technologies, this model supports service capability delivery. It allows business partners to reuse common solutions and benefit from economies of scale.

Infrastructure Reference Model

This model categorizes network and cloud-related standards and technologies that enable the delivery of voice, data, video, and mobile service components and capabilities.

Security Reference Model

This model provides a shared language and methodology for discussing security and privacy within the context of business partners' objectives and performance goals.

Enterprise architecture and the use of applied reference models allows more effective management of information technology portfolios to deliver more consistent positive outcomes. TOGAF (The Open Group Architecture Framework) is an accepted architecture framework used in the private sector, supported by Enterprise architecture tools. These tools accelerate and ease Enterprise architecture adoption which enables business modularity. This additional flexibility supports faster responses to market conditions that change your competitive landscape.

Engage strategic Enterprise Architecture consulting services to implement new functions, governance using an enterprise architecture tool, develop processes and metrics to help measure success and identify improvement areas. In addition, required training and necessary change management processes will be developed and executed to become fully operational for day-to-day operations.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Enter text here. When complete, remove instructions below. Enter "N/A" if this section does not apply.

- This project will not impact Greenhouse Gas Emissions
- This project will not impact or benefit Disadvantaged Communities
- This project will not help achieve goals in the Clean Energy Commitment
- This project will not help achieve goals in 5-year and long-range plans.
- This project will not help achieve goals in CI 610-4 Climate Change Resilience and Adaptation Plan.
- This project does not address Company risk mitigation activity

2. Supplemental Information

Alternatives

- Status quo: EA can remain at its current size

- Decentralized approach: Business units could independently address their needs.
- All advanced major projects could be performed by a solitary group, creating resource constraints, bureaucratic impediments, and a lack of subject matter expertise and business unit ownership

Risk of No Action

Capacity and Resiliency Challenges

If the Enterprise Architecture (EA) program fails to enhance its capacity and resiliency, it will be unable to meet the demands of the enterprise effectively.

Enterprise Architecture (EA) faces several challenges when not properly implemented:

1. Siloed architectural reviews limit collaboration and knowledge sharing across the organization.
2. Data quality and consistency issues can erode trust in the organization's analytical capabilities.
3. Proliferation of overlapping technologies increases costs and strains resources.
4. Inconsistent practices lead to poor solution quality and increased maintenance efforts.
5. Underutilization of institutional knowledge results in inefficiencies and missed opportunities.
6. Lack of centralized technology evaluation can lead to suboptimal investments and diseconomies of scale.

These issues collectively highlight the importance of a well-integrated, organization-wide EA approach to maximize efficiency, collaboration, and strategic technology investments.

By addressing these challenges and enhancing the EA program's capacity and resiliency, the organization can mitigate these risks and ensure a more efficient, effective, and coordinated approach to enterprise architecture and technology adoption.

Non-Financial Benefits

This program will generate non-financial benefits for the Company, such as:

- Transparency: Enhanced visibility of projects and spending
- Shared knowledge: An archive of EA models, methods, and data for reuse
- Consultative services: Determine the applicability of advanced EA solutions to problems reducing the need for external expertise.
- Cultural change: Promote a corporate culture where data-driven decision-making is pervasive.
- Standardization: The consistent use of reference architectures, approved set of tools, SW products and technology platforms, and analytics methods across the enterprise
- Efficiency: Better utilization of resources and simplify architectures and the number of SW
-

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

Enter text here. When complete, remove instructions below. Enter "N/A" if this section does not apply.

N/A

3. Basis for estimate

The estimate is based on current spend and the future scope to enhance the capabilities of the architecture platform. The O&M request will fund the cost of expanding EA staff and cloud-based software storage and computation resources.

Project Risks and Mitigation Plan

Enter text here. When complete, remove instructions below. Enter "N/A" if this section does not apply.

Evaluate and describe any risks that might extend the project timeline, prevent completion, or lead to cost overruns. Explain plan to minimize these risks.

Risk 1 Department. Unsupported Technology in Computer Systems

Lack of Enterprise Architecture (EA) governance and tools increases organizational risks by creating blind spots in technology alignment, decision-making, and strategic planning, leading to inefficient IT investments, technical complexity, and misalignment between business and technology goals.

Mitigation plan: Implementation of EA governance and tools will provide greater visibility into technology landscape and facilitate proactive replacement of soon-to-be unsupported technology.

Technical Evaluation/ Analysis

N/A

Project Relationships (if applicable)

N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year*</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital				235		608

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		313	550	750	200
Regulatory Asset					
Capital (Total)	300	600	600	600	600
Labor	150	450	450	450	450
M&S					
Contract Svcs.					
Other	150	150	150	150	150

Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

Business Unit / Division 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: M365 EA	
Project/Program Manager: Richard DiSciullo	Project/Program Number (Level 1): 24566671
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 09/01/2026	Estimated Date In Service: 08/31/2029
2025-2029 Funding Request (\$000) Capital: \$66,000.0 O&M:	
Work Description: The company is committed to providing a secure and effective modern digital workplace environment that empowers our workforce. The environment must include appropriate security and compliance technologies that are crucial to maintain our defenses and continue or initiate services that mitigate risks and detect threats. The M365 E5 suite includes security tools that are paramount for safeguarding the company's digital assets and compliance posture. Microsoft 365 is a comprehensive cloud-based subscription suite of productivity, security, and compliance tools used to enhance Con Edison's digital capabilities. The product suite which the company has licensed since 2020 includes advanced security features such as Office 365 Cloud App Security, Threat Intelligence, and Advanced Compliance, which provide enhanced visibility, control, and actionable insights to protect against attack threats. Additionally, M365 offers robust communication and collaboration tools like Microsoft Teams, SharePoint, and Yammer, as well as advanced analytics through tools like Power BI. Investing in M365 E5 licenses enables Con Edison to mitigate cybersecurity risks, improve data protection, and enhance overall productivity by providing employees with the latest technology and tools to work efficiently and securely. This investment aligns with long-term strategic goals by addressing enterprise risks and ensuring reliable service delivery. In addition, M365 fosters a unified platform for collaboration, with Microsoft Teams serving as the hub for teamwork, enabling active connection and collaboration on projects. SharePoint Online and OneDrive offer advanced capabilities for content storage, sharing, and protection of sensitive information. Exchange Online enhances communication and collaboration across the organization by providing a secure, reliable, and scalable email platform. All products are integrated with identity infrastructure, which protects data access to only authenticated users and devices. Additional M365 products or features Windows 11 – Upgrade for Con Ed devices to latest release of Microsoft operating system which provides for enhanced security, improved performance and modernized user interface.	

Office 365 Upgrades – Implementation of new and improved features of Office which help to improve user communication and collaboration, streamline business processes and protect enterprise digital assets.

Azure App Registration – Streamlined registration and deployment of applications (client or mobile) to the Microsoft Identity Platform which provides authentication and authorization services used to secure access to the application.

Microsoft Power Platform – Offers a suite of tools used to automate processes, build solutions, and analyze data with ease.

Microsoft 365 Copilot - AI-powered productivity tool that integrates with the Microsoft 365 suite to enhance user experience and efficiency. It leverages large language models, content in Microsoft Graph, and productivity apps to provide intelligent assistance in real-time.

Defender for Endpoint – Enterprise endpoint security platform designed to help networks prevent, detect, investigate, and respond to advanced threats. Uses big data and analytics to translate behavioral signals into actionable insights and detections.

Document Tracking and Auto Classification – Enhancements to M365 Information Protection toolset which helps in the discovery, classification, and protection of sensitive information. Auto classification provides the ability to automatically apply sensitivity labels to important documents and associate it with protection policies and organizational guidelines.

We are requesting additional investment in the software suite to cover the acquisition of licenses for new users, devices and servers added to the Con Edison environment during the five-year term of the Microsoft Enterprise Agreement, which commenced in 2024. The new licenses are assigned when needed and paid for during the annual Microsoft True-up process.

Justification Summary:

The Company has committed to M365 for email, productivity, collaboration and security tools. As part of the agreement a certain portion of the subscriptions can be capitalized. The risk of not procuring these tools could cripple the organization as these tools have become an essential piece of doing business. In addition, the risk of cybersecurity threats to the Company is increasing, and cybersecurity requirements for IT systems associated with business operations are continuing to grow. Federal legislation and regulatory standards are expected to continue and present risks for fines associated with failing to comply with standards. The risk to the confidentiality, integrity, availability, and reliability of the Company's systems increases greatly without the latest security and compliance technology and accompanying formal cyber and administrative policies to protect data and computing assets. M365 E5 security and compliance suite enhances the Company's ability to mitigate threats and cybersecurity risks from criminal organizations, nation states, and insider threats by enabling additional protection, detection, and response capabilities.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Cybersecurity is ranked as the second enterprise risk. The program will help to address this corporate risk by enhancing the Company's ability to protect its data and assets from cyber threats and mitigate the risk of attacks.). The program's comprehensive security features are designed to help protect data, detect and respond to threats, and meet regulatory requirements. Furthermore, this program will

help the Company continue to provide reliable service, significantly strengthen Company processes, and improve IT systems and processes while driving down corporate risk.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

An alternative to the Microsoft Office 365 E5 program would be to identify and procure individual components of the security and compliance suite from various vendors. The option would be less efficient and would likely be more costly to the Company. The Microsoft suite has been the company standard and switching to a new system would require significant training, which would be time-consuming and costly. In addition, procuring various solutions individually from different vendors would not afford the same visibility and integration among the security and compliance tools that are present in the M365 E5 suite.

Risk of No Action

Risk 1

The advanced comprehensive security and compliance functionality of M365 E5 helps to make our environment more secure, thus helping to reduce the likelihood of a cyber related event.

Non-Financial Benefits

This program will allow for improved visibility, protection, defense, and response capabilities to identify and protect against cyber threats. The additional security and compliance capabilities that are part of the M365 E5 suite will allow us to detect and respond to threats to our on-premises and cloud environments more quickly and efficiently than we currently can with our existing cyber defense tools. Additionally, M365 offers robust collaboration tools that provide improved workflows and communication among departments and employees.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

The cost of a cyberattack can vary greatly based on impact. In a worst-case scenario, such a breach can impede the Company's ability to deliver energy to the public safely and reliably. A cybersecurity-based intrusion has the potential to result in the loss of customer and employee information and impact power grids within NYC; either of these scenarios may result in material impact to the Company. The financial benefit associated with this program is the reduction of this risk and the cost avoidance associated with material impact (i.e., regulatory fines, 3rd party response support costs, etc.). The M365 suite of security features are comprehensive and designed to help organizations protect their data, detect and respond to threats, and meet regulatory requirements.

As per the above cost-benefit analysis, the major financial benefit of this program is the reduction of the risk potential of a cyberattack and the associated material impact to the Company. There is the potential that we will see additional financial benefits and cost savings from the replacement of existing security tools whose capabilities will be replaced by E5 functionality.

3. Basis for estimate

Historic purchases and program/project implementations are used as the basis for estimates associated with professional services (i.e., vendor labor) and internal labor.

Project Risks and Mitigation Plan

Risk	Mitigation Plan
The possibility of resources assuming contingency assignments outside of IT presents a risk to the project schedule.	Mitigation plan is to identify alternate resources who will be retained by IT to assume responsibility for the work of those who are called to contingency assignments.

Technical Evaluation / Analysis

Project Relationships (if applicable)

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital	22,857.6	923.9	300.4	(6.1)		44,500

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	0.0	2,000.0	2,000.0	2,000.0	60,000.0
Labor					
M&S		\$2,000.0	\$2,000.0	\$2,000.0	\$60,000.0
Contract Svcs.					
Other					
Overheads					

Business Unit / Division 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☐ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Mainframe Exit - Data Migration of CECONY Applications	
Project/Program Manager: Jeffrey Feld	Project/Program Number (Level 1): 27698009
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date In Service: 12/31/2027
2025-2029 Funding Request (\$000) Capital: 2,298.0 O&M: 250.0	
Work Description: Consolidated Edison Company of New York, Inc.'s (Con Edison) Information Technology (IT) manages mainframe computer-based applications and applications that interact with the mainframe computer. The Company has been replacing these applications to eventually move away from all mainframe type applications. Despite replacing these applications, Con Edison must preserve the historical data that resides on the mainframe to comply with legal, regulatory, or operational requirements. The outdated nature of mainframe platforms and the scarcity of support resources make them expensive to maintain. Therefore, the Company is obligated to transfer records to more modern, standard technologies and enterprise solutions. In 2023, Con Edison conducted a comprehensive assessment, retention, and archival of data for all mainframe and web applications with mainframe dependencies. The application data was evaluated according to the established records retention schedules, leading to the identification of 17 applications that meet the retention and archival criteria in this Rate Case White Paper. Con Edison plans to employ enterprise tools for migrating data and applications to a server/cloud environment with business users validating the process. These tools will align with a unified enterprise technology framework, adhering to Cyber Security and Enterprise Architecture security standards. The project's initial two years will incur capital expenses for new tools and software followed by a \$238,000 O&M cost in the third year. Most of the applications are mainframe databases using DB2 (Database 2) software. Other applications consist of back-end multiple VSAM (Virtual Storage Access Method) files using CICS (Customer Information Control System) software, and a web-based front end consisting of programs to access and display the data. These applications were decommissioned after the CORE project (the new Customer Care Billing system) went live in 2023, but each application retains its historical data repository in read only format. Con Edison will commence the technology project to implement the data archival and retrieval tools recommended in the assessment. The applications for the project have various retention schedules	

determined by business functionality, application characteristics, and data types. The age of existing data varies among the applications (see **Justification Summary**).

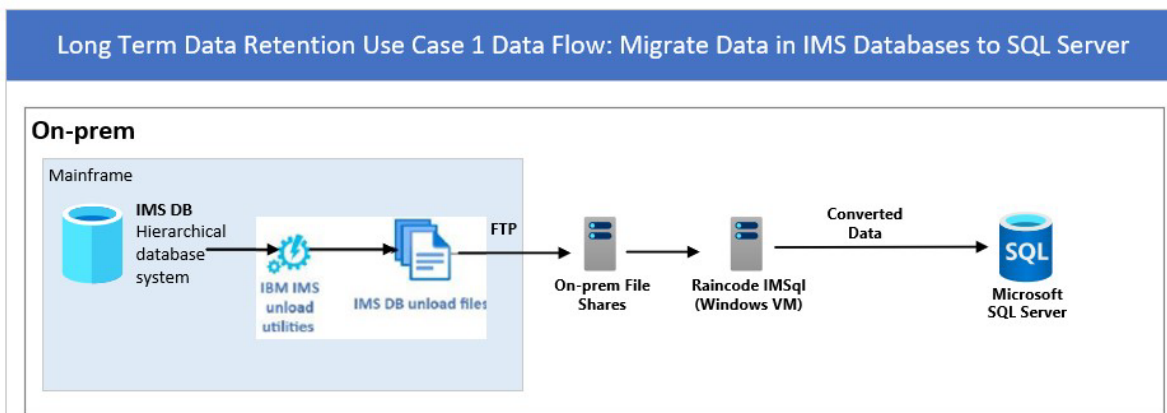
The architecture for each application will incorporate the following migration tools:

1. MS SSMA (Microsoft SQL Server Migration Assistant) is a specialized tool designed to facilitate the migration of IBM's DB2 mainframe database data to a scalable SQL Server platform. SSMA for DB2 simplifies the migration process by automating schema conversion.
2. DSI Data Ark is a data conversion tool to bridge, transform and migrate data from mainframe files to an Azure Storage platform. It ensures that the data remains accurate and reliable after transitioning from a mainframe application to Azure.
3. Raincode is a technology tool designed for the emulation and migration of mainframe applications to cloud environments. It allows legacy systems to seamlessly move their legacy systems supporting data migration and providing an interface for managing the migration project. Raincode enables applications to "rehost" themselves in the cloud without rewriting or transforming the original source code, allowing them to operate in a cloud-native setup akin to a mainframe environment.

Mainframe applications are established on an organization's physical premises, using local hardware, infrastructure, and residing in our data centers. In contrast, cloud computing delivers services such as storage, software and processing power via the internet. The design for the data migration encompasses architectural solutions addressing security/privacy, internet connectivity, and continuous costs.

Use Case 1: Transfer Data Residing in IMS Databases to the New Platform

Below is a data flow diagram illustrating the data migration process for the IMS data

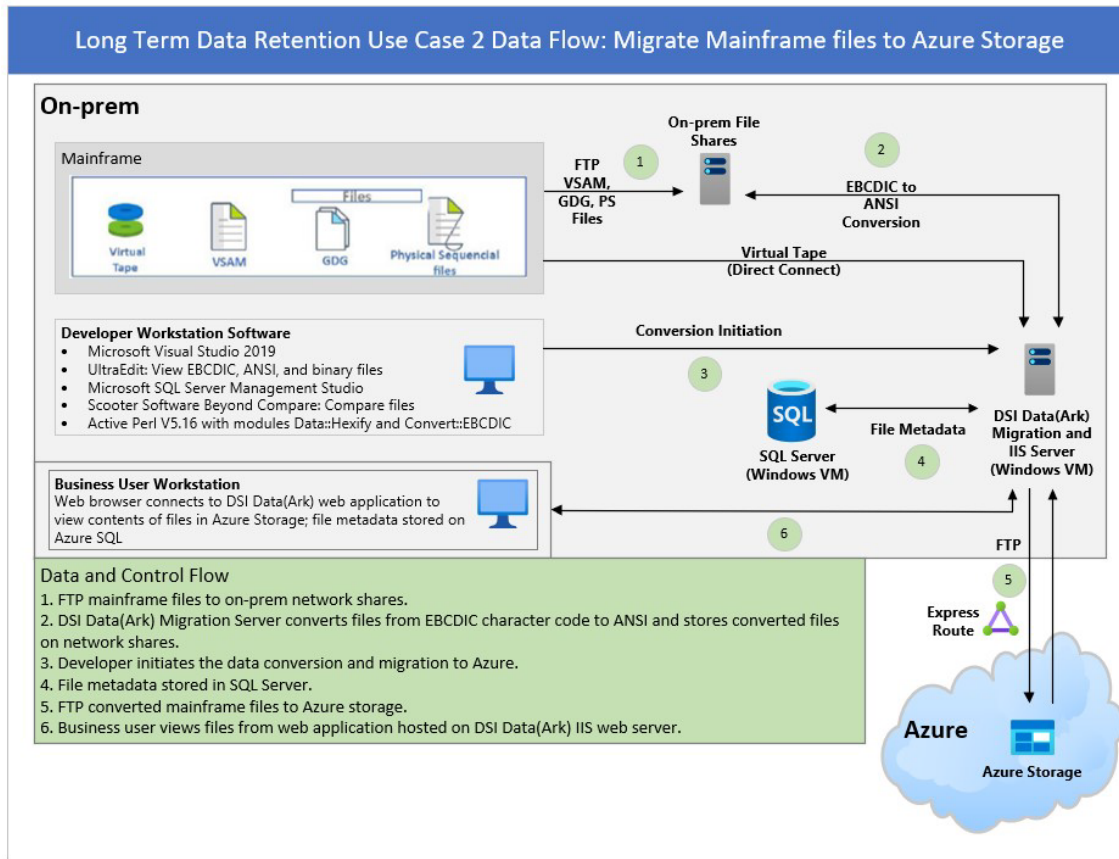


Applications housing data in IBM's IMS (Information Management System) databases will employ Raincode to migrate the data to the new platform. The applications include the following:

1. Emergency Control System (ECS)
2. Fuel Inventory Management System (FIMS)
3. Gas OperationsPerformance System (GOPS)

Use Case 2: Transfer Data Residing in Mainframe Files to the New Platform

Below is a data flow diagram illustrating the migration process for the data in mainframe files.

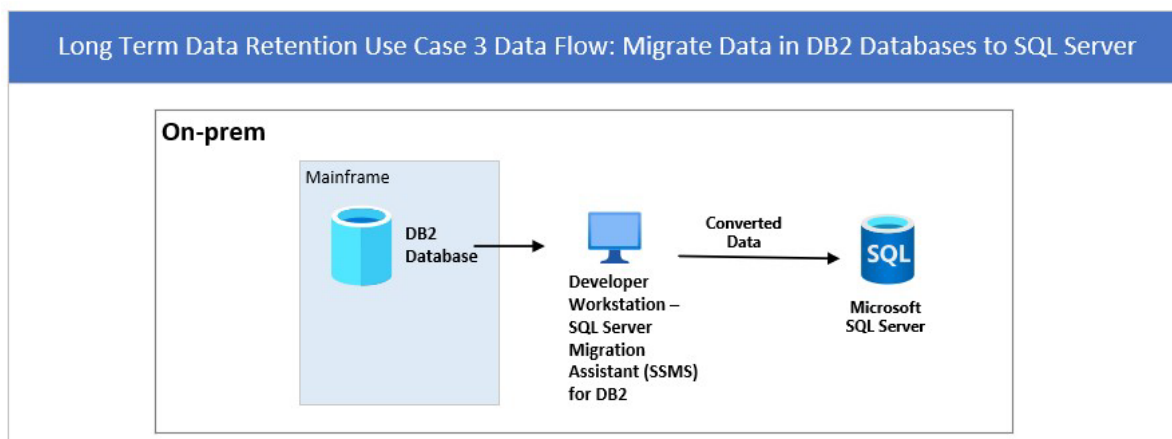


Applications containing data in mainframe files will use DSI Data Ark to migrate the files to the new platform. This includes VSAM (Virtual Storage Access Methods) files, sequential files, and files on tape. The applications include the following:

1. Monthly Master Review (MMR)
2. Quarterly Master Review (QMR)
3. Productivity Analysis Reporting System (PARS)
4. Rate Verification System (RVS)
5. Traction Billing Interface System (TBIS)

Use Case 3: Transfer Data Residing in DB2 Databases to the New Platform

Below is a data flow diagram of the data migration process for the DB2 data.

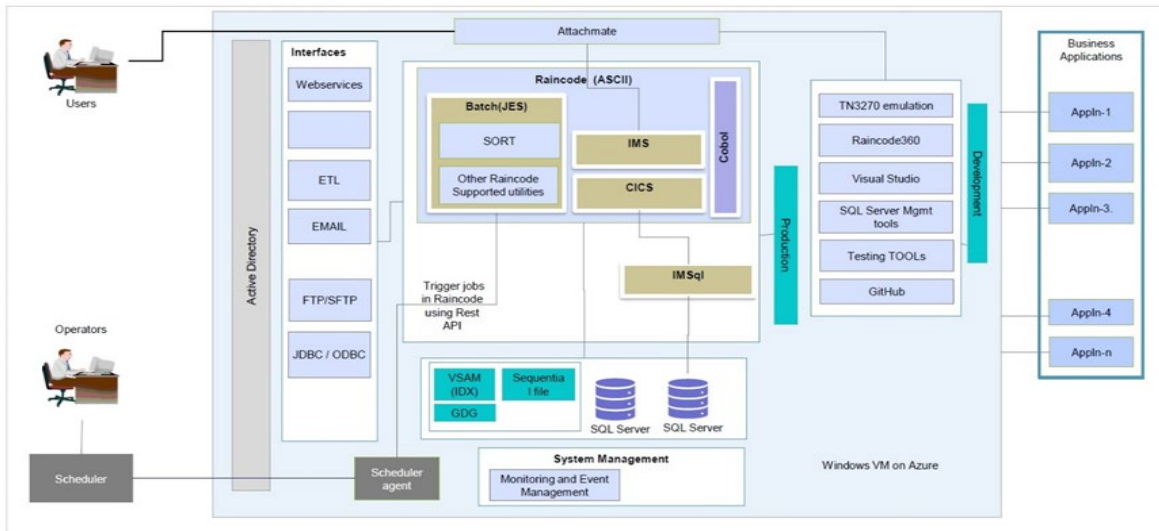


The applications with databases currently hosted in DB2 that will use MS SSMA (Microsoft SQL Server Migration Assistant) to migrate the data to the new platform include the following:

1. Activity History Aging Reporting System (AHARS)
2. Consolidated Utility Billing System MF Billing (CUBS)
3. Customer Accounting System (CAS)
4. Revenue and Statistics (RevStat)
5. Customer Service System (Ad Hoc Extracts)
6. Reconciliation of CSS and Satellite Systems Final Data (RCSF)
7. Power Plant (Client/Server)

Use Case 4: Rehost Applications and Transfer Data to the New Platform
Below is a data flow diagram for rehosted applications.

Mainframe Application Access using Raincode



The following applications will have application components rehosted and data migrated to the new platform. Raincode will be the solution to rehost the applications and supporting technologies on the new platform.

1. Activity History Display System (AHDS)
2. Customer Information System (CIS)

Justification Summary:

Data retention is required based on operational, legal, and regulatory requirements.

Operational: The new Customer Service System project (CORE) for Con Edison, implemented in October 2023, replaced multiple Customer Operations mainframe applications, and were decommissioned. Historical data for customer billing stayed in the mainframe applications and is used by Customer Operations for research, analysis, audits and making adjustment/corrections to billing in the new Customer Care and Billing CC&B (Customer Care and Billing) system. Other business areas, such as the Accounting and Rate Engineering Departments, also request historical data be retained in other applications for analysis and auditing purposes.

Legal Hold: Due to various class action suits, each application's data was placed on legal hold by our Law Department to retain the data for an indefinite period, pending any outcome of class action. Legal Holds exist on the data of the applications.

Cost Savings: Reduce risks in system maintainability with a large resource managed service providers supporting the current technologies. Data retention is required based on legal, regulatory, and operational requirements.

Regulatory: This includes internal and external audit requests, data retention requirements as required by the State of New York or federal requirements.

In 2023, mainframe operating maintenance costs were \$10.3 million. This includes hardware, software maintenance and support through resources and vendor service contracts. Resources to support mainframe infrastructure and technology are becoming scarce and hence more expensive. IT developers with knowledge of mainframe technologies such as DB2, VSAM, sequential files are not readily available because current computing environments have evolved from these technologies. As resources become harder to acquire, Con Edison anticipates that support costs (if the support is even available) for continuing the mainframe will increase annually. The O&M expense to have the mainframe available is not the most prudent use of the Company's maintenance budget if there are platforms that will be more cost effective.

Modernizing applications and eliminating the usage of mainframe reduces risks in system maintainability with a large resource managed service providers supporting the current technologies such as Azure and SQL Server. Once the conversion of data is successfully completed, it will render Con Edison's mainframe platform obsolete and eventually eliminate its need.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

- This is based on IT's 2023 Mainframe Exit Initiative Assessment project.
- No impact or relationship to the NYS Climate Leadership and Disadvantaged Communities Act (DACs).

2. Supplemental Information

Alternatives

An alternative is to retain the existing mainframe computer environment for the applications as a data archive and repository. Con Edison does not favor this approach because there would be mounting costs associated with maintaining this environment. Con Edison does not plan to invest significant capital and maintenance to support a mainframe computer infrastructure as the Company's strategy, consistent with industry practice, is to move away from mainframe systems.

Risk of No Action

The risk of retaining these databases and files on the mainframe computer does not align with the strategic goal of eliminating the mainframe computer. If the mainframe computer exists as a storage repository only, there are costs associated with infrastructure and operations support, developer support, hardware maintenance, and physical building space.

Non-Financial Benefits Retention of historical data ensures operational continuity for billing customers accurately, regulatory compliance and protecting the company with data evidence to present in a legal case.
Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) N/A 2. Major financial benefits This initiative supports future cost avoidance. Keeping the mainframe computer as a data repository after Con Edison replaces the mainframe computer applications will require the Company to continue to incur O&M costs for the mainframe computer. For example, based on today's computing environment with applications that are actively transacting, 2023 O&M software costs are approximately more than \$10 million annually. This includes IBM maintenance costs, third-party software, labor costs, hardware maintenance costs, and disaster recovery costs. While some of these costs will be eliminated by reduced mainframe computing needs, third-party software and hardware maintenance costs will remain, albeit at a reduced level. In addition, keeping a mainframe computer solely as a data repository would still require hardware upgrades. In today's environment, such upgrades are required every three years. 3. Basis for estimate N/A
Project Risks and Mitigation Plan N/A
Technical Evaluation / Analysis N/A
Project Relationships (if applicable) N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M				\$250.0	
Regulatory Asset					
Capital (Total)	\$0.0	\$1,295.0	\$1,003.0	\$0.0	\$0.0
Labor		\$172.0	\$172.0		
M&S		\$387.0	\$208.0		
Contract Svcs.		\$353.0	\$314.0		
Other		\$221.0	\$171.0		
Overheads		\$162.0	\$138.0		

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: ServiceNow Platform Expansion	
Project/Program Manager: Rohini Chand	Project/Program Number (Level 1): 27708283
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 01/01/2026	Estimated Date In Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: \$15,340.528 O&M: \$1,994.00	
Work Description: The ServiceNow Platform Expansion program will expand Information Technology's Service Management platform, ServiceNow, to achieve the following key objectives: - Improve IT's Asset Management and Compliance, by tracking and managing the full lifecycle of IT assets from procurement to disposal and ensuring they are optimized, secure and compliant - Improve IT's operational intelligence and agility by leveraging artificial intelligence and machine learning to analyze and correlate IT data, providing proactive and predictive IT management - Simplify and streamline IT operations and enhance digital transformation, providing a secure way to integrate systems and applications. This program will be implemented over the course of four (4) years and will require project resources, IT resources, as well as Software as a Service subscription licenses. The subscription services also come with a recurring cost increase which has been accounted for in this plan. A high-level description of each expansion module and the associated costs are below: <u>ServiceNow IT Operations Management (ITOM) AIOps Enterprise Subscription</u> The implementation costs and licenses for this module are covered in the total amount of \$4,595,864 for RY1, \$3,895,864 for RY2 to cover the remaining licenses and implementation, and \$130,000 for RY3 for implementation costs. The functionality included in ServiceNow's ITOM AIOps Enterprise subscription is a strategic enhancement to leverage the vendor's new artificial intelligence and machine learning capabilities to automate tasks, reduce incidents, and prevent issues. ITOM AIOps also provides IT Operations with Event Management -with actionable alerts that will significantly reduce downtime of critical applications used by the businesses to efficiently operate the power delivery systems. <u>ServiceNow Software Asset Management (SAM) Professional Subscription</u> The implementation costs and licenses for this module are covered in the total amount of \$380,000 for planning costs in RY1, \$2,140,000 for RY2, \$ 1,440,400 for RY3 to cover the remaining licenses and implementation, and \$130,000 for RY4 for implementation costs to complete the implementation. This approach will optimize software spending and minimize compliance risks. The subscription offers features to automate software license management, track software entitlements, and provide visibility and control over software assets, including cloud Software as a Service licenses. This will help achieve greater value from software investments. Enhanced visibility into software usage will also enable cost savings.	

Integration Hub Professional v2 Subscription

Implementation of ServiceNow's Integration Hub allows the connection to multiple Security applications, minimizing the cost for customizations. This will ensure customers connection to Security systems are secure from vulnerabilities. Subscription licenses will cost \$156,000 in RY1, with implementation costs of \$250,000, and \$162,000 in subsequent Rate Years.

Software Asset Request & Deployment Process Enhancements

The software request management process needs to be upgraded to provide seamless integration among the various systems used to fulfill the users request in a more efficient and streamlined manner. This upgrade will enable us to better manage software deployments, automate workflows that are currently being performed manually, and improve customer experience. This automation also allows for a secure software installation out of one system. This application is expected to cost \$380,000 in RY1, and \$130,000 in subsequent years for labor costs. .

ServiceNow Integrations & Enhancements

To address the growing demand from customers, the system needs continuous enhancements and integrations with IT monitoring tools and security systems to monitor vulnerabilities and improve operational functions. These improvements will incur costs of \$345,000 annually.

Migrate IT's Corporate Request for Evaluation & Approval of Technology (CREATe) Application into ServiceNow and implement Power BI integration.

Automate IT's Evaluation & Approval of Technology application and integrate Power BI with the ServiceNow platform. This will eliminate the current manual process, allowing customers to request applications from IT more efficiently. These automations are crucial for removing manual activities, which also pose potential security vulnerabilities. The cost is \$610,000 in the first rate year (RY1) and \$10,000 in subsequent rate years for subscription licensing and implementation costs.

Implement Contract Management Functionality

The implementation of this application will allow the management of Contracts, alerting for key expiration dates, and automating current manual contract reviews. The cost is \$250,000 for RY1 for implementation services.

Justification Summary:

Currently, various systems are in use, along with some manual efforts to proactively identify system outages. This approach can result in IT system failures, as resources spend considerable time manually troubleshooting large volumes of data causing significant delays in problem resolution. The inability to quickly pinpoint and address the root causes of these issues can lead to unnoticed security threats, negatively affecting customer satisfaction and user experience.

Expanding Con Edison's ServiceNow platform strategically enables IT to automate more processes and tasks, minimizing human error and manual efforts while gaining valuable insights into data, licensing, and assets. This investment is crucial for proactive issue detection and automated remediation, which will reduce customer downtime and optimize resources by automating routine tasks. Additionally, having a proactive view of potential security risks will help mitigate and reduce the likelihood of security outages.

ServiceNow IT Operations Management (ITOM) AIOps Enterprise Subscription

Resolving system outages in a timely manner is critical to IT's operations and will be used to automatically detect and resolve IT issues, reducing investigation time. Event Management in ServiceNow minimizes false alarms and enables proactive remediation, ensuring faster problem resolution and shorter outages. This enhances IT system reliability, leading to improved customer satisfaction and quicker service restorations.

ServiceNow Software Asset Management (SAM) Professional Module

In our current IT environment, software licenses are maintained outside of a centralized system, and there is little visibility into the licenses allocated to users across the enterprise. This module includes features such as pre-built software reports, reconciling tools, remediation options of licensing, asset onboarding and offboarding.

Integration Hub Professional v2

With the Integration Hub, ServiceNow can provide a unified and consistent platform for integrating various IT processes and applications across the enterprise. This will reduce the complexity and cost of integration

development and maintenance, as well as improve the performance and security of the integration operations. By using the Integration Hub, ServiceNow will also deliver faster and better services to its customers, by connecting and synchronizing data and workflows across different systems and platforms.

Software Asset Request & Deployment Process Enhancements – O&M

To enhance customer satisfaction and achieve cost savings, we propose centralizing the software request and deployment process into a single repository. This will streamline service delivery, reduce management time, and ensure prompt software delivery. Improved coordination among teams will make the process more efficient and user-friendly, directly boosting customer satisfaction. Additionally, streamlining operations and reducing redundancies will lead to significant cost savings.

ServiceNow Integrations & Enhancements

The application is constantly evolving to meet the changing needs and expectations of business and IT customers, stakeholders, and regulators. These enhancements vary in scope, complexity, and urgency.

Migrate IT's Corporate Request for Evaluation & Approval of Technology (CREATe) Application & Process into ServiceNow

Leverage ServiceNow to streamline the existing homegrown CREATe application process to provide an improved customer experience to maintain and support fewer application solutions.

Configure Contract Management Functionality

Maximize the value of IT's ServiceNow investment by automating functionality that is available to IT users. Today, IT resources manage this contract data in an Excel spreadsheet that does not meet IT's needs to track hardware and software contracts.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

These strategic ServiceNow implementations support the Company's plans around heightened cyber security vigilance and reduction of HPI errors through automation, and efficient delivery of quality IT services to IT's partners and business customers throughout the Company.

2. Supplemental Information

Alternatives

ServiceNow IT Operations Management (ITOM) AIOps Enterprise Subscription

The alternative to this subscription is to continue customizing functionality for event alerts. This results in additional costs to customers.

ServiceNow Software Asset Management Professional Module

Continuing to use the current functionality of several systems, which lack automation capabilities, would result in additional costs for integrating multiple systems. Moreover, the lack of visibility into software license usage from a source system could lead to further expenses.

Integration Hub Professional v2

The alternative to Integration Hub is to continue manually developing application integrations without the benefit of pre-built integration packs that expedite the integration process. This results in additional time and cost.

Software Asset Request & Deployment Process Enhancements – O&M

An alternative to this is to leave the existing process as-is and continue to fund maintenance of legacy systems utilized to request and deploy software. Using multiple systems result in customer dissatisfaction and additional costs to maintain disparate systems with additional resources.

ServiceNow Integrations & Enhancements

Our customers' unique requirements drive the need for Integrations and Enhancements to be agile enough to prevent the purchase of additional IT tools and improve security of applications and Infrastructure components.

Migrate IT's Corporate Request for Evaluation & Approval of Technology (CREATE) Application & Process into ServiceNow

Alternative solution is to take no action and continue using the homegrown CREATE application to evaluate and vet technology projects. The CREATE application would remain separate from ServiceNow.

Configure Contract Management Functionality

Alternatives to ServiceNow's Contract Mgmt. functionality include purchase and implementation of a separate, potentially duplicate IT solution or the continued use of manual processes and Excel spreadsheets to track contract information.

Risk of No Action

ServiceNow IT Operations Management (ITOM) AIOps Enterprise Subscription

ITOM AIOps will improve IT's Incident response processes with Event Management. Otherwise, IT support teams must manually sort through thousands of monitoring alerts, which turn into Incident tickets in the ServiceNow platform, without AI or advanced logic to help them find the important alerts that need quick fixing. Without AIOps and Event Management, IT support teams cannot act proactively on alerts, and may only act after an issue causes an outage and affects customers.

ServiceNow Software Asset Management Professional Module

The current model of mostly manual software license management exposes the Company to software overspending, underutilization of licenses, and potential risk of non-compliance.

Integration Hub Professional v2

The primary risk associated with not implementing the Integration Hub is to time and resources, as well as cost spent custom building application integrations, rather than allocating resources to other strategic goals.

Software Asset Request & Deployment Process Enhancements

The current process is inefficient, leading to a lack of customer satisfaction and reduced customer experience when requesting software.

ServiceNow Integrations & Enhancements

ServiceNow can enable IT to streamline processes, automate tasks, and optimize performance across the organization. Without taking advantage of these capabilities, IT may have to rely on outdated or redundant solutions that do not meet the evolving needs and expectations of the business.

Migrate IT's Corporate Request for Evaluation & Approval of Technology (CREATE) Application & Process into ServiceNow

IT must continue to dedicate resources to the technical support and maintenance of the homegrown CREATE application.

Configure Contract Management Functionality

If IT does not utilize ServiceNow's available functionality, we risk the purchase and implementation of a separate, potentially duplicate IT solution that would require maintenance and support, or the continued use of manual process and Excel spreadsheets which are prone to human error.

Non-Financial Benefits

Non-financial benefits of these technology solutions and process improvements:

- **ServiceNow IT Operations Management (ITOM) AIOps Enterprise Subscription**
 - **Enhanced visibility and control:** Enables IT teams to monitor, analyze, and troubleshoot issues across the entire IT environment, from applications to infrastructure and cloud to on-premises. It also allows IT teams to proactively detect and prevent issues via Event Management and automation of remediation actions using AI-driven insights and recommendations.

○ Improved agility and innovation: Helps IT accelerate and streamline the delivery of IT services by automating workflows and tasks, and by integrating with DevOps tools and processes. It also leverages the power of AI and machine learning to continuously learn and improve IT operations. • <u>ServiceNow Software Asset Management Professional Module</u> ○ Reduced risk and compliance costs: Helps IT teams optimize the software lifecycle, manage inventory, usage, and costs of software assets. It also helps IT teams to ensure compliance with software licenses and contracts, by identifying and resolving discrepancies or violations. It also supports audit readiness and reporting. • <u>Integration Hub Professional v2</u> ○ Reduced complexity and cost: ServiceNow's Integration Hub simplifies the integration process by providing a graphical interface and a library of pre-built connectors and spokes that can be used to create and manage integrations without coding. This reduces the complexity and cost of integration projects and enables IT teams to focus on business logic and outcomes rather than technical details. ○ Increased efficiency and agility: ServiceNow's Integration Hub enables IT to automate and orchestrate workflows across different applications and systems in real-time, using triggers and actions that can be configured and customized according to the business needs and rules. This increases the efficiency and agility of the business processes and allows users to respond faster and more effectively to changing demands and situations. • <u>Software Asset Request & Deployment Process Enhancements</u> ○ Customer satisfaction: Redesign of this process will improve business customer ease of use and satisfaction, e.g., by providing visibility into available software and progress of requests. ○ Increased efficiency: IT can reduce the number of technology solutions required to deliver software installations to customers. • <u>ServiceNow Integrations & Enhancements</u> ○ Process Improvement: The movement of IT processes into ServiceNow leads to process evaluation, redesign, and the opportunity to leverage ServiceNow's built in functionality and the possibility of process automation. ○ Reliable IT Service: implementation of new workflow enhancements in ServiceNow to track the request and delivery of IT services against service level agreements ensures a level of reliable service to internal IT and business customers throughout the Company. • <u>Migrate IT's Corporate Request for Evaluation & Approval of Technology (CREATE) Application & processes into ServiceNow</u> ○ Application Rationalization: Will reduce the number of applications that IT resources must support and maintain. • <u>Configure Contract Management Functionality</u> Leveraging Technology Investments: Moving the management of IT contracts into ServiceNow can lead to better governance, oversight of contracts, process recommendation, and the opportunity to leverage ServiceNow's built in functionality and the possibility of process automation.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

Not applicable.

2. Major financial benefits

Reduction in resources to manually to:

- Troubleshoot software deployment issues and license data collection and reconciliation
- Design, build, and maintain application integrations.
- Review and action monitoring alerts
- Execute general IT support activities that do not currently leverage AI or automation

3. Basis for estimate - Subscription license costs provided by IT's Managed Service Provider (Cognizant) for vendor products. - Managed Service Provider and Company resource labor costs associated with project implementation, requirements design, etc.
Project Risks and Mitigation Plan Project risks mainly involve process design and resource issues, such as securing stakeholder time for design workshops and achieving timely consensus on process decisions. Technical risks of the project implementation are low, given that ServiceNow is a proven industry standard platform active in our environment and has a dedicated support team. Potential technical risks include technical debt from previously designed process and functionality.
Technical Evaluation / Analysis Not applicable.
Project Relationships (if applicable) Not applicable.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		\$338.000	\$552.000	\$552.000	\$552.00
Regulatory Asset					
Capital (Total)	<u>0</u>	\$1,741.00	\$7,249.264	\$5,843.264	\$507.00
Labor	<u>0</u>	\$130.00	\$260.000	\$260.00	\$130.00
M&S	<u>0</u>	\$166.00	\$5,082.264	\$5,076.264	
Contract Svcs.	<u>0</u>	\$1,445.00	\$1,907.00	\$507.00	\$377.00
Other					
Overheads					

CECONY / Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Infrastructure Technology Modernization	
Project/Program Manager: Richard DiSciullo	Project/Program Number (Level 1): 26014117
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date In Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: 103,050 O&M: 54,336	
Work Description: As part of our Technology Modernization program, Con Edison continues to identify opportunities to modernize and enhance our infrastructure, hosting platforms, and associated practices and approach. The Technology Modernization program, which was introduced in 2022, began full throttled implementation in 2023 to upgrade, replace, consolidate, and/or retire applications and technologies in Con Edison's portfolio. This program is essential for ensuring that Con Edison remains at the forefront of technological advancements, thereby improving operational efficiency, reducing costs, and enhancing service reliability for our customers. By establishing a baseline, we can ensure consistent and ongoing improvements in our technology infrastructure. As part of this program, IT has included funding for efforts to increase automation, such as through the implementation of tools based on artificial intelligence. These tools leverage artificial intelligence and machine learning to optimize and enhance IT operations, enabling quicker response to operational events through enhanced visibility and analytics. IT is also looking to implement a practice to enhance reliability engineering as defined in the Site Reliability Engineering (SRE) below. Site Reliability Engineering (SRE) The rapid evolution of our infrastructure, paired with increasing demands for reliable service delivery, requires the establishment of a dedicated Site Reliability Engineering (SRE) team to support infrastructure operations. This team will focus on building and maintaining resilient infrastructure, improving operational efficiency, and ensuring high availability of critical services. By investing in reliability engineering, we enhance system reliability and uptime, proactively monitor, and automate responses to potential issues, thereby reducing unplanned downtime. This approach reinforces our commitment to maintaining essential services and justifies infrastructure enhancements. In addition to improving reliability, SRE will optimize operational efficiency through automation, lowering manual intervention needs and operational costs. These efficiencies allow for cost savings that can be reinvested into further infrastructure improvements, demonstrating responsible financial stewardship. The establishment of the SRE team also plays a critical role in reducing risk, as infrastructure stability	

is crucial for meeting compliance and regulatory requirements. The team's efforts to prevent system failures help avoid fines and penalties, ensuring that we meet industry standards and exceed customer expectations. SRE also facilitates scalability and future readiness, enabling our infrastructure to scale in a controlled, reliable manner. This capability ensures that our systems can adapt to increasing demand over time, resulting in scalable infrastructure. Moreover, SRE practices are integrated within our ability to detect, respond to, and recover from cyber incidents. This focus on resilience aligns with the organization's broader cybersecurity strategies, adding an essential layer of reliability that supports our obligations.

IaC

IT plans to continue to grow our capabilities in the infrastructure-as-code (IaC) space by enhancing the tools deployed as part of the program and leveraging them for additional use cases. Such use cases may include automation around patching, applications, security, back-up and restore, and/or identity. In addition, to further these efforts, IT plans to establish a Platform Engineering team and practice to support our infrastructure operations. This involves the adoption and management of advanced DevOps practices, tools, and staff. The benefits of Platform Engineering include increased efficiency through streamlined deployment processes, improved reliability of services through more comprehensive monitoring and management tools, reduced inconsistencies, and improved developer productivity through more standardized development environments.

AIOps

To enhance our IT operations through increased automation, we are seeking funding for the implementation of an AIOps (Artificial Intelligence for IT Operations) tool. These tools utilize artificial intelligence and machine learning to optimize and improve IT operations, providing faster responses to operational events and incidents through enhanced visibility and advanced analytics.

The AIOps solution will enable us to effectively monitor, manage, and optimize our IT infrastructure and applications. It will gather and analyze data from various sources, including different operating systems, servers, storage devices, network equipment, and applications. By correlating events across these different devices, the tool will help identify the root causes of issues. Additionally, it will use machine learning to predict and prevent future issues, thereby reducing the number of incidents we receive.

By leveraging these insights, the AIOps tool will provide automated actions, alerts, recommendations, and comprehensive reports, enhancing our operational efficiency and reliability. Additionally, we plan to adopt a Site Reliability Engineering (SRE) practice to support these initiatives, further ensuring the stability and performance of our IT systems.

Modern Workspace Experience

The Modern Workplace Experience (MWE) team mission is to redefine the experience of using technology in the workplace, setting a new standard in ease, efficiency, and user-friendliness. We envision a future where digital workflows go beyond functionality, becoming more intuitive, impactful, and effective through technological innovation. Our goal is to enable employees across the enterprise to focus their energy and attention on meaningful work by minimizing time spent on tech management and troubleshooting. We aim to create a work environment where technology feels effortless and empowering.

The team works iteratively to deliver continuous improvements. One of our key initiatives is the redesign of the IT Service Portal, transforming it from a complex system of confusing forms into an intuitive, user-centered platform that makes it easier for employees to find and access the IT services

they need. Other future projects include enhancing the discoverability of IT information within the Con Ed digital ecosystem, establishing standards and processes for IT-related communications, redesigning the process of requesting and installing applications through the Software Center, enhancing the remote access experience for both employees and contractors and more.

Teams Calling

Microsoft (MS) Teams calling offers a unified communication platform by integrating Public Switch Telephone Network (PSTN) calling in a single familiar tool. PSTN calling on MS Teams is highly scalable, allowing for easy adjustments in enterprise and user configurations without the need for physical infrastructure changes. Additionally, it will reduce maintenance and support costs associated with on premises systems. MS Teams calling streamlines IT management and reduces operational expenses over time.

Infrastructure Hosting

As part of this program, IT is also looking to make strategic investments to update, expand, and modernize our infrastructure hosting options. As such, we have included funding for various assessments of our cloud and on-premises network to help determine and formalize our strategies and plans.

Colo

Con Edison manages and maintains multiple data centers within company facilities. These data centers host critical systems and applications that drive our electric, gas, and steam operations, as well as critical financial and customer systems. Beginning in 2023, IT has undertaken an initiative to identify colocation (colo) providers and build new data centers in these facilities to support its workloads and data center operations. Investments in colocation (colo) facilities are essential due to the limited capacity of our existing data centers, which cannot meet growing business demands. This need is further heightened by Con Edison's relocation from our 30 Flatbush location, which currently supports our distribution control centers. Colo facilities are third party data centers which offer scalability, reliability through robust infrastructure, cost efficiency by avoiding substantial capital expenditures, and enhanced disaster recovery options. It also allows our IT team to focus on strategic initiatives rather than managing a data center.

Hardware

As part of this effort, IT is planning to invest in new hardware and technologies to build next-generation data centers with new architectures in these facilities for improved reliability and resiliency. Not only will this make data center operations more efficient, but it will also facilitate cost avoidances in vendor costs associated with maintaining and providing a 24x7 presence in our on-premises data centers once they are decommissioned or downsized and replaced with the new colo data centers. While modernizing our technology and approach to infrastructure hosting, Con Edison will also leverage the opportunity to make strategic investments in new and more secure, visible and reliable technologies and designs. Such technologies and improvements may include new load balancer technologies as well as re-designing and implementing improvements and security enhancements in critical network segments.

Labor

The Modern Workplace Experience Team (MWE) are seeking five (5) new roles that are pivotal in driving our mission forward. The selected employees will be instrumental in managing key projects

and they will also play a critical role in maintaining and supporting these initiatives by developing and implementing a robust governance process. By focusing on continuous improvement and user-centered design, the employees will help create a more intuitive, effective, and satisfying digital workplace for all.

Justification Summary:

The objective of this program is to enforce technology modernization through the continued implementation of new, more modern IT tools and associated practices. These modernization efforts are necessary to provide reliable and resilient infrastructure, platforms, and tools for our business partners. Overall, these modernization efforts will increase operational efficiencies and allow for further technological advancements while reducing risk.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

IT aims to have rationalized and current technologies to support the enterprise. This strategy includes upgrades and modernization of our portfolio to avoid cyber threats and functionality decline, as well as strategic investments in new platforms, technologies, and practices to further secure our technology environment and improve our operations and resiliency. Furthermore, these infrastructure investments are required to increase the reliability and resiliency of our infrastructure and data centers, and therefore minimize risks associated with outages and their implications.

2. Supplemental Information

Alternatives

Alternative 1

Continue operations as they are today. This is rejected because as the industry and needs evolve, IT needs to keep up with current technologies and modern practices to be able to meet the growing demands of our customers. Not keeping up with modern technologies can lead to inefficiencies, cybersecurity vulnerabilities, and security and operational risks associated with outdated or non-current platforms.

Alternative 2

Con Edison's data centers would require significant investments to maintain and improve operations, as well as significant expansion, through building a new data center, to support the business. As part of IT's long-term strategy, building next generation architectures in colocation facilities and expanding other infrastructure hosting options, such as the cloud, will allow for improved reliability and resiliency to better support our applications and operations.

Risk of No Action

Risk 1

Non-current technologies introduce cybersecurity risks in the environment as they can present vulnerabilities for which the vendor may not provide updates and fixes, as the technology is no longer supported after a certain point.

Risk 2

If no action is taken, we will continue to face disruptions and operational challenges related to our current infrastructure hosting solutions and data centers. We will likely also run out of capacity in our data centers and be unable to accommodate the needs of the business.

Risk 3

Operational inefficiencies due to the lack of modern monitoring technologies, which enable more proactive steps and automation. This could also lead to increased or sustained IT outages and disruptions to ongoing operations.

Non-Financial Benefits

Moving to more modern platforms and practices such as those described above will increase IT's efficiency and ability to meet growing demands, while making our products and services more resilient and reliable.

Modernizing our approach to infrastructure hosting will provide for increased reliability and resiliency, as well as the implementation of more current technologies and advanced architectures. This project will also afford additional flexibility in hosting options through expansion of our cloud environments, which will enable Con Edison to take further advantage of these options.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

The main drivers for this program are to maintain and improve IT operations by expanding and improving infrastructure hosting options and implementing a higher level of automation. The move to colocation data centers will allow for the company to reduce current spending by approximately \$2 million per year on vendor maintenance and free up space in company buildings for more revenue generating uses. The increased use of automation will reduce reliance on manual intervention thus reducing labor costs and improving reliability working closely with the site reliability engineering framework. Such savings are estimated to be realized in the next rate period after the downsizing of the Spring Valley data center.

3. Basis for estimate

This estimate leverages various quotes obtained from vendors and SME estimates based on experience and industry knowledge.

Project Risks and Mitigation Plan

Risk	Mitigation Plan
Compliance with end-of-life technologies	Carefully track end-of-life for relevant technologies to identify timelines and develop and manage to project plans

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

This program impacts all projects, initiatives, and systems as it addresses modernizing our IT infrastructure, which is fundamental to IT operations.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital				19,765		11,915

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		12,039	14,730	15,180	12,387
Regulatory Asset					
Capital (Total)	9,121	34,399	24,741	24,590	10,199
Labor		3,827	3,202	3,002	2,202
M&S	9,121	30,199	20,260	19,710	5,060
Contract Svcs.		1,485	2,079	2,673	3,267
Other		(2,589)	(1,862)	(1,851)	(768)
Overheads		1,477	1,062	1,056	438

CE Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: CECONY Technology Modernization - Applications	
Project/Program Manager: Shihab Hasnat	Project/Program Number (Level 1): 26014117
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 01/01/2026	Estimated Date in Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: \$53,300 O&M: \$4,600	
Work Description: The Information Technology (IT) organization manages approximately 500 business applications, serving Electric, Gas, and Shared Services organizations. The primary objective of this program is to eliminate outdated application technology and implement application code security hardening measures. Since technological assets require ongoing maintenance, maintaining technological currency is crucial for operational resilience. This is particularly important as organizations must balance the costs associated with upkeep against the risks posed by outdated systems. Technical currency refers to the latest versions of servers, databases, desktop operating systems, and applications that comply with technology standards, cybersecurity requirements, vendor compliance. The program seeks to systematically upgrade outdated technology, which currently leads to heightened cybersecurity risk and increased expenses.	
Justification Summary: The program, now in its second iteration, continues to uphold enterprise application standards by phasing out outdated technology. Multiple platforms and obsolete systems increases the costs associated with licenses, maintenance, and also heighten cybersecurity vulnerabilities. Vendor roadmaps from companies like Microsoft and Oracle set the update criteria. These roadmaps are regularly published to indicate when new versions with enhanced security and functionality will be available, and consequently, when support for the outdated versions will end. Continuous upgrades as vendors discontinue supporting current systems and introduce more secure and functional versions. The IT organization conducts an annual technology assessment to identify which components are nearing end-of-life. This approach helps us stay ahead of potential issues and plan timely upgrades. According to the latest technology currency assessment, approximately 35% of the applications are categorized with end-of-life technology and will require upgrades through the technology upgrade program between 2026 and 2028. The assessment included security hardening for about 90 critical applications between 2026 and 2028. These applications were selected based on business criticality to identify and fix code vulnerabilities.	

These measures will reduce the risk of unauthorized access, data breaches, and other threats to application integrity and confidentiality.

Key Benefits:

1. **Enhanced Cyber Security:** Outdated technology often lacks the latest security features and patches, making it vulnerable to cyber-attacks. Upgrading to newer technology ensures that we have the latest security measures in place to protect our data and systems from potential threats.
2. **Improved Application Efficiency:** Newer technologies are designed to be more efficient and effective. Upgrading can lead to better performance, faster processing times, and a more seamless user experience. This can significantly enhance our operational efficiency and productivity.
3. **Vendor Support:** As technology evolves, vendors phase out support for older versions of their products. Upgrading ensures that we continue to receive vendor support, including updates, patches, and technical assistance. This is crucial for maintaining the reliability and functionality of our applications.
4. **Reduced Maintenance Costs:** Maintaining outdated technology can be costly due to the need for frequent repairs and the difficulty of finding compatible parts or expertise. Upgrading to newer technology can avoid these maintenance costs and provide a more cost-effective solution in the long run.
5. **Code Security Hardening:** By implementing code security hardening measures, applications are safeguarded against a variety of threats.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

N/A

2. Supplemental Information

Alternatives

There is no viable alternative to this program. This program is essential. We must take the necessary steps to improve, upgrade, change, merge, and secure applications in this portfolio. Without these upgrades, our application portfolio will face increased security threats, lose functionality, and incur higher support and maintenance costs. These upgrades are crucial to ensure the continued reliability, security, and efficiency of our applications, ensuring we can continue to provide energy delivery of service to our customers.

Risk of No Action

1. **Increased Cyber Security Threats:** Outdated technology often lacks the latest security features and patches, making it more vulnerable to cyber-attacks. This can lead to data breaches, loss of sensitive information, and potential legal and financial repercussions. Timely upgrades, specifically between 2026 and 2028, are essential to mitigate these risks and protect our data and systems.
2. **Higher Maintenance Costs:** Maintaining outdated technology can be costly due to the need for frequent repairs and the difficulty of finding compatible parts or expertise. Delaying upgrades can lead to increased operational costs and reduced efficiency. Addressing these upgrades promptly within the 2026 to 2028 timeframe can help manage and reduce these costs.
3. **Lack of Vendor Support:** As technology evolves, vendors phase out support for older versions of their products. Without vendor support, it becomes challenging to receive updates, patches, and technical assistance, which can affect the reliability and functionality of applications. Timely upgrades ensure continued vendor support and maintain application reliability.

By addressing these justifications and risks, we can ensure that our technology applications and infrastructure remain robust, secure, and efficient, ultimately supporting our business goals and customer base.

Non-Financial Benefits

Upgrading application technology offers several non-financial benefits that are crucial for maintaining operational efficiency and security. By upgrading technology, we can enhance operational efficiency, streamline and consolidate various applications, and decrease technology obsolescence to reduce risks. This helps maintain the functionality of applications, improving operational performance and lowering the risk of cybersecurity breaches. Additionally, upgrading technology ensures that we do not lose vendor/software support, which is essential for the reliability of critical business applications and providing service to our customers.

Summary of Financial Benefits and Costs

1. Cost-benefit analysis

2. Major financial benefits

Upgrading application technology offers significant financial benefits by avoiding cost associated with cyber-attacks and breakdowns of outdated technology. This approach minimizes costly incidents and ensures smoother operations. Older technology versions eventually lead to higher support costs due to the need for frequent repairs and the difficulty of finding maintenance expertise. As technology evolves, vendors phase out support for older versions of their products.

3. Basis for estimate

Working with our Managed Service Provider, we assess the application portfolio to identify areas needing technology modernization. This evaluation revealed various capabilities that require upgrades and modernizations, affecting the application portfolio. Each application was classified by its complexity and the extent of upgrade work required, which was then translated into upgrade costs.

CECONY estimates a total cost of \$30.6M over a three-year period for the 2026-2028 program. The goal is to modernize approximately 165 applications and code security hardening of approximately 90

applications. The estimated costs are \$20M for application upgrades and \$10.6M for secure application hardening.
Project Risks and Mitigation Plan N/A
Technical Evaluation / Analysis N/A
Project Relationships (if applicable) N/A

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	\$0	\$1,534	\$1,863	\$2,163	\$1,200
Regulatory Asset					
Capital (Total)	\$12,500	\$10,200	\$10,200	\$10,200	\$10,200
Labor		\$2,267	\$2,267	\$2,266	\$2,266
M&S					
Contract Svcs.	\$12,500	\$7,934	\$7,933	\$7,933	\$7,933
Other					
Overheads					

**Business Unit / Division
2025-2029**

1. Project / Program Summary

Type: ☒ Project ☒ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: XM8 Telecommunications Equipment Priority 1	
Project/Program Manager: Michael Ribarich/Wendell Little	Project/Program Number (Level 1): 20189303-L1_XM 8 Communications Equipment; 10025906-LV 1 - C-2XM0008-615 – Communications Equipment
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: Ongoing	Estimated Date In Service: Ongoing
2025-2029 Funding Request (\$000) Capital: 24,869 O&M: (see Telecom O&M whitepaper and budget)	
Work Description: Information Technology's Communications Operations Department manages the XM8 program. The XM8 program manages telecommunications equipment that support the company's wireless and telephone networks. It also covers end-user customized telecom solutions and upgrades to subscriber equipment. This program enables employees to communicate and access various business systems, including process management systems for electric, gas, and steam operations, as well as monitoring and control systems. Additionally, it supports other critical systems, such as Financial, Human Resources, and Supply Chain departments. The significant budget increases in 2026-2027 are due to planned infrastructure upgrades, investment in advanced technology, regulatory compliance, and enhanced employee training programs. These investments are essential for maintaining our competitive edge and ensuring seamless communication across all departments. This whitepaper explains the need for the following activities in the 2025–2029 period to implement the roadmap for upgrading our telecom platforms and systems to provide enhanced communication capabilities to serve our customer needs. The major roadmap activities are listed below from highest to lowest priority: 1. Upgrading and Replacing Telephony and Video Equipment • Current State: Existing telephony and video equipment are outdated, leading to poor communication quality and reliability issues. • Solution: Upgrade and replace telephony and video equipment with modern, high-quality systems.	

- **Expected Benefits:** Improved communication clarity, reliability, and enhanced collaboration capabilities.

2. Increasing Capacity and Monitoring Capability for Various Communications Systems

- **Current State:** Current communications systems are operating at or near capacity, with limited monitoring capabilities.
- **Solution:** Increase system capacity and enhance monitoring capabilities.
- **Expected Benefits:** Greater system reliability, reduced downtime, and improved ability to manage and troubleshoot issues.

3. Upgrading Radio System Capacity and Refreshing Supporting Technology

- **Current State:** The radio system is outdated and lacks sufficient capacity to meet current demands.
- **Solution:** Upgrade radio system capacity and refresh supporting technology.
- **Expected Benefits:** Enhanced communication reliability, increased capacity to handle more users, and improved overall system performance.

4. Replacing Handheld Radios

- **Current State:** Existing handheld radios are outdated and prone to failure.
- **Solution:** Replace old handheld radios with new, more reliable models.
- **Expected Benefits:** Improved communication reliability and durability, ensuring effective communication in all conditions.

5. Installing Antennas and Other Equipment Replacements at Company Cell Sites

- **Current State:** Current antennas and equipment at cell sites are outdated and insufficient for current needs.
- **Solution:** Install and replace antennas and other equipment at company cell sites.
- **Expected Benefits:** Enhanced signal strength and coverage, leading to more reliable communications.

6. Upgrading Voice over IP (VOIP) Equipment

- **Current State:** Existing VOIP equipment is outdated, leading to poor call quality and reliability issues.
- **Solution:** Upgrade VOIP equipment to modern, high-quality systems.
- **Expected Benefits:** Improved call quality, reliability, and enhanced communication features.

7. Upgrading Conference Room Audio/Video Equipment

- **Current State:** Conference room audio/video equipment is outdated, leading to poor meeting experiences.

- **Solution:** Upgrade conference room audio/video equipment with modern, high-quality systems.
- **Expected Benefits:** Enhanced meeting experiences, improved audio and video quality, and better collaboration.

8. Upgrading End-User Subscriber Equipment and Terminals

- **Current State:** Current end-user subscriber equipment and terminals are outdated and insufficient for current needs.
- **Solution:** Upgrade end-user subscriber equipment and terminals.
- **Expected Benefits:** Improved user experience, enhanced functionality, and increased productivity.

9. Enabling Customized End-User Telecom Solutions

- **Current State:** Current telecom solutions are not tailored to specific user needs, leading to inefficiencies.
- **Solution:** Implement customized telecom solutions for end-users.
- **Expected Benefits:** Increased efficiency, better user satisfaction, and optimized communication solution

10. FTEs – One (1) Telecom Analyst

We require an additional full-time Telecom Analyst to handle the increased workload from our capital upgrade and expansion program. Our current team is operating at full capacity, and adding another Analyst is needed to maintain quality and meet deadlines. This new team member will ensure continuity and reliability, contribute to multiple projects, and support our organization's growth and innovation objectives.

The estimated cost for these activities is in the table below: (\$000)

Item	Activities	2025	2026	2027	2028	2029
1	Upgrading and Replacing Telephony and Video Equipment	700	818	1055	1136	411
2	Increasing Capacity and Monitoring Capability for Various Communications Systems	500	584	754	811	293
3	Upgrading Radio System Capacity and Refreshing Supporting Technology	400	467	603	649	235
4	Replacing Handheld Radios	200	234	302	324	117
5	Installing Antennas and Other Equipment Replacements at Company Cell Sites	300	351	452	487	176
6	Upgrading Voice over IP (VOIP) Equipment	500	584	754	811	293
7	Upgrading Conference Room Audio/Video Equipment	849	1090	1451	1573	473
8	Upgrading End-User Subscriber Equipment and Terminals	300	351	452	487	176
9	Enabling Customized End-User Telecom Solutions	300	351	452	487	176
10	FTE - Telecom Analyst	0	150	150	150	150
	Totals	4049	4980	6425	6915	2500

The above systems and applications include the turret and dispatch console systems used by operators at the control centers to communicate with field crews that are performing critical repairs and restoration operations. The handheld radios do not depend on the public carrier infrastructure and therefore provide the most reliable and exclusive means of direct communications during system emergencies. The cellular service is used as a backup.

As Con Edison innovates the grid systems, applications, and devices, many will require supporting network communications infrastructure (broadband wireless and wired services based on 4G and 5G wireless technology and Multiprotocol Label Switching ("MPLS") Ethernet based secure services delivered over fiber optic medium) to realize the full operational benefit of the systems they support. The Company is continually enhancing and developing network communications infrastructure to efficiently manage the transport of the increasing data generated as the grid systems continue to evolve.. Some of these examples include the migration of SCADA systems from narrow-band land mobile based radio to broadband wireless services and the migration of tele-protection systems from TDM and Frame Relay to high-speed MPLS Ethernet services delivered over fiber optic cable instead of copper wires. The Company's network communications strategy must deliver sufficient capacity and diversity of network communications channels to accommodate the necessary systems and devices (sensors) with the required levels of service. This network infrastructure generally must be installed or upgraded in advance of planned device deployment. Further, this strategy must address cybersecurity and other operational requirements.

Expanding commercial carrier wireless and wireline communications:

Carrier services present another communication channel for Con Edison assets for both wireless and wireline uses. A wireless option that has proven effective in the Company's dense urban environment and can be made suitably secure and responsive for SCADA control devices, is to use wireless modems and networks through public carriers. Wireline solutions the Company is evaluating include MPLS services over fiber optic cable. The deployment of high-speed wireline services over fiber presents another option for backhauling AMI access points. This offers more data takeout points, less data relay points, and higher data performance for SCADA applications.

During 2026 through 2028, the Company expects it will deploy wireless modems and wireline communications as needed by the operations Grid Innovations applications. For example, distributed battery systems and charging stations require modern communications services to meet the connectivity requirements of a smarter and more automated energy grid.

O&M related to this project is included in the Telecom O&M budget and White Paper.

Justification Summary:

The XM8 Program maintains and implements communications tools including wireless and wired technology. This includes telephones, radios, antennas, and associated electronic components necessary to provide private voice and data services as needed by operating businesses as they deliver services throughout the service territory which includes the five boroughs of New York City and Westchester. It also encompasses special custom designs to provide backup tactical communications to support restoration associated with major events like storms.

Network communications infrastructure is foundational to Grid Innovation. Deploying additional communicating devices without the requisite performance, (e.g., bandwidth, latency, etc.) and

supporting network infrastructure would lead to stranded costs of the assets or even disruption of existing assets that use the communication networks.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

N/A – Telecom is necessary to operate the business.

O&M

Usage charges will apply for incremental wireless and wireline services needed to connect additional data collection access points that communicate with each other and the end user or field device (e.g. RTU-Remote Terminal Unit) on a peer-to-peer basis.

2. Supplemental Information

Alternatives

Alternatives include increased reliance on carriers and expense increases for ongoing lease costs for telephony and field communications. Yet even under that scenario, telephones, including desk phones, wall phones, console phones and cell phones would need to be purchased. Telecommunications equipment is purchased in bulk and competitively bid to take advantage of volume discounts. Information Technology has initiated programs, such as equipment standardization, to optimize these costs. Using the same manufacturer (i.e., Motorola, Ericsson) has given leverage to obtain larger discounts. Information Technology has been using contract negotiation best practices for price and duration of contracts.

For each field communications device, multiple communication channels were considered. The communication channel was ultimately selected based on the following:

- Risk of loss of communication – where the redundancy and communication channel requirements are more stringent as the risk increases when that communication channel is lost.
- Company vs. third party ownership – where company ownership provides greater control, particularly during extreme events.
- Backup power requirements – where locations with available backup power generation or batteries can meet more stringent backup requirements.
- Cybersecurity requirements – where cybersecurity requirements vary for monitoring devices vs. those that will be controlled by operators

Risk of No Action

No action would likely result in multiple communications equipment failures including telephone systems, data circuits, radio systems, and protection circuits as a result of the inability to purchase spare parts and maintain supportability of the communication systems. In that case, availability of critical communications systems would be severely reduced. Reliable communications systems and distribution automation systems are required to support field restoration activities and the automation of the distribution system to maintain electric, gas, and steam services. This equipment is essential to provide both system reliability, as well as employee safety.

Risks of no action include limited communication with field assets and edge devices, limiting data acquisition and control of applications, and eroding the value of the investments. Failure to consider holistic solutions to communications needs could result in unreliable communications for critical grid

control assets or the inefficient buildout of network capacity. Interruptions to control devices reduce an operator's visibility and control, which limits their responsiveness to manage a dynamic grid and presents a risk to maintaining system reliability. Inefficient capacity management on these networks on our part would result in communications solutions deployed on an ad-hoc basis, rather than leveraging the scale of the networks to appropriately build capacity.

Non-Financial Benefits

The proposed projects offer the following other benefits:

- Provides carrier diversity to critical communication circuits.
- Offers security controls.
- Provides a higher reliability level than carrier circuits.
- Scales capacity over time through card replacements
- Improves recovery time from communications failures.
- Provides services outside of the Telco carriers.
- Avoids construction delays and costs needed for carrier services

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

As additional company-owned communications subscriber equipment, devices, and custom solutions are developed and deployed, the Company will have a clearer path to providing new technology that will support existing communication services, as well as new communication requirements.

2. Major financial benefits

The financial benefits include cost avoidance to maintain legacy equipment and subscriber devices due to lack of vendor expertise. The major financial benefit is capital cost avoidance to build multiple wireless data infrastructures to support the various applications with diverse communications requirements.

3. Total cost

The total capital costs are estimated at \$18,320,000 for the rate years. Ongoing O&M costs associated with this project is included in the Telecom O&M whitepaper and budget.

4. Basis for estimate

Estimates are generated from Company engineering resources using recent cost information, maps, existing street conditions, and historical projects factoring cost increase for technological improvements in next generation equipment. Any purchases are made through competitive bids.

The estimates are based on the nominal costs of trenching for new cable (where necessary), facilities, equipment (e.g., fiber cable, routers, and modems), labor and overheads, and building additional equipment and facilities for the different types of communications infrastructure. Nominal cost estimates are based on historical spending for each type of communication. In practice, the costs will vary depending on the specific deployment of the expected endpoints (e.g., incremental footage, facilities).

5. Conclusion

This project should continue because of the immediate operational benefits realized so far and for the strategic benefits described above.

Project Risks and Mitigation Plan

The major risks to XM8 equipment and systems are the unavailability of direct replacement for some of the older technologies and appliances that have been migrated to purely software-based solutions, middleware and cloud services which do not provide the resilience and durability and mission critical performance under challenging circumstances. There is also the risk of greater cyber vulnerability as the end devices depend more and more on code. These risks are managed by careful, early, and thorough evaluation of the replacement technologies and more emphasis on cyber risk assessment as opposed to focus on raw performance. Custom solutions must balance cost and long-term supportability by shortening the life cycle of the new systems by more frequent technology assessments.

The major risk with any communications migration and upgrade project is the technical risk that the current technology standard will be supplanted by new technological developments and adoption. This risk is mitigated by engaging the various service & equipment providers for continued support guaranties, and implementation of backward compatible components.

Another risk is escalation is cost of materials and labor to buildout outside plant physical infrastructure. This risk is almost impossible to control but the impact will be mitigated by focusing on deployment of the most operationally impactful plant that will maximize utility and benefit if all planned infrastructures cannot be built.

Technical Evaluation / Analysis

XM8 equipment has an extended life and is replaced in 10–15-year increments. This equipment is mostly carrier grade communications equipment to support voice and other communication requirements. Information Technology performs planning and analysis on all technologies introduced. Solutions are investigated in conjunction with the IT strategy and vision planning process. Collaboration between IT advisors, carriers, vendors, and Company employees helps to ensure the selection of optimal solutions.

Information Technology (“IT”) performs planning and analysis on all technologies introduced. Solutions are investigated in conjunction with the IT strategy and vision planning process. Interaction with IT advisors, carriers, vendors, and Company employees ensure the selection of the optimal solutions. Traffic model analysis measures the current performance of the AMI network and projects performance for areas where deployment is not yet complete. This analysis measures both the average utilization of the network and the 95th percentile performance to give a measure of both the overall capacity and the peak-traffic performance.

The Company conducted workshops to determine the communication requirements of each field device to be deployed. Requirements such as bandwidth, latency, and control were documented in a communications matrix.

Project Relationships (if applicable)

IT projects, completed or future, require and expect sufficient performance of the telecom network, systems, special purpose applications, subscriber equipment and services.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						

Capital	<u>2,354</u>	<u>2,426</u>	<u>2,054</u>	<u>3,371</u>		<u>4,121</u>

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	4049	4980	6425	6915	2500
Labor	853	1146	1435	1533	500
M&S	985	1000	1485	1600	600
Contract Svcs.	1486	2006	2563	2741	1000
Other	300	330	300	350	150
Overheads	425	498	642	691	250

Business Unit / Division
2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: XM10 Tier 1_2 Computer Equipment Critical Infrastructure	
Project/Program Manager: Kareem Llewellyn	Project/Program Number (Level 1): 20189302,10026339,10025947,10026509
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 01/01/2026	Estimated Date in Service: 12/31/28
2025-2029 Funding Request (\$000) Capital: \$139,645.5 O&M: N/A	
Work Description: Critical infrastructure encompasses computing, networking, facilities and data management products that guarantee reliable and robust data centers, networks, and devices for both employee and application support. The necessity for device updates is primarily driven by the launch of application upgrades. Demand for computing resources continues to grow primarily due to the complexity of these applications and the increasing requirements of cybersecurity scanning tools. This XM10 budget provides a diverse array of devices, encompassing desktops, tablets, laptops, field devices, and printers for company use. However, its support extends beyond devices. XM10 also provides comprehensive support to infrastructure equipment, data centers, and networks. The costs associated with maintaining state-of-the-art data centers are on an upward trajectory. Many applications, especially those for storm or event management, require adequate redundancy and resilience measures. To ensure our systems remain robust and efficient, we need to keep improving these environments by investing in and upgrading our server and storage infrastructure, mainframes, and internet-facing technologies. For instance, last quarter, we allocated significant resources to enhance our data centers, which has already resulted in improved performance and by investing in a backup data center can prevent downtime during a storm, ensuring continuous access to critical systems. This also extends to our networks, which include Local Area Networks, Wide Area Networks, wireless, and fiber channel networks. These investments Provide access to corporate systems but are increasingly vital as the threat landscape broadens. Keeping pace with contemporary technologies to safeguard against cybersecurity threats is an essential aspect of these investments. Maintaining modern data centers is becoming more expensive. Applications, especially for storm or event management, need redundancy and resilience. We must invest in and enhance servers, storage, mainframes, and internet-facing technologies. This includes our networks: LANs, WANs, wireless, and fiber channels. These investments ensure reliable access to corporate systems and are crucial as cybersecurity threats grow. Example: Investing in a backup data center can prevent downtime during a storm, ensuring continuous access to critical systems.	

Below are the categories XM10 encompasses::

Infrastructure Upgrades

1. **Network devices**
 - **Work:** Replaces outdated network devices with newer models.
 - **Benefits:** Improved network performance, reliability, and security.
2. **Implement next generation Wi-Fi Infrastructure**
 - **Work:** Deploys advanced Wi-Fi technology.
 - **Benefits:** Enhanced wireless connectivity, speed, and coverage.
3. **Upgrade Storage arrays**
 - **Work:** Replace or expand storage arrays.
 - **Benefits:** Increased storage capacity and performance.
4. **Virtualization Enhancement**
 - **Work:** Updates hypervisor platform.
 - **Benefits:** Improved virtualization performance and security.
5. **Server technology.**
 - **Work:** Transition to newer server technologies.
 - **Benefits:** Enhanced server performance and efficiency.
6. **Mainframe hardware & software**
 - **Work:** Update mainframe systems.
 - **Benefits:** Improved processing power and reliability.
7. **Firewall**
 - **Work:** Install advanced firewall systems.
 - **Benefits:** Enhanced network security.

Network and Data Center Enhancements

1. **Expand departmental network segmentation.**
 - **Work:** Implement network segmentation for departments.
 - **Benefits:** Improved network security and performance.
2. **Expand the current secure cloud solution and upgrade the current corporate service network hardware.**
 - **Work:** Enhance cloud solutions and network hardware.
 - **Benefits:** Increased security, scalability, and performance.
3. **Refresh data center IP and fiber channel networks**
 - **Work:** Update data center networking components.
 - **Benefits:** Improved data center performance and reliability.
4. **Collocation, leasing of a data center building and expansion**
 - **Work:** Lease and expand data center facilities.
 - **Benefits:** Increased data center capacity and redundancy.

Device and Software Upgrades

1. **An annual refresh of devices including the desktop, laptop, tablet, printer, plotter, and field devices inventory**
 - **Work:** Regularly update and replace devices.
 - **Benefits:** Ensures up-to-date technology and reduces downtime.
2. **Expand software platforms that combine storage, computation, networking, and visualization into a single system**
 - **Work:** Integrate comprehensive software platforms.
 - **Benefits:** Streamlined operations and improved efficiency.

Backup and Disaster Recovery

1. **Expand backup, retention, and disaster recovery technology**
 - **Work:** Enhance backup and disaster recovery systems.
 - **Benefits:** Improved data protection and business continuity.

Virtualization and Automation

1. **Enhance automation and containerization**
 - **Work:** Deploy automation and containerization technologies.
 - **Benefits:** Increased operational efficiency and scalability.
2. **Expand virtual Desktop Infrastructure (VDI)**
 - **Work:** Enhance VDI capabilities.
 - **Benefits:** Improved remote work capabilities and security.

Numbers in 000

Categories-All figures in 000's	2025	2026	2027	2028	2029
Infrastructure Upgrades	937	2,357	2,225	900	900
Network and Data Center Enhancements	8,696	6,500	4,534	6,465	6,465
Device and Software Upgrades	6,612	11,757	12,257	11,922	11,922
Backup and Disaster Recovery	3,578	10,222	7,125	7,500	7,500
Virtualization and Automation	907	1,641	2,439	2,141	2,141

In addition, each of these investments is strategically aligned with our long-term goals and the evolving digital landscape. Below describes those strategic investments in greater detail:

1. Server Infrastructure Overview

Investing in our server infrastructure is a proactive measure that lays the groundwork for the integration of new features and technologies, keeping us competitive and attuned to the evolving needs of our users. Some examples include expanding CECONY's server infrastructure is imperative to meeting the growing demands of our increasing user base. Specifically, this investment is essential to uphold the speed, reliability, and scalability of our services. The proposed expansion will bolster our capacity to manage elevated traffic levels and intricate data processing tasks. Additionally, it will increase system redundancy, thereby allowing for uninterrupted operation of our services, even in unexpected circumstances, such as hardware failures, cyber-attacks, and/or power outages.

2. Storage Summary Overview

As CECONY grows our operations, we also generate and store more data, which makes the expansion of our storage capacity a key budgetary priority. This investment will enable us to effectively manage and analyze growing amounts of data, comply with data retention policies, and improve our disaster recovery capabilities. Furthermore, investing in storage expansion aligns with our initiative towards using big data analytics, AI, and machine learning technologies, which demand significant data storage solutions. This approach not only allows for data infrastructure's scalability but also helps us stay flexible and innovative in using data for strategic decisions and service improvements.

3. Data Center Compute Infrastructure Overview

CECONY needs to upgrade our primary colocation data center to cope with the increasing pressure on our IT infrastructure from more digital transformation projects and the use of cloud services. This upgrade focuses on expanding space and power capacity to support high-density computing environments, ensuring we meet current demands and prepare for future growth. The goal is not only to increase operational capacity but also to enhance energy efficiency and reduce environmental impact. These improvements will position our data center for a complete system refresh and the adoption of emerging technologies, ensuring we continue to offer powerful, secure, and dependable services.

4. Backup Infrastructure Overview

CECONY critical data and business continuity depends on having strong backup infrastructure. We face a growing threat of data breaches, cyber-attacks, and system failures in an increasingly digital world. The requested budget for our redundant infrastructure will allow us to use backup solutions, including off-site and cloud-based backups, boosting our ability to prevent data loss and reduce downtime. This forward-looking strategy not only safeguards our important data but also reflects our dedication to keeping trust and reliability in our services, allowing us to overcome unexpected events and continue serving our customers without disruption.

To further strengthen this approach, ransomware protection will be implemented on a larger scale to protect not only gold-tier applications but also silver and bronze-tier applications. We will deploy immutable backups, air-gapped solutions, and tiered backup policies to ensure that critical, operational, and support systems are all safeguarded. Cloud-based solutions will enhance redundancy and recovery options, with automated data replication to multiple regions for faster recovery. Additionally, off-site backups and regular testing will ensure integrity and recovery readiness. These steps, combined with 24/7 monitoring and incident management, align our backup operations with the highest standards of business continuity, ensuring uninterrupted service and operational resilience.

5. Consulting Services

CECONY's utilizes trusted consulting partners to help us develop highly specialized solutions in order to remain competitive and address the challenges of modern technology landscapes. Consultants offer specialized skills, knowledge, and expertise in areas such as project management, cybersecurity, cloud computing, and digital transformation strategies, helping us find opportunities for innovation and efficiency enhancements. This investment will allow us to use external expertise to reduce risk, and successfully execute critical initiatives. By investing in consulting services, we prepare ourselves to make smart decisions, improve our operations, and achieve sustainable growth.

6. Laptops / Desktops / Mobile Devices Overview

Allocating a budget for the procurement upgrade of End User Computing devices is crucial to assure CECONY workforce is equipped with innovative technology. This investment will empower our employees with the necessary tools to bolster security, and

foster collaboration. As we navigate the shift towards remote or hybrid work arrangements, we are augmenting our Virtual Desktop Infrastructure (VDI) to accommodate flexible work setups. Supplying our team with approximately 10,000 new and more modern devices is key to facilitating seamless communication and workflows. Regular hardware updates are also essential for cybersecurity, refresh devices come with advanced security features designed to combat evolving threats. This budgetary provision is in line with our objective of fostering a dynamic, secure, and highly productive work environment.

7. Mainframe Overview

CECONY operates on a robust IBM mainframe computer environment. The mainframe computer environment delivers critical operating capabilities and data required to meet compliance needs. As part of this initiative, CECONY plans to upgrade and replace mainframe computer hardware and software. The CECONY mainframe will go end-of-life for microcode in 2025. This modernization program enhances CECONY's operations capabilities and will allow CECONY to continue to provide reliable service. As part of this program, CECONY will replace the mainframe with upgraded hardware technology. Unsupported hardware poses a risk to the operations impacting CECONY's ability to address and remediate cyber vulnerabilities in a timely manner. In addition to upgrading hardware, we will be upgrading software utilities and products which provide enhanced data protection using IBM's Safeguarded Copy product. This product replaces offsite legacy tape disaster recovery backups which enhances our data protection posture. Finally, to establish a more efficient mainframe tools portfolio we are working with IBM and other vendors and plan to streamline and replace expensive Broadcom toolsets which are used for various mainframe operations activities. This multiyear effort will provide more cost-efficient toolsets.

8. FTE Justifications

This investment in labor will allow us to hire more staff, provide necessary training, and provide the expertise needed to meet the needs of our growing business. Obtaining funds for full-time employee labor for expansion is key to our strategic growth plans. As CECONY grows our operations, services, and infrastructure by 15 full-time Analysts and Engineers in 2026-28 – to lead both upgrade and end-of-life projects.

- The Data Network Operations Team will need **two (2)** Network Lifecycle Engineer full time employees responsible for the design, implementation, and management of the organization's network infrastructure. This includes maintaining and upgrading existing systems as well as developing upgraded solutions to meet the evolving needs of the business. Design and implement network infrastructure based on business requirements. Maintain and upgrade existing network systems for optimal performance and security. Troubleshoot network issues and provide timely solutions. Collaborate with other IT teams to integrate network systems with other infrastructure. Develop and maintain documentation for network architecture and procedures. Conduct regular network performance tests and provide reports to management.
- The Network Design and Implementation team will need **four (4)** Network Design Engineers full time employees, **two (2)** additional full-time employees will be hired as Infrastructure Engineers to execute the ongoing capital upgrade and expansion program plans described in the foregoing section. The employees must possess qualifications and

experience in implementing, designing, provisioning, testing, and supervising the implementation of networking equipment in a resiliency focused critical infrastructure.

- The End User Services team will need **four (4)** Analysts. The IT End User Services Analyst is responsible for providing technical support and assistance to employees regarding hardware and software issues. This role involves troubleshooting, problem-solving, and helping users to use technology. The analyst will provide Technical Support in responding to IT service requests from end users via phone, email, or helpdesk system. This includes troubleshooting hardware and software issues, setting up new user accounts, and assisting with password resets. This individual will maintain Hardware and Software, assess management inventory lists, install, configure, and update end-user hardware and software. This includes computers, printers, phones, and business applications. The analyst will provide user training, maintain records of IT issues and resolutions for future reference and collaborate with users, working closely with other IT team members and vendors to resolve more complex issues.
- The Data Center Engineer build team will need **two (2)** full-time employees' additional full-time equivalents. The FTE requirements are expected to increase incrementally from 2026 to 2028, reflecting the growing demand for infrastructure project workload and support. This role requires expertise in modern IT infrastructure technologies, strong problem-solving abilities and excellent communication with collaboration skills to meet the dynamic needs of the organization. The FTE will specialize in Server Virtualization, Application Virtualization and auxiliary services (backup, disaster recovery, high availability, etc.). The FTE will focus on designing, deploying and maintaining the environment's solutions. Additional proficiency in Infrastructure as Code (IAC) tools, standards and best practices, and experience with monitoring and logging tools.
- The Data Center Operational run team will need **two (2)** full-time employees as Data Center Analytics responsible for the day-to-day operations and maintenance of our data center. This includes monitoring system performance, configuration, maintenance, and repair. The role helps to assure that our data center runs smoothly . They will monitor Systems regularly to check the status of our data center systems to confirm optimal performance. Includes monitoring computer servers, network systems, and storage devices; Troubleshoot problems when issues arise, the Data Center Run Analyst is responsible for quickly identifying the problem and finding a solution. This may involve working with other IT staff or contacting vendor support services. The analysts will maintain hardware by performing regular maintenance on data center hardware, including servers and networking equipment, to ensure they are functioning properly and efficiently. In addition, implement upgrades when upgrading hardware or software upgrades are released, the Data Center Run Analyst will implement these changes during times that minimize impact on users and document Procedures to keep detailed records of all data center operations, including system performance reports, issue logs, and maintenance records.

Justification Summary:

Without the resources provided by XM10, Con Edison's capability to provide reliable access to the Company's computing systems will be at risk. This equipment is fundamental to the Company's daily operations and is essential to all organizational units within the Company. XM10 provides employees with the necessary technology and devices to access information and systems, whether they are in the office, in the field, or working remotely. It also maintains the core IT infrastructure.

With the growing emphasis on technology modernization and N-1 versioning, it is crucial that we manage various upgrades for devices and infrastructure efficiently.

The programs supported by the XM10 budget include:

- **Safety** – Private communications systems that isolate from public vulnerabilities, enabling Con Edison to respond swiftly to emergencies and critical incidents over secure and segmented channels. These systems offer reliable performance and top priority for life-sustaining alerts and feeder relay protection. The company will maintain equipment in a state that is supportable by vendors and refreshed before its end-of-life cycle, which includes regular security patches and hardware upgrades through our purchasing channels.
- **Operational Efficiency** – The communication, data computing, and networking infrastructure provides a stable and efficient platform for the applications and processes used by various operating departments to achieve and maintain elevated levels of operational efficiency. This includes telemetry, applications used by customer-facing personnel, workout locations, and backhaul from field assets. These programs collectively ensure secure, reliable, and efficient operations, meeting both internal and customer expectations. Additionally, by maintaining up-to-date systems and infrastructure, we avoid costly emergency repairs and downtime, ultimately saving money in the long run.
- **Customer Enablement** – The customer-centric applications used in the customer contact centers rely on the capital improvements work in our data centers, wide and local area networks, and communications applications to provide a secure and reliable experience. This program addresses the need to meet current customer expectations for more information delivered in a variety of easily consumable formats, such as mobile platforms, while also maintaining the security, integrity, and confidentiality of sensitive customer information.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

Investments in XM10 are crucial for the Company's support, particularly in relation to CLCPA objectives, grid modernization, and operational strategies. As we explore refreshing applications, customer engagement methods, or even analytics surrounding demand response, Distributed Energy Resources (DERs), or Electric Vehicles (EVs), these infrastructure components play a vital role in facilitating growth, continuous improvements, and future upgrades.

2. Supplemental Information

Alternatives

Neglecting to invest in this equipment could lead to an increase in access failures to information and resources and introduce unforeseen and unplanned costs for recovery from these failures. It could also pose a cybersecurity threat.

Purchasing computer and network hardware in bulk and through competitive bidding allows the company to take advantage of volume discounts, optimizing expenditure. This strategic approach to procurement ensures that the company gets the best value for its investment, while also maintaining the quality and performance of its IT infrastructure

Risk of No Action

Risk 1 Name:

Unsupported technology in computer systems

- Unsupported technology in computer systems refers to hardware or software that is no longer receiving updates from the original manufacturer. This can include operating systems, applications, and devices that are no longer in production or have been phased out. Approximately 24 percent of our platforms require upgrades and we plan to complete in the upcoming rate term
- Using unsupported technology can pose significant risks, including security vulnerabilities, compatibility issues with technologies, and lack of technical support. It is recommended to upgrade or replace unsupported technologies to ensure the reliability, security, and efficiency of computer systems.

Risk 1 Description:

The replacement of outdated computer equipment is necessity. This is primarily due to the following reasons:

- **Software Support:** Upgrading software often requires more advanced hardware to run efficiently. Older equipment may not be compatible with the latest software updates, which could hinder productivity and performance.
- **Security Risks:** Older equipment is more susceptible to security threats as they may not support the latest security updates and patches. This could potentially expose your system to cyber threats, leading to data breaches.
- **Maintenance Costs:** Maintaining older equipment can be costly. As hardware ages, it is more likely to fail, leading to increased downtime and repair costs.
- **Field Work Requirements:** Upgrading technology often offers enhanced features that can improve efficiency and productivity, especially for employees working in the field. This could include better battery life, faster processing speeds, and improved connectivity options.

Therefore, investing in upgrading computer equipment is essential for maintaining a secure, and productive work environment. The company also considers the following additional risks in this request:

- Potential performance complications when interfacing with Company systems.
- Outdated infrastructure is due to failure to adopt the latest technology.
- The efficiency of delivering crucial business information to employees could be compromised due to an unstable environment.
- Deterioration in the availability, dependability, and security of the company's resources.
- Lack of capability and/or capacity to introduce upgraded systems.

Non-Financial Benefits

- Crucial for the functioning and backing of Company procedures.
- Enhanced employee efficiency due to system improvements.

- Stability ensures superior performance of energy delivery systems and responsiveness to customer requirements. - Day-to-day corporate operations are optimized with efficient internal and external employee communication.
Summary of Financial Benefits and Costs 1. XM10 necessitates a steady increment to diminish our device obsolescence program and sustain N-1 versions on mainframe, networking, and infrastructure components. There are several significant expenditure areas to ascertain XM10 funding requirements, including devices, infrastructure equipment (network, backup, server, and storage equipment), related software licenses, and labor for equipment management. We have observed a 25% increase in infrastructure growth since 2022. For devices, we aim to replace approximately 3,800 units annually. Currently, about 22% of our devices are obsolete. If CECONY does replace these obsolete devices, it opens the company up to support issues and cybersecurity threats 2. Major financial benefits N/A 3. Basis for estimate IT uses historical spending as well as reviews of future planned growth to determine estimates. XM10 has continued to grow with the demand for technology to run our business.
Project Risks and Mitigation Plan None
Technical Evaluation / Analysis Technology solutions are meticulously chosen through a thorough examination of products, feasibility studies, and alignment with both short-term and long-term business objectives, as well as the IT strategy and planning process. A broadly capable IT team, encompassing cybersecurity, subject matter experts, vendors, and company employees, partakes in the decision-making process. Business teams have an equal say in the selection of technologies to fulfill and implement business capabilities. Furthermore, standard RFP/RFI processes are utilized to deploy the technology and deliver business capabilities.
Project Relationships (if applicable) XM10 supports all major technology projects and operations.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital	<u>12,335</u>	<u>13,704</u>	<u>8,259</u>	<u>23,950</u>	<u>N/A</u>	<u>18,544</u>

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)	20,730.0	32,477.2	28,580.7	28,928.8	28,928.8
Labor	820	2,125	2,125	2,125	2,125
M&S	14,188	21,822.2	17,925.7	18,273.8	18,273.8
Contract Svcs.	2,610	5,273	5,273	5,273	5,273
Other	2,162	2,207	2,207	2,207	2,207
Overheads	950	1,050	1,050	1,050	1,050

Enterprise Data & Analytics / Distribution Engineering / Central Engineering 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Grid Asset Reliability and Resilience Data and Analytics	
Project/Program Manager: Steve Pupek	Project/Program Number (Level 1): 27696073
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date:	Estimated Date in Service:
2025-2029 Funding Request (\$000) Capital: \$53,591 O&M: \$6,445	
Work Description: The Enterprise Data and Analytics (ED&A) program was established in 2017 and has grown and evolved over the years. The strategy is comprised of centralized governance functions (Platform Architecture, Data and AI Governance, Strategy & Planning) and business partner initiatives across major themes like Grid Asset Reliability and Resilience, Electrification and the Clean Energy Future as well as Customer Experience Excellence. Through the ED&A centralized governance function all initiatives are vetted and reviewed to ensure consistency, create standardization and minimize duplication of efforts. This white paper, Grid Asset Reliability and Resilience Data and Analytics, aims to modernize the Company's predictive maintenance program, increasing reliability and improving capital efficiency while simultaneously enabling focus on the long-term challenges related to CLCPA commitment such as decarbonization of heating and transportation. Through this rate case period, the Company wants to enable the grid operations team to accurately predict and plan for asset failures, perform predictive maintenance, and improve fault detection. In addition, Geographic Information System (GIS) models are planned to be updated, to enable downstream analytics use cases, and analytical applications to help optimize workforce management and reduce restoration times. Key areas of this Grid Asset Reliability and Resilience Data and Analytics program include: • Developing analytics use cases: ○ Grid operations analytics leveraging data products within and outside asset analytics (e.g., GIS, Electric Asset) to optimize asset health, ensure grid reliability and reduce asset replacement costs for capital efficiency, with the following use cases: – Predictive maintenance modeling for key components of the grid network, including Transformers, primary feeders, secondary mains, switches, and other assets that may be discovered in the implementation of these, switching from a run-to-failure or predictive maintenance model to a fully predictive maintenance model	

- Improved **fault detection** of electric faults through identification of fault signatures in Power Quality (PQ) and Advanced Metering Infrastructure (AMI) data
- **Long term asset planning** leveraging weather, customer, Advanced Metering Infrastructure (AMI) and asset data to ensure grid resiliency and reliability with optimal asset investments. We are strategically investing in the grid in our programs being able to leverage the modeling to do more long-term forecasted loads to meet the demand of future load requirements with the following use cases:
 - **Integrated system planning** simulations to optimize capital allocations, considering multiple probabilistic scenarios
 - **Risk based asset optimization** models leveraging risk return capital models
 - Expanded **grid resiliency models** with integrated weather and climate data
- **Cross Commodity Analytics** leveraging Electric Asset, Load Growth and GIS data to allow assessment of physical locations of assets to identify areas where both gas and grid assets are in proximity, increasing resiliency of the system and optimizing maintenance and repair of faults
- **Inspection risk identification** - analyze thermal images and videos for hotspot detection and critical point identification during inspections of assets to complement fault detection analyses and prevent faults before they happen, leveraging the My Inspection application
- **Vegetation Management** to help prevent outages caused by overgrown vegetation and optimize inspection and trimming efforts e.g., through the analysis of data about vegetation growth patterns and vegetation health that enable the Company to prioritize resources to work on high-risk areas and those with potentially large-scale impacts.
- Integrating and centralizing data to support analytics use cases from the enterprise
 - Making key grid-related data (e.g., asset, asset location, flow, cross commodity data, GIS) accessible in an enterprise environment to support both grid and other team needs

The use cases listed above will be implemented leveraging a joint business and IT team, with requisite business skills including data scientists, data engineers and deep domain experts. The total expected costs are \$38.3M in Capital and \$8.9M in O&M expenditure.

Justification Summary:

The Grid Asset Reliability and Resilience Data and Analytics use cases rely on manual data collection and aggregation, resulting in opportunities to improve operational efficiencies and reduce costs using a centralized accessible data set. The current setup includes some run-to-failure models or time-based preventative maintenance for key assets, instead of an optimized predictive maintenance model to be used in future. The Grid Asset Reliability and Resilience Data and Analytics program supports the Company's strategic value propositions and goals, with impacts detailed below. Data and analytics enable value use cases that increase reliability, safety, quality of the customer experience, and enable the

clean energy transition at a decreased cost to the Company's rate base¹. Industry leaders are seeing increasing adoption of analytics for asset management, with similar impacts^{2,3}.

Safety of Our Employees and Our Customers:

The Grid Asset Reliability and Resilience Data and Analytics program enables grid operations to identify faults, prevent asset failures, and reduce safety incidents because we would not be dispatching crews to interact with assets that are in the process of failing or have failed through better predictive maintenance and fault analytics. This also provides supervisors and crews with detailed information on asset locations for improved coordination and dispatch and enables the appropriate crew to be present at a location with the required skills and equipment. These help the Company avoid unplanned outages and safety incidents, hence improving the safety of the employees and customers. Industry leaders see increased safety through implementation of these programs as well³.

System Performance and Reliability

Improved reliability is a key outcome of the Grid Asset Reliability and Resilience Data and Analytics program, which enhances customer experience and investor value. By using asset analytics for predictive maintenance, long-range planning, and fault detection, the Company can decrease system interruptions and downtimes. Long-term asset planning prepares the grid for future demands, while advanced location models and fault detection optimize work management and grid operations. These measures ensure grid reliability amidst weather-related uncertainties and the transition to clean energy, maintaining the Network Reliability Index (NRI) at current levels despite these challenges.

Investing in Our Clean Energy Future

The Grid Asset Reliability and Resilience Data and Analytics use cases enable integration of load modifiers and clean energy solutions into the grid by understanding existing resources and the impact of adding in load modifiers. Load forecasting can optimize grid operations and ensure assets are adequately in place to support the grid of the future.

Cost Avoidance

These use cases enable the Company to optimize asset maintenance and repairs and long-term planning, to allow more efficient spending and optimization of work being performed based on impact to the public and the system. Based on industry implementation of similar efforts, the Company estimates that these analytics can lead to financial benefits through the avoidance of some asset and repair costs. These rise largely from avoided costs in prevented asset failures, reduced repair costs and reduced false truck rolls. Implementation of these use cases ensures that the Company's costs for key assets replacements remain under control.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The Grid Asset Reliability and Resilience Data and Analytics program supports the Company's central Enterprise Data and Analytics program to achieve CLCPA goals to identify investments required for load growth resulting from electrification and decarbonization and aligns with broader Company plans

¹ Winner takes all? Digital in the utility industry, McKinsey & Company, published March 2023, <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/winner-takes-all-digital-in-the-utility-industry>

² A new approach to advanced analytics in utility asset management, McKinsey & Company, published September 2022, <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/a-new-approach-to-advanced-analytics-in-utility-asset-management>

³ Harnessing the power of advanced analytics in transmission and distribution asset management, McKinsey & Company, published April 2018, <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/harnessing-the-power-of-advanced-analytics>

and initiatives. These align with the broader Company-wide instruction CI 610-4 that establishes climate risk governance across the Company. The Company's integrated system planning analytics will enable the grid to better prepare for the integration of electrified load and distributed energy resources by having the right assets in place and maintained, enabling the Company to make more timely and accurate decisions as the demand profile changes drastically. Grid Asset Reliability and Resilience Data and Analytics will enable the Company to target the most vulnerable assets and optimize to avoid widespread outages and improve resiliency outcomes.

2. Supplemental Information

Alternatives

Alternative 1 – Continue program as-is

One alternative to investing in the Grid Asset Reliability and Resilience Data and Analytics program is to continue with the current environment where data is siloed with the operations team. This will significantly impact the Company's analytics capabilities and the ability to use data from multiple departments in reporting and analytics. Absence of centralized data products will lead to longer development times stemming from the current lack of reusable solutions. This could lead to fragmented information, making it difficult to gain comprehensive insights and make informed decisions as the amount of data available exceeds what could be analyzed by humans in a timely manner to provide useful insights. Not advancing with resiliency models could lead to vulnerability to power outages. For new use cases, the possibility of duplication of design and development efforts and most importantly for the increased potential for inaccurate and inconsistent reporting products. The Company will also be unable to act on use cases that require data from across departments. For example, Grid Asset Reliability and Resilience Data and Analytics use cases require a combination of sensitive asset information with critical cybersecurity concerns with information from the outage management and GIS systems.

Alternative 2 – Procure analytics solutions from vendors instead of developing them in-house

Another alternative is to procure off-the-shelf analytics applications. This would likely result in higher implementation and operational costs with limited flexibility to meet some of the unique Company needs. Additionally, this puts the reusability potential and data sharing potential at risk.

Risk of No Action

Following are the enterprise risks if the Program is not implemented:

- Hindered transition to clean energy: Reduced ability to accurately measure and monitor the Company's transition to decarbonization and reduced emissions hinders the success of strategic programs such as CLCPA. Decarbonization and subsequent load growth are the derivatives of decarbonization; the current state of our models cannot do a comprehensive granular analysis of what the impact will be as the load grows and provide the information for the Company to rise to the energy demand.
- Unreliable system: Lack of optimized predictive maintenance models increases the risk of asset failure, customer outages, and safety hazards for crew members.
- Sub-optimal capital deployment: This becomes a risk without adequate analytical capabilities, leading to increased capital needs to achieve objectives related to grid resiliency and reliability, DER (Distributed Energy Resource) integration, and clean energy transition.
- Unoptimized workforce management: Crews lack accurate geographical information on asset locations, leading to delays and inaccuracies in repairs. The absence of cross-commodity

analytics and predictive maintenance analytics further impact maintenance and inspection dispatch, increasing costs for the Company.

- **Unoptimized customer experience:** Inaction hinders the opportunity to improve customer experience by not being able to minimize the amount of truck rolls that disrupt our customers daily lives and impacts downstream analytics use cases in clean energy solutions, workforce management, and gas operations. Inaccurate predictions can undermine strategic initiatives, customer experience, and the transition to clean energy.

Non-Financial Benefits

With deep insights from the Grid Asset Reliability and Resilience Data and Analytics program, the Company can meet rising customer energy demand and introduce customers to new programs and services that will advance progress toward New York State's clean energy goals.

Each use case delivered as part of the program is expected to provide non-financial benefits to the Company and customers based on the specific insights that the analytics produce. These benefits include improved reliability, customer experience and Customer Satisfaction scores (CSAT), workforce planning and grid operations, employee experience, and helping customers achieve their clean energy goals among others that will be evaluated as the program is implemented. Impact across reliability, CSAT, clean energy and other goals are detailed in Section 1, Justification.

Summary of Financial Benefits and Costs

1. Cost-benefit analysis

The project will result in non-financial benefits including employee safety from improved insight into the health of network and network components, enhanced customer and employee experience through improved data sharing across the company and improved visibility on the progress toward clean energy and decarbonization goals.

2. Major financial benefits

Based on industry implementation of similar efforts, the company estimates that these analytics will lead to financial benefits in terms of avoiding \$100M-\$250M in costs across asset and repair costs through reduced asset repair and replacement costs, reduced asset failures and reduced false truck rolls. Other downstream analytics use cases will also contribute to program savings (e.g., through targeted marketing campaigns, accurate billing, etc.), the financial benefits of which will be realized and assessed as the use cases are implemented.

3. Basis for estimate

Costs:

Based on the rubric and methodology outlined based on two pods, this white paper was costed as follows:

Base Pod Costs	
FTE Total	1,380,376
Consultant Total	3,600,000
Medium Pod Total	4,980,376

<u>PER YEAR</u>	Asset		<u>Capital</u>	
<u>Rating</u>	<u>DE</u>	<u>Central</u>		
Data Complexity	High (2)	High (2)	Year 1 (75%)	10,845,564
Data Volume	Medium (1)	Medium (1)	Year 2 (100%)	14,460,752
Use Case Complexity	High (2)	Medium (1)	Year 3 (90%)	13,014,677
Use Case Volume	Very High (3)	Medium (1)	Total	38,320,994
Average	2.00	1.25		
FTE Cost	1,380,376	1,380,376	<u>O&M</u>	
Consultant Cost (Base * Avg)	7,200,000	4,500,000	Year 1 (75%)	1,032,000
Average Capital Per Year	8,580,376	5,880,376	Year 2 (100%)	2,211,000
			Year 3 (90%)	3,202,000
			Total	6,445,000

Rationale

Many high value use cases exist in the asset space with the intent of making the grid more resilient against future load increases and to allow users to facilitate and utilize comprehensive insights across large amounts of data.

Methodology

Consistent with our learned experience in analytics delivery and agile best practices, we developed our costs on team capacity basis.

- Capacity was determined based on an analytic rubric that looked at four major categories of data & analytics development:
 - Data Complexity – accessibility, quality and interoperability of necessary data
 - Data Volume – number of systems and integration techniques
 - Use Case Complexity – Complexity of underlying analytics and operationalization
 - Use Case Volume – the number of high value use cases available
- We then defined descriptions of high, medium and low examples of each category. (see below)
- Based on our experience, industry research and work with our consulting partners we identified the team necessary to execute a medium capacity analytics program.
- The resourcing structure reflects the Utility tendency to utilize System Integrators for direct development work and have the smallest possible FTE footprint that also enables the business to lead value capture and business process integration and appropriately managed staff augmentees building to the technical specification and requirements of the organization. This allows us to effectively managed program demand peaks over many years.
- Costs are based on two major factors: Employee and Consultant Totals:
- From here we looked at each white paper and determined the number of PODs necessary and scored them based on the use cases and our knowledge of the existing data architecture.
- Based on the rubric score for each white paper, consultant resources were scaled up or down to size capacity correctly.
- The yearly average was then distributed with 75% of the total in year one to account for ramp up time, 100% in year two and 90% in year 3 to account for defining new use cases.
- O&M was calculated as a standard 12% of build costs to start, and then adjusted downward by working with our business partners to determine how many of the FTE roles could be filled with existing head count. This accounts for change management, enhancements to the products and labor once use cases are placed in service.

Rubric:

<i>Sizing Rubric</i>	High	Medium	Low
Data Complexity	Multiple, often legacy systems with unclear governance structures, quality and documentation. Data is not easily modeled.	Multiple systems with clear ownership structures and some quality issues. Documentation is available but incomplete. Data can be modeled across systems.	Few sources with clear governance structures and documentation in place. Data is already modeled across systems.
Data Volume	Many data sources with unclear or large historical retention needs. Data may require streaming technology.	Limited number of source systems, of normal volumes. Batch or API transfer is appropriate.	Few source systems of small volume with limited historical data. Batch transfer is appropriate.
Use Case Complexity	Solutions Require net new analytics design and / or complex algorithms. Outputs require integration with and action in source system as well as significant business process change.	Solutions are industry standard but need customization. Standard BI dashboards or simple custom user interfaces are sufficient for most of the use cases. Business process change is necessary.	Use Cases are industry standard and port well to Con Edison's environment. BI reporting is sufficient as a front end.
Use Case Volume	Significant number of high value use cases requiring multiple teams to deliver.	Many high value use cases that can be delivered with one team.	Most of the value is in self-service analytics or with BI reporting on top of the model.

Complexity / Volume	High	Medium	Low
Data Complexity	2	1	0.5
Data Volume	2	1	0.5
Use Case Complexity	2	1	0.5
Use Case Volume	3	1	0.5

Staffing:

Pod Structure

Full Time Employees

● Product Director	1	Defines Pod's strategy, responsible for successful implementation of value case initiatives
● Analytics PO	1	Owns delivery of analytics for the business. Defines requirements and leads business process integration.
● Data PO	1	Owns delivery of data products for the business. Defines requirements and self-service strategy
● Data Steward	1	Operationalizes governance policy & practice
● Tech Lead	1	Coordinates technical components and team to deliver solutions
● Tech PO	1	Connectivity between business and IT by refining use cases and defining MVPs, solution adoption.
● IT BSD	0.36	Works between source system IT and EDAP Platform
● Domain Architect	0.25	Owns domain strategy and technical and analytical design
● EDAP	0.18	Enterprise Data & Analytics Platform support

Employee Annual Cost 1,380,376

IT Staff Augmentation

Annual Costs

● Data Scientists, Engineers, etc.	300K Month
Consultant Total	3,600,000

Medium Pod Total

4,980,376

● IT FTE ● Business FTE ● IT Consultant

Project Risks and Mitigation Plan

Risk 1

New technologies emerge that can deliver the program in a more efficient manner

Mitigation: The proposed data and analytical capabilities are based on industry-leading adaptable platforms and tools. The Enterprise Data and Analytics team continues to evaluate emerging technologies to optimize the value from each use case. The modular design of the solutions coupled with an agile project approach enable maximum flexibility.

Risk 2

Data source and analytics complexity may adversely impact program timelines and costs

Mitigation: The program's governance structure includes a monthly review of the enterprise data & analytics roadmap with the opportunity to re-prioritize work based on emerging needs or unforeseen costs and efforts. These decisions and changes require approval from the data governance steering committee.

Risk 3

Business teams do not have the bandwidth to act on the insights that are provided by the program's analytics use cases

Mitigation: Prior to starting each use case, the program receives full buy-in from the use case's product owner and its manager for the timing and value of delivering the given analytics use case. The program has also implemented a monthly "look-ahead" process where the next six months of work is reviewed with the delivery team and product owners to ensure clear alignment on expectations and risks. Additionally, the program is being delivered in an agile manner to ensure that use cases can be built and prioritized based on near-term business value and priorities.

Risk 4

Data quality and usability impacts outputs of analytics use cases

Mitigation: Data products are being created across the organization to standardize data flows and minimize manual interventions while accessing data, and to ensure usability of data by standardizing the data dictionary. The Program has also implemented data reconciliation testing that requires validation of each data source's feeds by both the data engineering and data activation team leads. Additional validation of the data being outputted into the data products (Electric Asset, Electric Flow, GIS, etc.) occurs from the business users that are closest to working with a given data source. Data quality or cleanliness concerns that cannot be mitigated by source system owners are escalated to the Data Governance Office for prioritization and resolution.

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

This white paper is part of our wholistic enterprise data and analytics program, leveraging a centralized enterprise data and analytics architecture to optimize interdependent analytics use cases. The following papers make up the products and capabilities of the program:

- Grid Asset Reliability and Resilience Data & Analytics (this white paper)
- Forecasting and Planning Data & Analytics
- Electric Work Management Data & Analytics
- Clean Energy Programs, AMI and DER Data & Analytics
- Customer Data & Analytics
- Gas Systems Analytics
- Supply Chain Data & Analytics
- Data & Analytics Foundational Capabilities
- Data and AI Governance

This program directly impacts projects across the enterprise which are expected to leverage the data and analytics provided by the use cases presented in this paper.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		1,032	2,211	3,202	5,235
Regulatory Asset					
Capital (Total)		10,846	14,461	13,015	15,269
Labor		1,934	1,934	1,934	2,090
M&S					
Contract Svcs.		8,084	11,699	10,253	12,285
Other					
Overheads		828	828	828	894

Enterprise Data & Analytics / Customer Energy Solutions 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Clean Energy, AMI and DER Data and Analytics Program	
Project/Program Manager: Dany Martinos	Project/Program Number (Level 1): 27696081
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 1/2/2026	Estimated Date in Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: \$36,940 O&M: \$4,477	
Work Description: The Enterprise Data and Analytics (ED&A) program was established in 2017 and has grown and evolved over the years. The strategy is comprised of centralized governance functions (Platform Architecture, Data and AI Governance, Strategy & Planning) and business partner initiatives across major themes like Grid Asset Reliability and Resilience, Electrification and the Clean Energy Future as well as Customer Experience Excellence. This whitepaper summarizes Customer Energy Solutions data and analytics initiatives to support the needs of our customers and operations as they relate to the clean energy transition. Through the ED&A centralized governance function all initiatives are vetted and reviewed to ensure consistency, create standardization and minimize duplication of efforts. The Clean Energy, AMI and DER Data and Analytics program and associated capabilities have continuously matured since our last rate case. This program has supported the clean energy transition by creating foundational insights in determining opportunities for customer electrification, education and marketing. The program is aimed to deliver analytics solutions that continue to improve the efficacy of energy efficiency programs, allow for the reliable scaling of DERs and storage into the grid and understand the continued impact of emerging clean energy technologies. Key areas of the Clean Energy Programs and DER Data, and AMI Analytics program include: ○ Clean Energy Program analytics to track effectiveness of clean energy transition programs, including the initiatives listed above. These analytics will be used to measure the impact of the targeted marketing programs on customer conversion and load demand. Key use cases include: – Tracking program efficacy and rate of customers changing to clean energy solutions, based on the targeted marketing campaigns supported by the customer propensity model. – Load impacts based on targets for customers transitioning to clean energy solutions at the regional and individual level including Heat Pumps, Electric Vehicles (EVs), solar photovoltaics (PVs), combined heat and power (CHP), and energy storage systems (ESS). This team will also coordinate with the	

forecasting team's output to reconcile forecasts against actual customer conversion patterns.

- **Comparing electrification impacts** with actual loads for each program to assess the load impact by implemented clean energy solutions, the actual number of customers adopting them, and the number of customers utilizing distributed generation. This helps the Company understand changes in the load profile based on customer adoption of clean energy and help plan future customer transition efforts
- **Clean Energy Customer Analytics** to help businesses by enabling data-driven decision-making and improving operational efficiency through the automation of repetitive tasks, enhancing accuracy, and providing insights, for decision making ultimately saving time and reducing costs.

Enhancing our existing data model for the clean energy program will enable the business to use data from a single, reliable source of truth, eliminating discrepancies in reporting within CES for both acquired projects and those in the pipeline. By embedding data validation testing, we ensure data integrity for our clean energy program. This initiative will enable accurate measurement, effective tracking, and impactful decision-making towards our sustainability goals.

- **Clean Energy Informed Grid Planning**

- Expand the use of advanced analytics utilizing machine learning models to include all the clean energy programs beyond C&I and Multifamily. Automating predictive analysis can increase adoption and engagement in clean energy programs, leveraging both Company and publicly available data such as demographics, energy consumption patterns, past engagement with sustainable energy initiatives, etc.

These models will be used to better understand customers for marketing strategy and education programs, with separate models built for each clean energy technology adoption, including:

- **Electric Vehicles (EV)** adoption by residential and commercial customers through Company programs such as EV Power Ready, Charger Ready EV, HDV / MDV for commercial, etc.
- **Energy Storage Solutions (ESS)** adoption by residential and commercial customers through the Company's Energy Storage program.
- **Building heat** and cooking applications, including Heat Pumps, electric stoves, building envelope upgrades, etc. through Company programs such as Appliance rebates, Envelope upgrades, etc.
- **Energy efficiency programs** tailored to low-to-moderate income (LMI) customers, providing appropriate levels of financial assistance and access to renewable energy sources at reduced costs.
- **Gas to electric transition** to identify customers with a higher propensity to switch commodities, through Company programs such as Clean Heat program, Appliance rebates, etc.

- **Optimize deployment of energy storage in the Company's service territory** (NYISO Zone J) in the near and long term to help reach the stated mandate of the CLCPA, the PSC's energy storage roadmap order, and the ongoing CGPP proceeding to allocate between 1,800MW - 17,000MW of energy storage between 2030-2045. This involves:

- Predicting the highest potential locations and optimizing across both existing and planned infrastructure capacity to expedite efficient project deployment across multiple segments (bulk, retail, and residential programs) and DAC status.
 - Drive down attrition rates by using predictive analytics and machine learning to optimize programs and incentives to developers
 - Enhance interconnection processes by integrating storage needs into both near term integrated system planning as well as long range planning process.
- **Build on and implement scalable probabilistic planning methodologies** so that the grid is ready to maintain reliability while integrating the new demands of electrification at the network and substation level.

Probabilistic Planning uses a Probabilistic Risk Assessment (PRA) model to determine the area substations most at risk of customer electric service interruption based on system configuration, condition of equipment, and the materialization of load. We are looking to build on the Company's existing Probabilistic Planning methods by implementing scalable analytical methodologies for processing the PRA results to allow the Company to mitigate risks and potential customer interruptions at our area substations. This will also support the Company in being thoughtful about both overall costs and feasibility when planning the yearly Load Relief Program. Further, it will help the Company manage the supply chain and project deliverability risk, especially for larger project needs that will be required in the future and have long lead times.

- **AMI data analytics** and predictive AI models to improve quality, access, and monitoring at the meter level. This is critical for the continued development of operational decision intelligence, linking our asset performance and customer experience, and enabling high-confidence decision-making across the analytics portfolio.
 - **Reduce estimated bills and improve billing accuracy automation** by identifying WMS work orders and associated meters, **monitoring meter read completeness**, and systemically remediating when expected read transmissions are not received.
 - **Enable near real time predictive modeling at the meter level** by analyzing indicators like meter phasing.
 - **Predict voltage interruptions at the customer level** and develop prescriptive mitigations to support capacity.
 - Perform outage studies at the customer level to **confirm consistent levels of service across demographic groups and in environmental justice (EJ) communities**.
 - **Develop multi-variable customer rate models** to compare and determine best rates for residential, religious, and small commercial customers.
 - **Enable self-service analytics for raw and curated AMI data, allowing** users to facilitate additional use cases while maintaining data minimization and security best practices.
 - **Emerging Technology Use Cases** – build capacity to incorporate high value generative AI use cases across the AMI Portfolio.

Justification Summary:

Customer machine learning models are critical to analytics use cases across the Company and necessary for the clean energy transition. Businesses leverage customer and network level machine learning

models to perform multiple use cases, including marketing and education programs by CES, gas grid planning by Gas Operations, load forecasting by Central operations, Commodity Forecasting, and Strategic Planning. Instead of producing forecasts for each program, the Company proposes performing the customer level advanced analytics centrally within the CES team to help the Company achieve operational excellence. In addition, as data volumes grow, businesses face increasing challenges in analyzing that data which presents the need for more robust solutions. To continue to support business needs, the CES Data Analytics team can use advanced technology to efficiently analyze data and help business make data driven decisions. The analytics program supports the Company's strategic value propositions and goals of investing in our clean energy future, system performance and reliability, and affordability for the rate base, with impacts detailed below.

Investing in Our Clean Energy Future

Investments in clean energy transition analytics will help the Company transition to the clean energy future by ensuring required assets and materials are in place. By tailoring understanding the customer characteristics, factors associated with customer enrollment and predictive analysis using machine learning model help the Company to increase the adoption rate of sustainable energy solutions, accelerate the transition to a low-carbon economy, and contribute to mitigating climate change, aligning with CLCPA goals.

System Performance and Reliability

Proposed use cases to create and automate the machine learning predictive analysis for clean energy solutions enable operations teams to ensure that assets and operations have the right tools to perform load forecasting and adequately respond to changing loads across the electric grid, gas and steam systems. Equipping operations teams with the right assets in the right places would ensure grid reliability and assist in planning load scheduling.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The distributed energy resources (DER) and clean energy transition analytics program supports the Company's central Enterprise Data and Analytics program for achieving CLCPA goals, alongside broader Company plans and initiatives.

At the heart of the CLCPA is the integration of new technologies like DER, battery storage and energy efficiency solutions to bolster our grid's capacity. Our investment in data and analytics will allow us to seize opportunities more efficiently across our clean energy portfolio, such as customer analytics and the ongoing use of our AMI infrastructure.

2. Supplemental Information

Alternatives

Alternative 1 – Continue program as-is

The alternative to investing in distributed energy resources and clean energy transition analytics is to continue with the current environment where data and analytics are siloed within respective teams. This will significantly impact the Company's analytics capabilities and the ability to use data from multiple

departments in reporting. Absence of centralized machine learning model and predictive analysis methodology could lead to duplication of design and development efforts, and most importantly, increase potential for inaccurate and inconsistent reporting products. Not deploying the analytics use cases has other impacts detailed in the Risk of No Action section below.

Alternative 2 – Procure analytics solutions from vendors instead of developing them in-house

Another alternative is to procure off-the-shelf analytics applications. This would likely result in higher implementation and operational costs, with limited flexibility to meet some of the unique Company needs for predictive analytics. Additionally, this puts the reusability and data sharing potential at risk.

Risk of No Action

Risks

Following are the enterprise risks if the Program is not implemented:

- Hindered transition to clean energy: The first risk of not pursuing the analytics program is the reduced efficiency and availability of trusted data for future Customer Energy Solutions and Customer Operations strategic programs. Without advanced analytics, program teams will rely on manual data collection and simple searches to identify the best opportunities for electrification. The use cases detailed in this white paper were identified based on workshops and plans associated with the Company’s Clean Energy future and Strategic Customer Experience goals. The work performed in this program will enable the data-driven assessments needed to ensure success of the Company’s strategic programs across businesses, including those supporting the State’s CLCPA goals.
- Sub-optimal capital deployment: Sub-optimal capital deployment in marketing, customer education, and load forecasting becomes a risk without adequate analytical capabilities, leading to increased capital needs to achieve objectives related to customer experience and clean energy transition. With clean energy transition being a key goal for the Company, there is a risk of duplication of design and development efforts, and most importantly, an increased potential for inaccurate and inconsistent reporting products without centralized customer propensity modeling.
- Unoptimized customer experience: Without centralized customer propensity analytics for marketing purposes, customer experience will be impacted. Customers may receive marketing efforts from multiple sources, or those willing to transition to clean energy solutions may not be targeted appropriately.

Non-Financial Benefits

Each use case delivered as part of the program is expected to provide additional non-financial benefits to the Company and its customers. With insights from the analytics program, the Company can improve customer experience and enable the Company to prepare for the clean energy transition and to meet CLCPA goals.

Summary of Financial Benefits and Costs

1. Cost-benefit analysis

Methodology

Consistent with our learned experience in analytics delivery and agile best practices, we developed our costs on team capacity basis.

- Capacity was determined based on an analytic rubric that looked at four major categories of data & analytics development:
 - Data Complexity – accessibility, quality and interoperability of necessary data
 - Data Volume – number of systems and integration techniques
 - Use Case Complexity – Complexity of underlying analytics and operationalization
 - Use Case Volume – the number of high value use cases available
- We then defined descriptions of high, medium and low examples of each category. (see below)
- Based on our experience, industry research and work with our consulting partners we identified the team necessary to execute a medium capacity analytics program.
- The resourcing structure reflects the Utility tendency to utilize System Integrators for direct development work and have the smallest possible FTE footprint that also enables the business to lead value capture and business process integration and appropriately managed staff augmentees building to the technical specification and requirements of the organization. This allows us to effectively managed program demand peaks over many years.
- Costs are based on two major factors: Employee and Consultant Totals:
- From here we looked at each white paper and determined the number of PODs necessary and scored them based on the use cases and our knowledge of the existing data architecture.
- Based on the rubric score for each white paper, consultant resources were scaled up or down to size capacity correctly.
- The yearly average was then distributed with 75% of the total in year one to account for ramp up time, 100% in year two and 90% in year 3 to account for defining new use cases.
- O&M was calculated as a standard 12% of build costs to start, and then adjusted downward by working with our business partners to determine how many of the FTE roles could be filled with existing head count. This accounts for change management, enhancements to the products and labor once use cases are placed in service.

Rubric:

<i>Sizing Rubric</i>	High	Medium	Low
Data Complexity	Multiple, often legacy systems with unclear governance structures, quality and documentation. Data is not easily modeled.	Multiple systems with clear ownership structures and some quality issues. Documentation is available but incomplete. Data can be modeled across systems.	Few sources with clear governance structures and documentation in place. Data is already modeled across systems.
Data Volume	Many data sources with unclear or large historical retention needs. Data may require streaming technology.	Limited number of source systems, of normal volumes. Batch or API transfer is appropriate.	Few source systems of small volume with limited historical data. Batch transfer is appropriate.
Use Case Complexity	Solutions Require net new analytics design and / or complex algorithms. Outputs require integration with and action in source system as well as significant business process change.	Solutions are industry standard but need customization. Standard BI dashboards or simple custom user interfaces are sufficient for most of the use cases. Business process change is necessary.	Use Cases are industry standard and port well to Con Edison's environment. BI reporting is sufficient as a front end.
Use Case Volume	Significant number of high value use cases requiring multiple teams to deliver.	Many high value use cases that can be delivered with one team.	Most of the value is in self-service analytics or with BI reporting on top of the model.

Complexity / Volume	High	Medium	Low
Data Complexity	2	1	0.5
Data Volume	2	1	0.5
Use Case Complexity	2	1	0.5
Use Case Volume	3	1	0.5

Staffing:

Pod Structure

Full Time Employees

● Product Director	1	Defines Pod's strategy, responsible for successful implementation of value case initiatives
● Analytics PO	1	Owns delivery of analytics for the business. Defines requirements and leads business process integration.
● Data PO	1	Owns delivery of data products for the business. Defines requirements and self-service strategy
● Data Steward	1	Operationalizes governance policy & practice
● Tech Lead	1	Coordinates technical components and team to deliver solutions
● Tech PO	1	Connectivity between business and IT by refining use cases and defining MVPs, solution adoption.
● IT BSD	0.36	Works between source system IT and EDAP Platform
● Domain Architect	0.25	Owns domain strategy and technical and analytical design
● EDAP	0.18	Enterprise Data & Analytics Platform support

Employee Annual Cost 1,380,376

IT Staff Augmentation

Annual Costs

Data Scientists, Engineers, etc.	300K Month
Consultant Total	3,600,000

Medium Pod Total

4,980,376

● IT FTE ● Business FTE ● IT Consultant

2. Major financial benefits

These use cases enable the Company to prepare for the clean energy transition and allow more efficient spending and optimization of costs. Other downstream analytics use cases will also lead to decreased costs (such as through forecasting and strategic planning, gas and grid operations etc.) which will be realized and assessed as the use cases are implemented.

3. Basis for estimate

The scope of work requires two pods to support the use cases defined in this white paper.

Costs:

Base Pod Costs	
FTE Total	1,380,376
Consultant Total	3,600,000
Medium Pod Total	4,980,376

<i>PER YEAR</i>	Clean Energy Programs, AMI & DER Data & Analytics	
	Clean Energy	AMI
Rating		
Data Complexity	Medium (1)	Low (.5)
Data Volume	Low (.5)	High (2)
Use Case Complexity	High (2)	Low (.5)
Use Case Volume	Medium (1)	Low (.5)
Average	1.13	0.88
FTE Cost	1,380,376	1,380,376
Consultant Cost (Base * Avg)	4,050,000	3,150,000
Average Capital Per Year	5,430,376	4,530,376
	Avg Per Year	9,960,752

Capital	
Year 1 (75%)	\$ 7,471,000
Year 2 (100%)	\$ 9,961,000
Year 3 (90%)	\$ 8,965,000
Total	26,397,000
O&M	
Year1	762,000
Year2	1,536,000
Year3	2,179,000
Total	4,477,000

Project Risks and Mitigation Plan

Risk 1

Data source and analytics complexity may affect program timelines and costs.

Mitigation: The program's governance structure includes a monthly review of the roadmap with the opportunity to re-prioritize or shuffle data sources and use cases based on changes in information and costs over time.

Risk 2

Business teams do not have the bandwidth to act on the insights that are provided by the program's analytics use cases.

Mitigation: Prior to starting each use case, the program receives full buy-in from the use case's product owner and its manager for the timing and value of delivering the given analytics use case. The program has also implemented a monthly "look-ahead" process where the next six months of work is reviewed with the delivery team and product owners to ensure clear alignment on expectations and risks. Additionally, the program is being delivered in an agile manner to ensure that use cases can be built and prioritized based on near-term business value and priorities.

Risk 3

New technologies emerge that can deliver the program in a more efficient manner.

Mitigation: The proposed data and analytical capabilities are based on industry-leading adaptable platforms and tools. The Enterprise Data and Analytics team continues to evaluate emerging technologies to optimize the value from each use case. The modular design of the solutions coupled with an Agile project approach enable maximum flexibility.

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

This white paper is part of our holistic enterprise data & analytics program, leveraging a centralized enterprise data & analytics architecture to optimize interdependent analytics use cases. The following papers make up the products and capabilities of the program:

- Grid Asset Reliability and Resilience Data & Analytics
- Forecasting and Planning Data & Analytics
- Electric Work Management Data & Analytics
- Clean Energy Programs, AMI and DER Data & Analytics (this white paper)
- Customer Data & Analytics
- Gas Systems Analytics
- Supply Chain Data & Analytics
- Data & Analytics Foundational Capabilities
- Data and AI Governance

This program directly impacts projects across the enterprise which are expected to leverage the data and analytics provided by the use cases presented in this paper.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		762	1,536	2,179	2,179
Regulatory Asset					
Capital (Total)		7,471	9,961	8,965	10,544
Labor		1,934	1,934	1,934	1,934
M&S					
Contract Svcs.		4,709	7,199	6,203	7,782
Other					
Overheads		828	828	828	828

Enterprise Data & Analytics / Customer Data and Analytics 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Customer Data and Analytics	
Project/Program Manager: Mark Van Name	Project/Program Number (Level 1): 22678024
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date:	Estimated Date In Service:
2025-2029 Funding Request (\$000) Capital: \$61,437 O&M: \$21,282	
Work Description: The Enterprise Data and Analytics (“ED&A”) program was established in 2017 and has grown and evolved over the years. The strategy comprises of centralized governance functions (Platform Architecture, Data and AI Governance, Strategy & Planning) and business partner initiatives across major themes like Grid Asset Reliability and Resilience, Electrification and the Clean Energy Future, and Customer Experience Excellence. This whitepaper, Customer Data and Analytics, aims to continue development of analytics use cases in customer experience analytics, building on the 2023-2025 rate plan. The Customer Data and Analytics program began in 2020 with a goal of using modern data and analytics platforms to connect disparate customer data sources and sort through the resulting data to identify patterns, trends, correlations, and relationships. The Company uses the connected data to develop a better understanding of customer pain points and predict current and future customer needs. In 2023-2025, the program’s focus has been to increase customer and operational insights by enabling additional data source integrations, migrating existing reports and their data models to a new billing system, creating prioritization tools for back-office work management, enabling new methods of analyzing customer arrears and payments, and expanding root cause analyses for call volume fluctuations. The centralized Customer Analytics Records (“CAR”) data set is in production and supports many analytics needs across Customer Operations and select analyses by teams outside Customer Operations. For the 2026-2028 rate case period, the volume and complexity of analytics use cases requiring customer-centric data is expected to rise significantly due to the program’s early successes, the need for accurate and detailed customer data for the clean energy transition, the proliferation of machine learning models, and the promise of generative artificial intelligence (“GenAI”). The goals of the program are to enable the Company’s enterprise data strategy while building data products within the customer domain, enable more personalized customer experiences, and move key business areas to higher maturity in their data and analytics journeys. Managing customer-related information in a centrally governed and accessible location promotes consistency in metrics and shortens the development cycle of analytics across the Company.	

Key areas of the Customer Data and Analytics program include:

1. Expanding analytics solutions in the Contact Center
2. Improving Customer Operations interactions and impact through analytics
3. Supporting the digital customer experience
4. Building enterprise quality customer data products
5. Enabling insights and program efficiencies outside Customer Operations
6. Maintaining and supporting the development and use of customer data and analytics products

The program will deliver on these goals via the below efforts:

1. Analytics solutions in the Contact Center

The Company plans to develop a data product that integrates new data from the suite of Contact Center applications and structure this data to address complex business problems that require context from systems outside of the Contact Center. This curated data product will support various Contact Center analytics by creating customer experience metrics and by forecasting performance. The goal is to streamline the creation of new reports and drive consistency.

Use Cases associated with Contact Center improvements include:

- **Determining root cause and then predicting call volume events**

Advanced analytics techniques, including event-based analytics and machine learning, will be used to identify the root causes of high-volume repeat calls, which will help teams identify customer experience improvements such as more intuitive and user-friendly customer interfaces, the implementation of automated service notifications, and the integration of comprehensive self-service options to improve customer experiences with Con Edison. Secondary analysis will also identify opportunities for streamlining the process for account management, reducing the steps required for service requests, and minimizing the administrative burden on both customers and employees. Predictive root cause analytics will also be implemented to anticipate caller intent and proactively respond to high call volume events. Metrics will be used to measure employee performance, coaching impact, and contact center efficiencies.

- **Understanding customer and Company behavior via Interactive Voice Response (IVR) containment settings**

After upgrading the IVR system via the separate Contact Center Cloud white paper, the Company aims to optimize IVR flows by call type to improve call containment rates. This includes enhancing IVR flow functionality, optimizing user journeys, using customer-friendly language, reordering menus, and streamlining steps for faster issue resolution without live-agent assistance.

- **Empowering contact center agents through data enrichment and other tools**

Advanced analytics techniques will be used to improve the customer experience through analytics-driven employee coaching and scheduling. These analytics will leverage data from the Contact Center Cloud, the Customer Engagement Platform (CEP), Customer Care and Billing (CC&B) System, and any speech analytics solutions that get put in place. The primary focus of these analytics will be reducing average call handling time as well as its variability through quartile analyses of handle time by call type, completed transaction, and customer type so that each customer has a more uniform experience when calling Con Edison. Advanced Analytics will also be built to inform staffing levels in the Contact Center by refining call mix analytics on inbound calls by 30-minute interval, customer propensity to call by time of day, call back timeframes and Customer Satisfaction Scores (CSAT) for abandoned calls, and call back patterns for repeat callers. In addition, the analytics platform will have bidirectional integrations with the

Customer Engagement Platform (CEP), proposed in a separate white paper, to provide agents with additional contextual information such as the number of times the customer called in the past six months as well as reasons for prior calls. The CEP can also inform these advanced analytics with relevant communications that a customer received before and after their phone call.

- **Being responsive to emerging technology**

The Company will assess new technologies for trust and safety and responsibly implement relevant use cases. Emerging technologies in the artificial intelligence space are rapidly changing with various models and applications that can greatly improve time to value of an analytics product and enhanced access to controlled enterprise data. GenAI can be leveraged to automate administrative tasks and answer data questions using natural language.

For example, a business analyst that knows the customer data model but isn't proficient in the SQL coding language can ask "what are the total number of Bill Segment in Error To-Dos from January to March." In this example, a GenAI tool will propose the SQL code needed to answer this question and then the business analyst can check and edit the requirements that exist within the code. After the review, the analyst can click a button to run the query, obtaining the results without needing to know the nuances of SQL itself (e.g. the count function, statement syntax, date/time formatting). This means that the analyst is able to answer business questions with just their business knowledge and data literacy but not necessarily technical coding skills (which is a primary barrier to scaling data driven decision making¹).

2. Improving Customer Operations interactions and impact through analytics

- **Payment Journey Insights and Assistance Program Enablement**

In 2024 the program built new tools to monitor customer arrears, improve field collections measurement and planning, introduce new forms of customer communications via email campaigns, and identify if a customer might not pay their bill on time. These types of analyses enable the company to produce new communications and interventions that can prevent late fees and service terminations. Building off these successes, the program plans to continue its analytics investments focused on reducing arrears through advanced analytics to predict both the customers most likely to fall into arrears, preferred contact channels, and the aid programs that are most likely to bring them back to current on their account balances.

Analytics investments from 2026 to 2028 will combine augmented risk scoring models for more granular and actionable customer segmentation (such as clean energy programs, eligibility criteria, and repayment options) with more targeted, effective, and proactive contact and treatment strategies for each segment to improve the number of customers that stay on track and reduce customers becoming delinquent. This will allow the Company to provide earlier help to customers before they become delinquent, improve pairing of existing programs and offerings (e.g., payment plans, due date flexibility) and public assistance, social assistance, and affordability programs. Beyond these machine learning models, the program will provide data or analytics needed to draft personalized customer communications and the design of new payment terms based on customer billing history, past payment agreements, and forecasted bills.

- **Fraud analytics**

The Company plans to expand and formalize its approach to identifying potential employee fraud associated with billing and payments while minimizing the introduction of bias. Current analytics rely on manual data transformations which can lead to inefficient and limited fraud identification.

¹ 8 Pitfalls In The Data-Driven Decision-Making (DDDM) Process, Brent Dykes, Forbes 2022, <https://www.forbes.com/sites/brentdykes/2022/08/31/8-pitfalls-in-the-data-driven-decision-making-dddm-process/>

The Company proposes to leverage data from the Customer Care & Billing (CC&B) application to identify potentially fraudulent activity associated with bills, adjusted bills, and customer payments. Future use cases of fraud analytics include expanded analytics, such as of non-billing transactions and fraud risks outside of Customer Operations.

- **Streamlining Back-Office and Field Operations**

One of the use cases managed by the back-office is billing, much of which is automated. However, the Company has some complex billing situations with large customers that require manual intervention and will benefit from data and analytics use cases. With CC&B in place, the Back Office has a robust platform to manage customer accounts but still requires analytical solutions to inform work prioritization, assess timelines to complete different types of back-office work, and predict these complex accounting and billing errors so they can be addressed before a customer bill, adjustment, or enrollment is impacted. The program also plans to utilize analytics being created within this white paper's proposed Contact Center data product to identify calls that are associated with incorrect billing and automatically generate backlogs for account review by Back Office and Field Teams.

In addition to the analytics use cases, data pipelines will also be developed from the Enterprise Data & Analytics Platform (EDAP) to the Customer Engagement Platform to provide Customer Service Representatives with additional context into where a customer's account is within the queue of back-office work.

The Company intends to implement performance metrics to measure employee performance, coaching impact, and general back-office efficiencies. Analytics to measure performance will provide insights for improvements to schedules, staff volumes, and process management.

3. Supporting the customer digital experience

Building on the momentum from the previous rate period, the Customer Journey team will leverage enterprise data products to create analytics that will measure omnichannel experiences, identify interdependencies between channels, and enable predictive analytics that identify the best channel through which to engage a given customer. The program intends to build these analytics to enable reuse of analyses across multiple initiatives. Aside from informing self-service channel strategy, these analytics can also be used to measure the impact of customer experience investments, recommend how many employees should be dedicated to live chat, and identify new features or business rules to increase self-service adoption.

4. Enterprise customer data products

During the 2026-2028 rate period, additional data sources will be integrated into the existing Customer Analytic Record (CAR) database to provide controlled access to a centralized, governed, and harmonized view of all customer interactions, history, and demographic data. The CAR will be renamed and further modeled as "Customer360" to support analytics development across the enterprise when customer account, billing, and interaction data is needed. Self-service access with detailed documentation will be enabled for data analysts, report developers, and business analysts so these employees can produce business insights without intensive development efforts or further investment.

The integrated Customer360 database will be supported by improved quality and accessibility of customer data for sharing through dedicated data governance programs and operational quality programs. Improved quality includes standard data definitions with context on when to utilize this information and active management of data that needs to remain current to effectively interact

with our customers, such as customer contact information. In addition, the Company proposes dedicated customer data product resources to serve as data analysts and experts integral to the development efforts and to provide ongoing operational and analytical support of the products. This operating model enables downstream teams to perform their own data analysis with trust in the data sources they are working with, tailored to their team's data maturity.

Additionally, to enable Contact Center analytics, the program plans to create a Contact Center data product that utilizes data from the Contact Center Cloud implementation. This Contact Center data product will be used by teams across the business to access and interpret call data in a modeled manner. This helps teams identify the impact of their programs on customer calls without needing to be an expert in the Contact Center or the Contact Center Cloud software.

The Company plans to deliver on this program's goals through dedicated resources in Customer Operations and the Enterprise Data & Analytics team to design and develop data products and analytics solutions. The design and development effort for data and analytics solutions is owned by a business lead who is supported by a Product Oriented Delivery team (POD) of IT and business resources working collaboratively. This approach drives business satisfaction while maintaining technical standards in a highly governed environment.

5. Enabling insights and program efficiencies outside Customer Operations

The Customer Data Product created by this program includes individual customer interaction, consumption, billing, and program eligibility data for use by departments and users across the Company. Data products are also intended to enable self-serve analytical capabilities across the Company, with dedicated assistance available from data analysts supporting the customer-centric data products.

Examples of teams that will leverage this customer-centric data include:

- **Customer Energy Solutions**

Expanded availability of customer and Contact Center data products will enable clean energy program teams to have new ways of measuring program success (e.g. impact of the program on the Contact Center) or support additional ways to segment the customer base.

- **Gas and electric grid operations**

As the Company encourages its gas consumers to switch to more carbon neutral heat and cooking methods, it will need to accurately predict the impact of both reduced gas demand and increased electric demand, as well as aggregate the data to represent specific grid networks, vault impacts, and gas pipelines. Customer-level meter and consumption patterns will be available to analyze how changes at the customer level will impact grid capacity planning and impacts from distributed energy resources (DERs).

- **Cross-commodity planning and operational alignment**

Customer-level data is required to conduct ground-up advanced analytics that validate commodity demand forecasts and impacts at the network or circuit level, as well as predict cross-commodity and external crew needs during storm response.

6. Maintenance and support for the development and use of customer data and analytics products

The O&M portion of this program is requested to enable design integrity, trusted data, and accurate metrics from inclusive, cross-functional, customer-centric data products. In addition, a centralized Business Insights analytics team will support the analytics use cases across business areas to provide ongoing support for their analytics use cases.

The Customer Data and Analytics program is related to a number of other customer applications within the Company's IT portfolio, including Customer Data Sharing Program, Digital Customer Experience (DCX) Program, Enterprise Data Privacy Program, Contact Center Cloud, and Customer Engagement Platform (CEP).

Justification Summary:

The Customer Data and Analytics program aims to centralize data products that support analytics use cases for enhancing the customer experience across customer interactions with the Company. Data and analytics enable delivery of high value use cases that increase reliability, safety, quality of the customer experience, and enable the clean energy transition at a decreased overall cost than if advanced analytics and AI based solutions were built in an ad hoc manner. The program's approach and the Enterprise Data & Analytics strategy is structured to focus on enabling machine learning and AI capabilities that are foundational to the digital transformation of service in Utilities.² Impacts are detailed below:

Customer Experience

The proposed analytics use cases support increasing operational efficiency and improving customer experience. Use cases including root cause analysis, IVR containment, and average handle time (AHT) reduction. For example, in 2024 the program created a trial dataset that identified customer phone calls related to high bills and the AHT associated with these calls. After quartiling AHT by agent the program partnered with the contact center training team to provide ad hoc training on handling high bill calls. Post training, the AHT of high bill calls handled by representatives from the training cohort were completed two minutes faster (a reduction of 11%). This reduction saves customers time, provides better service, and in aggregate can reduce customer wait times. Strategy leaders are also recommending similar contact center analytics use cases in the industry.³

The analytics use cases proposed by the Company also enable increased operating efficiency among the Back Office, Field Operations, and other business teams leveraging these data and analytics solutions, as the primary use cases in this space are around working smarter through account prioritization and management tools. By the end of 2024, the program will have generated nine descriptive reporting dashboards created to support back-office work prioritization. These dashboards support daily or weekly activities that save users five to 60 minutes per day and have helped improve back-office work management following the Company's CC&B implementation. The reports were stood up quickly to address immediate business needs and will be improved upon in 2025. Use cases planned as 2026 investments intend to utilize advanced analytics and Machine Learning to become more proactive when addressing and assigning work, change management to improve the data literacy of groups using these reports, and integrating AI to anticipate what additional data an employee needs complete their assignments enabled user experiences to focus work prioritization on a given day, week, or month.

² Winner takes all? Digital in the utility industry, McKinsey & Company, published March 2023, <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/winner-takes-all-digital-in-the-utility-industry>

³ How utilities can use advanced analytics to elevate customer experience, McKinsey & Company, published August 2022, <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/how-utilities-can-use-advanced-analytics-to-elevate-customer-experience>

Other analytics focus areas will also affect the customer experience indirectly. Examples of these expected indirect impacts are below

- Employee fraud detection intend to improve the customer experience by detecting and avoiding fraud that might impact what customers owe the company
- Payment analytics will reduce customer delinquency rates and (coupled with messaging programs) can reduce the number of late payment charges customers receive from forgetting to pay on time

Investing in Our Clean Energy Future

The Customer360 data will be leveraged for multiple clean energy-focused programs and will directly support analytics created by the Clean Energy Analytics Program, including the use of customer propensity modeling for optimized customer targeting. In addition, the proposed analytics use cases in the Contact Center will support the clean energy transition and the Customer Engagement Platform (CEP) by providing agents with better information and tools to answer customer questions. Improved back-office analytics also help manage increasingly complex billing situations, such as those with distributed energy resource (DER) integration and other load modifiers. Additionally, the data and analytics program's capacity for increased granular analytics and reporting will also enable the Company to provide more detailed and accurate reporting in an agile manner. For example, in 2023 and 2024 the program was able to adjust its roadmap to deliver on the new Customer Operations reporting requirements associated with the 2023 Joint Proposal. This included the Estimated and Delayed Billing NRA report, the Estimated and Delayed Billing non-NRA report (which contains over 600 measurements), initial reporting on Community Distributed Generation programs, and the Customer Operations portion of the disadvantaged community (DAC) report (including the staff and maintenance costs that created the enterprise DAC dataset which was used by all other reporting teams to determine which premises are in DACs).

Cost Avoidance

These use cases allow the Company to enhance customer service, while at the same time achieve efficiencies through optimized Contact Center operations, streamlined back-office workflows, decreased customer delinquencies and arrears, decreased fraud risk, targeted customer outreach, and avoided stranded labor costs from manual and redundant tasks through automation. Industry implementations of similar efforts demonstrate that when these analytics products are integrated into routine business practices they lead to more effective and efficient operations, benefitting customers. Realizing this value requires a focus on change management, training, and insights tracking to drive what is being built as a business enablement tool to deliver on its estimated business value. Examples of cost avoidance as a result of customer analytics investments include:

- Contact Center staffing (supply) being optimized through call volume forecasts (demand), root cause analysis, and IVR containment which will enable the Contact Center to utilize its staff to efficiently deliver on its customer service goals.
- Reduced arrears and delinquencies lead to lower and fewer uncollectible balances.
- Back-office analytics help prioritize and organize complex account or meter management backlogs to meet customer expectations to receive consistent bills from remote or manual meter readings.

Over the course of 2023 to 2024, the Customer Analytics program has directly enabled or contributed to the following:

- 51 PowerBI reports that were built since Customer Care & Billing (CCB) cutover, which generated over 30,500 views by over 400 employees (including the Customer Analytics team)
- 240,000 queries were executed in Databricks across 100 users
- 67 ad hoc analyses performed in 2024 to support process improvement teams

- 3 Machine Learning models created for more efficient customer outreach strategies

Additionally, the team directly supported achieving customer service performance mechanisms for Customer Satisfaction, Long Term Estimated and Delayed Billing, PSC Complaints and Average Seconds to Answer.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The Customer Analytics program supports the Company's goal to achieve CLCPA goals and aligns with broader Company plans and initiatives.

The customer data program provides the Company with a mechanism to identify how internal clean energy programs more accurately are converting to reduced emissions. This capacity for increased granular analytics and reporting will also enable the Company to provide detailed and accurate proof of progress to regulators, investors and customers.

2. Supplemental Information

Alternatives

Alternative 1 – Continue program as-is

The first alternative is to maintain the current state of the program, which would have significant negative impacts on the Company's analytics capabilities across data sets. This approach would not leverage previous investments in building the Customer Analytics and Reporting (CAR) database optimally and would halt progress on the data-driven transformation occurring in Customer Operations. It would also prevent the Company from merging clean energy program-related datasets and grid datasets into the Customer Data and Analytics platform and would not allow for increased optimization of Contact center operations, which would negatively impact customer experience by not having the relevant information for the Call Center representative to recommend the energy efficient programs that could reduce their carbon footprint and advance the Company's clean energy efforts. This approach could also lead to higher O&M costs going forward, with duplicate customer datasets created across the Company.

Alternative 2 – Independent data and analytics efforts

The second alternative is to federate the data needs back into the individual business units. This approach creates a high potential for redundant development efforts to build data sets for each business unit or value case, likely leading to higher costs. This typically results in siloed data sets and conflicting data, preventing the Company from creating sources of truth for customer data. This inability to integrate customer data into a central repository could result in the Company not adequately addressing high impact value use cases, lengthening of the delivery time of new analytics projects, and remove the network effects of shared data with guardrails and training resources for citizen developers. Investing in independent analytics efforts at a pace that data-driven utilities require will incur significant O&M costs (as not as many projects will fit capitalization criteria) and duplicate capital costs from multiple analytics platform implementations.

Alternative 3 – Procure analytics solutions from vendors instead of developing them in-house

Another alternative is to procure off-the-shelf analytics applications. This would result in lower initial implementation costs but significant operational and transfer costs. This type of solution would leave limited flexibility to meet unique Company needs and previous investments by the company in analytics would become obsolete. This option necessitates funding new integrations for each source system into

the new vendor's product, covering hosting costs for computation and storage, paying the vendor for data modelling services, and it would not allow the program to put its analytics use case development through a competitive bidding process.

Risk of No Action

Following are the enterprise risks if the Program is not implemented:

- Effective data use: The first risk of inaction is that customer interaction data gathered, and the CAR database created during the 2023-2025 rate plan, will be the only data sources that can be used for analysis. In this scenario, future programs that use service channels outside of these data sources would not benefit from the effective benchmarking and cross-channel analysis enabled by the Customer360 Data program. Additionally, integration with other systems will not be in place to feed data to customer systems for more relevant customer communications. If the Customer Data and Analytics program is not funded, then there will be less data and no additional models that the Company can utilize, and the Company's new CAR database will be less effective in delivering relevant tools for employees and customers.
- Contact Center operations: Stopping investments in Contact Center analytics may lead to poorer service level performance, as Contact Center operations would have fewer tools and less context about customer calls outside of what will be produced by the Contact Center Cloud upgrade. Typically call context becomes important when attributing root cause and effect analysis on how activities such as emails, collections, and bill changes impact call volume.
- Sub-optimal capital deployment: Sub-optimal capital deployment will occur as business justification may continue without any centralized planning. This type of development will increase capital costs and operating expenses due to potentially redundant efforts utilizing customer data across the organization.
- Unoptimized customer experience: Inaction hinders the opportunity to improve customer experience and impacts downstream analytics use cases for supporting customers during the clean energy transition by creating a one-stop experience for the customer and recommending relevant energy efficiency programs at the right point in time, on their preferred contact channel. No longer investing in customer analytics use cases can hinder the Company's efforts to reduce wait and resolution times for customers, especially with increasing complex requests due to billing, collections, and clean energy transition programs. Inaction in the Back Office can lead to increased billing errors, leading to poor customer experience, and increasing pressure on the Contact Center through increased calls from customers for billing-related issues.

Non-Financial Benefits

With deep customer insights from the Customer Data and Analytics program, the Company can meet rising customer service expectations and more easily introduce customers to new programs and services that will advance progress toward New York State's clean energy goals.

Additional non-financial benefits include productivity gains and streamlined data pipelines for analysts and across multiple end users who no longer need to spend hours joining data sets together and performing other manual data cleansing tasks.

Each use case delivered as part of the program is expected to provide additional non-financial benefits to the Company and customers based on the specific insights that the analytics produce. These benefits include improved customer experience such as reduced average handle time, improved Contact Center

agent and employee experience by empowering them with the information they need to address customer needs, increased support of customers to achieve their clean energy goals by making relevant energy recommendations, and other benefits that will be evaluated as the program is implemented.

Summary of Financial Benefits and Costs

1. Cost-benefit analysis

The proposed analytics use cases support strategic priorities for the Company. The project will directly and indirectly lead to financial benefits through improved customer experience, optimized Contact Center operations, and lower customer delinquencies.

2. Major financial benefits

The proposed analytics use cases will lead to avoided costs through:

- Optimized Contact Center operations
- Streamlined back-office workflows
- Decreased customer delinquency, arrears, and uncollectibles
- Targeted customer contacts
- Reduced O&M labor to enable analytic solutions

3. Basis for estimate

Costs:

Based on the rubric and methodology outlined below, this white paper was costed as follows:

Base Pod Costs	
FTE Total	1,380,376
Consultant Total	3,600,000
Medium Pod Total	4,980,376

PER YEAR	Customer	
	Call Center	Customer
Rating		
Data Complexity	Low (.5)	High (2)
Data Volume	Low (.5)	High (2)
Use Case Complexity	Medium (1)	High (2)
Use Case Volume	Medium (1)	Very High (3)
Average	0.75	2.25
FTE Cost	1,380,376	1,380,376
Consultant Cost (Base * Avg)	2,700,000	8,100,000
Average Capital Per Year	4,080,376	9,480,376
	Avg Per Year	13,560,752

Capital	
Year1 (75%)	10,170,564
Year2 (100%)	13,560,752
Year3 (90%)	12,204,677
Total	35,935,994
O&M	
Year1	2,949,000
Year2	4,409,000
Year3	5,557,000
Total	12,915,000

Rationale

An investment in Customer Data and Analytics will build on the foundation previously established to improve the customer experience through the use cases above.

Methodology

Consistent with our learned experience in analytics delivery and agile best practices, we developed our costs on team capacity basis.

- Capacity was determined based on an analytic rubric that looked at four major categories of data & analytics development:
 - Data Complexity – accessibility, quality and interoperability of necessary data
 - Data Volume – number of systems and integration techniques
 - Use Case Complexity – Complexity of underlying analytics and operationalization
 - Use Case Volume – the number of high value use cases available
- We then defined descriptions of high, medium and low examples of each category. (see below)
- Based on our experience, industry research and work with our consulting partners we identified the team necessary to execute a medium capacity analytics program.
- The resourcing structure reflects the Utility tendency to utilize System Integrators for direct development work and have the smallest possible FTE footprint that also enables the business to lead value capture and business process integration and appropriately managed staff augmentees building to the technical specification and requirements of the organization. This allows us to effectively managed program demand peaks over many years.
- Costs are based on two major factors: Employee and Consultant Totals:
- From here we looked at each white paper and determined the number of PODs necessary and scored them based on the use cases and our knowledge of the existing data architecture.
- Based on the rubric score for each white paper, consultant resources were scaled up or down to size capacity correctly.
- The yearly average was then distributed with 75% of the total in year one to account for ramp up time, 100% in year two and 90% in year 3 to account for defining new use cases.
- O&M was calculated as a standard 12% of build costs to start, and then adjusted downward by working with our business partners to determine how many of the FTE roles could be filled with existing head count. This accounts for change management, enhancements to the products and labor once use cases are placed in service.

Rubric:

<i>Sizing Rubric</i>	High	Medium	Low
Data Complexity	Multiple, often legacy systems with unclear governance structures, quality and documentation. Data is not easily modeled.	Multiple systems with clear ownership structures and some quality issues. Documentation is available but incomplete. Data can be modeled across systems.	Few sources with clear governance structures and documentation in place. Data is already modeled across systems.
Data Volume	Many data sources with unclear or large historical retention needs. Data may require streaming technology.	Limited number of source systems, of normal volumes. Bath or API transfer is appropriate.	Few source systems of small volume with limited historical data. Batch transfer is appropriate.
Use Case Complexity	Solutions Require net new analytics design and / or complex algorithms. Outputs require integration with and action in source system as well as significant business process change.	Solutions are industry standard but need customization. Standard BI dashboards or simple custom user interfaces are sufficient for most of the use cases. Business process change is necessary.	Use Cases are industry standard and port well to Con Edison's environment. BI reporting is sufficient as a front end.
Use Case Volume	Significant number of high value use cases requiring multiple teams to deliver.	Many high value use cases that can be delivered with one team.	Most of the value is in self-service analytics or with BI reporting on top of the model.

Complexity / Volume	High	Medium	Low

Data Complexity	2	1	0.5
Data Volume	2	1	0.5
Use Case Complexity	2	1	0.5
Use Case Volume	3	1	0.5

Staffing:

Pod Structure

Full Time Employees

● Product Director	1	Defines Pod's strategy, responsible for successful implementation of value case initiatives
● Analytics PO	1	Owns delivery of analytics for the business. Defines requirements and leads business process integration.
● Data PO	1	Owns delivery of data products for the business. Defines requirements and self-service strategy
● Data Steward	1	Operationalizes governance policy & practice
● Tech Lead	1	Coordinates technical components and team to deliver solutions
● Tech PO	1	Connectivity between business and IT by refining use cases and defining MVPs, solution adoption.
● IT BSD	0.36	Works between source system IT and EDAP Platform
● Domain Architect	0.25	Owns domain strategy and technical and analytical design
● EDAP	0.18	Enterprise Data & Analytics Platform support
		Employee Annual Cost
		1,380,376

IT Staff Augmentation

Annual Costs

● Data Scientists, ● Engineers, etc.	300K Month
Consultant Total	3,600,000

Medium Pod Total

4,980,376

● IT FTE ● Business FTE ● IT Consultant

Project Risks and Mitigation Plan

Risk 1

New technologies emerge that can deliver the program in a more efficient manner.

Mitigation: The program continuously evaluates available technologies to incorporate the latest trends and adaptable platforms to achieve the program's goals. Managing the efforts in an Agile methodology also enables the Company to redirect efforts to new technologies as appropriate.

Risk 2

Data source complexity may affect program timelines and costs.

Mitigation: The program's governance structure includes monthly reviews of the roadmap, allowing for re-prioritization and adjustments based on changing information and costs. Director approval is required for any changes, enabling alignment between IT and Customer Operations.

Risk 3

Data source cleanliness and usability.

Mitigation: The program implements data reconciliation testing, validating each data source's feeds. Business users closest to the data source also validate the data being pushed into the data model. Data quality concerns are escalated to the Customer Operations Data Governance Office for prioritization and resolution.

Risk 4

Customer data leaving the Company's servers.

Mitigation: The program follows cybersecurity best practices, including isolating the analytics environment from the internet, implementing encryption protocols, role-based access, row-level security, and logging and monitoring solutions. A data privacy tool and associated processes manage personally identifiable data in all data sets.

Risk 5

Business teams do not have the bandwidth to act on provided insights.

Mitigation: Prior to starting each use case, the program receives buy-in from the product owner and manager regarding timing and value. A monthly "look-ahead" process aligns expectations and risks for the next six months of work. Agile delivery allows for prioritization based on near-term business value and priorities.

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

The analytics use cases presented in this white paper represent the collective needs for asset analytics-related data and analytics across the organization. Additional enterprise data and analytics use cases are presented in related white papers that leverage a centralized Enterprise Data & Architecture to optimize interdependent analytics use cases. The following papers contain linked use cases of the centralized Data & Architecture:

- Grid Asset Reliability and Resilience Data & Analytics
- Forecasting and Planning Data & Analytics
- Electric Work Management Data & Analytics
- Clean Energy Programs, AMI, and DER Data & Analytics
- Customer Data & Analytics (this white paper)
- Gas Systems Analytics
- Supply Chain Data & Analytics

Additionally, this program leverages the enterprise data and analytics platform (EDAP) to allow for centralization of licensing and platforming costs. These use cases are presented in the following papers:

- Data & Analytics Foundational Capabilities
- Data and AI Governance

This program directly impacts the projects represented in the white papers submitted by the Customer Operations team, which leverages the data and analytics provided by the use cases presented in this paper. The following related white papers are submitted by the Customer Operations team:

- Contact Center Cloud
- Customer Engagement Platform
- Customer Data Sharing Program
- Digital Customer Experience (DCX) Program
- Enterprise Data Privacy Program

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M	500	550	364	2,729		2,000
Regulatory Asset						
Capital	3,425	5,248	5,232	10,562		14,579

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		1,094	2,553	3,701	3,701
Regulatory Asset					
Capital (Total)	10,500	10,171	13,561	12,205	15,000
Labor	2,200	1,934	1,934	1,934	6,000
M&S	400	0	0	0	500
Contract Svcs.	5,650	7,409	10,799	9,443	4,800
Other	1,150	0	0	0	2,200
Overheads	1,100	828	828	828	1,500

Enterprise Data & Analytics 2026-2028

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Data & AI Governance Program	
Project/Program Manager: Jessica Mundy	Project/Program Number (Level 1): 25780607
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 1/1/2025	Estimated Date In Service: 12/31/2029
2025-2029 Funding Request (\$000) Capital: \$17,834 O&M: \$5,100	
Work Description: The Enterprise Data and Analytics (ED&A) program was established in 2017 and has grown and evolved over the years. The strategy is comprised of centralized governance functions (Platform Architecture, Data and AI Governance, Strategy & Planning) and business partner initiatives across major themes like Grid Asset Reliability and Resilience, Electrification and the Clean Energy Future as well as Customer Experience Excellence. Through the ED&A centralized governance function all initiatives are vetted and reviewed to ensure consistency, create standardization and minimize duplication of efforts. The Data & AI Governance Program continues and builds upon the successful work of the 2023-2025 rate period (Data Governance Program) to ensure that our strategic data assets are trusted, serviceable, used, and responsibly managed. The purpose of the program is to utilize Microsoft Purview Unified Catalog, our enterprise data catalog¹, and other tooling to responsibly manage, analyze, and leverage our most strategic data assets (e.g. Customer Analytics Record, Advanced Metering Infrastructure (AMI)) with a single window into their quality, use, ownership, sensitivity and meaning, and our governance frameworks to ensure their ongoing maintenance and usefulness. In the 2026-2028 rate period, the Company looks to continue the deployment and scaling of our governance framework and tooling (Microsoft Purview) in additional data domains² throughout the enterprise. This work will comprise the continual onboarding of new data products and sources, as well as the enhancement of data governance (DG) processes and policies across the Company. In addition to the above goals, the program will expand into AI Governance, Trust, and Safety as an extension of DG. This will entail the creation of new policies, governance processes, and tooling where	

¹ A data catalog is a detailed, authoritative inventory of data assets across the organization. The catalog displays the metadata necessary to evaluate how fit for purpose a dataset may be for business purposes.

² A data domain is a logical grouping of data assets or areas of interest to the Company. Data domains are often defined on organizational or functional lines. For example, "customer data" and "network data" are separate data domains.

necessary to support governance over the safe, secure, and responsible development of data-driven, AI-enabled products at the Company. We will also look to build processes and technologies to track and manage data sharing requests across the Company in alignment with the Company's data privacy efforts.

The Data and AI Governance Program will comprise several objectives:

- Continued expansion of data governance framework with key domains
 - Integration of data products and systems with MS Purview
 - Establishment and refinement of governance processes and decision rights structures
 - Creation of data quality frameworks and scalable processes to increase usable lifespan of data assets
 - Continued refinement of enterprise-wide policy and procedure for best practices in data management
- Development of an AI governance framework, processes, and policies which align with existing data policies and procedures in the Company.
- Discovery, procurement (if necessary) and implementation of AI governance tooling.
- Development and execution of responsible data sharing processes and technical solutions in collaboration with Privacy Readiness Program.

Program execution will be organized around three high-level workstreams and follow an agile methodology to meet our business partners at the right time and pace for adoption.

- Track 1: Tooling implementation, publication of data policy & procedure, framework development.
- Track 2: Integrate governance framework with key domains on the Enterprise Data & Analytics Platform (EDAP) and publication of an enterprise-wide AI policy.
- Track 3: Onboard data domains with products outside of EDAP. Identify and design custom architectures, integrations, and framework implementation for net new data products & formally integrate and onboard them into Microsoft Purview.

The program will include the following staff resources:

- IT Data Governance Office (DGO) staffing to develop and refine the enterprise data governance, sharing, and AI frameworks, and to lead execution.
- System integrator staffing (e.g. developers, change manager) to integrate necessary tooling with key domains and products.
- Dedicated data stewards focused on responsible management of key domains and products.
- IT operations support to maintain tools/platforms.

Justification Summary:

The Data & AI Governance (DG&AI) Program is an initiative to improve the use and serviceability of data assets to enable Company data & analytics initiatives to realize business value. A robust program also enables the Company's compliance with existing and upcoming laws, rules, and regulations, as well as Commission orders. The Company is submitting other white papers to build high value analytics products that will work in conjunction with the DG&AI program and enable us to make sound business decisions backed by trusted data.

As the program grows, it will provide opportunities to decrease data collection redundancies, standardize data-related processes, and increase data system and resource efficiencies within and across departments.

As an ongoing initiative, this program has accomplished the following to date:

- Implemented the Microsoft Purview suite of tools to support core DG functions.

- Released a minimally viable product (MVP) integrating Purview with products and systems from the Customer Operations domain, complete with metadata tagging and a comprehensive data glossary.
- Secured stakeholder buy-in to roadmap and onboard key domains (Customer Operations, CES, Gas, Central Engineering, Energy Management, AMI, etc.).
 - Customer Operations, Gas, and CES have adopted the recommended DG operating model and set up an issue management process based on recommendations from the program.
 - Customer Operations has cataloged their critical assets within our enterprise DG tool, Microsoft Purview, and enriched their assets with metadata.
 - Other key domains are taking early steps to onboard enterprise DG tools and processes by using our assessment tool to evaluate their current DG practices.
- Built a scalable data domain operating model framework with robust documentation for adoption, accessible to all employees.
- Developed a centralized issue management process and associated workflows within Azure DevOps to manage the tracking and remediation of data issues across domains.

Enterprise Risk Management (ERM) releases a yearly report called *Emerging Issues and Trends Insights Report* that identifies emerging issues and trends, such as evolving conditions or situations that may affect the Company's operations or strategies in the next two to ten years and have a high degree of uncertainty. In the 2023 release of this report, ERM has identified the Proliferation of Operating Data as an emerging area of both risk and opportunity. The following description was given:

- *"Increased levels of data from smart technologies (e.g., smart meters, methane detectors, and other sensors) can be applied to achieve strategic advantage and improve the customer experience but may also inundate operations resulting in misoperations, missed corrective interventions, cost increases, and/or increased liability."*

Within that report, the foundation of an enterprise data governance team was identified as an active key mitigation effort.

- *"The IT Enterprise Data & Analytics team established a data operations practice to manage Company data as a strategic asset. This includes... the foundation of a data governance team to increase understanding, trust, and quality of Company data."*
- *"Formal data governance program was approved in the 2022 CECONY rate filing and is underway to improve data lineage and stewardship throughout the company. IT formed the Data and Analytics Steering Committee, comprised of band 4 leaders throughout the company, to help develop data strategy and governance."*

Continuing to implement the DG&AI program is an essential undertaking in securing the long-term success of the Company's digital transformation. It is a collaborative exercise that spans across functions and lines of business. The evolving framework being implemented and the incorporation of AI governance into that framework will address the following core organizational needs:

- Supports cross-functional decision rights structure that operates at an enterprise level.
- Designs and implements capabilities and procedures which support managing our data safely and efficiently.
- Deploys a centralized knowledge sharing platform, or data catalog, which allows a collaborative approach toward data asset management between business and IT.
- Creates a process and employs tooling to measure and monitor the quality and health of data assets.
- Develops appropriate escalation channels and action plans to rectify poor data quality.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The Data & AI Governance Program puts in place tools and processes designed to promote the safe production, usage, and maintenance of better data (e.g. quality, availability) which is indirectly responsible for a host of benefits across the Company. For example, improved data quality can improve carbon accounting accuracy to support reduction of GHG Emissions, as well as our ability to serve DACs, promoting targeted and equitable investment decisions.

Long Range Plans:

From the 2020 Distributed System Implementation Plan pg 67

- *“The Company understands that streamlined data management and optimization will underpin the future of utility operations and as such, the Company has procedures and roadmaps in place to layer these needs into a corporate repository that can serve as a single source of data and reporting. For example, as part of the ongoing AMI deployment, Con Edison has established data governance teams and structures to facilitate an enterprise-wide approach to data management and the creation of an [Enterprise Data Analytics Platform].”*

From Con Edison Integrated Long-Range Plan

The Long-Range Plan mentions four strategic objectives: clean energy, climate resilience, core service, and customer engagement. The continued development and maturity of a formalized data governance function at Con Edison will aid in these objectives by ensuring the quality and availability of the data being used to drive our strategic approach.

On page 17, the document lists several IT trends that will “help shape the energy systems of tomorrow”, including cloud computing, AI, Internet of Things (IoT), and 5G. All of the aforementioned technology will deal with high volumes of data with high availability. This is further supported by the following excerpt from page 55 of the same document:

- *“More data is available to the utility and its customers than ever, and the data pool is proliferated by things like DER, AMI smart meters, and third-party technology companies that now are part of the customer experience. The utility needs to manage sensitive customer data, such as Personal Identifiable Information (PII) and financial information, to ensure that customer trust is kept.”*

Properly managed data is a critical facilitator in the continuation and planned improvement of Con Edison’s operations. Data governance will enable more accurate tracking of the Company’s greenhouse gas emissions, open opportunities for renewable energy source development, and identification of energy disparities in disadvantaged communities. For the climate resilience objective, this will enable improved climate risk modeling for developing climate resiliency strategies. For the core service objective, this will enable more accurate forecasting of customer energy use and the ability to better identify and respond to safety incidents. For the customer engagement objective, this will enable more accurate customer data tracking in order to better meet customer needs and more responsive handling of customer data requests.

An AI governance framework closely tied to data governance objectives controls for several risks and directly impacts the Company’s ability to achieve its long-range plans as noted above. According to the official AI governance framework document from the Singapore government, Model Artificial Intelligence Governance Framework, “AI can be used by organizations to provide new goods and services, boost productivity, enhance competitiveness, ultimately leading to economic growth and a better quality of life.” At Con Edison, we look to enhance our operations and productivity while also recognizing that these processes and systems require governance. As mentioned in the framework, “AI [...] introduces new ethical, legal, and governance challenges”, including discrimination, biases, incorrect outcomes, and lack of transparency.

Industry publications corroborate the need for AI Governance to achieve our data-driven objectives. Gartner's article, *Artificial Intelligence Requires an Extended Governance Framework*, states:

- "Artificial intelligence (AI) is becoming mission-critical in the enterprise. The criticality, scalability and democratization of AI all require governance to balance the AI's value with the new risks it poses."

Applying data & AI governance frameworks to the Company's high-profile and high-value use cases, as outlined in the "Project Relationships" section, will further goals stated in our long-range plans and ensure sustainable practices around data management to guide us forward into the future.

Department Risks (IT):

Unauthorized Access or Loss of Sensitive Information - The program will formalize data sensitivity risk ratings and clearly communicate usage requirements and access controls for sensitive information. This will help prevent unauthorized access or misuse of data.

Significant IT Projects - DG directly lowers the complexity of data-related work on major technology projects, as well as the time needed to understand and account for data critical to those projects - reducing delays resulting from occurrence of unknown unknowns.

Cybersecurity - Maintains security risk by ensuring disciplined access control, categorization, and discovery of sensitive information.

Corporate Risks:

Cybersecurity - Mitigates security risks via controls for access, categorization, and discovery of sensitive information.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

The alternative is to continue with a siloed, non-integrated approach to data management across different businesses and systems. This will result in a failure to mature current data management processes and tooling, which produces an inconsistent, and fragmented approach to managing data assets across the enterprise.

As new enterprise systems are implemented or existing ones upgraded (e.g. applications in the customer, HR, GIS, & outage domains) it is critical to ensure that data of high quality is produced, maintained, and made available to support critical business processes. The volume of data required for key initiatives and applications across the Company is growing constantly. The longer the Company waits to catalog and monitor its data assets, the bigger the risk for rework, the cost of data cleanup and likelihood of redundant development.

Additionally, data stewardship, data issue management, data cataloging, and data protection controls and tooling are foundational capabilities needed to enable data-driven initiatives and to ensure that the Company receives the most value out of core technical investments with minimal or no rework. The DG&AI frameworks will also be foundational for new analytics initiatives as they work to gather and curate data necessary to produce valuable and actionable insights for the Company.

Risk of No Action

Risk 1 - Poor Data Quality

Undermined trust in data, impacted operational decisions and regulatory and compliance reporting.

Risk 2 - Decreased Accountability

Lack of ownership for data assets and inability to track data issues makes corrections difficult.

Risk 3 - Uncontrolled Proliferation

Siloed knowledge about the contents of data stores increases the probability of creating duplicative data stores or reports to meet business needs, resulting in increased costs.

Risk 4 - Reduced Security and Privacy Controls

Not having an inventory of sensitive data assets and applicable data protection controls will indirectly increase the risk of data exposure or inappropriate use.

Lack of oversight applied to use case assessment and development can result in training AI models on sensitive datasets, which represents a privacy risk for data subjects whose data the Company controls (employees, contractors, retirees, customers)

Risk 5 - Inaccurate Reporting

Failing to define systems of record for key data elements may result in mismatches in internal reporting and/or inaccurate information reported externally to the press or to customers.

Flawed inputs, lack of monitoring and appropriate model training, and failure to validate the outputs of AI tools carries risk around the potential for inaccuracy and biases in reporting.

Non-Financial Benefits

- Improved centralization: A centralized data issue management platform and process to record, track, and assign responsibility to data issues will improve workflow efficiency and communication among departments.
- Compliance: Automated classification of sensitive data is a foundational capability necessary to ensure compliance with laws and regulations (e.g. customer privacy laws).
- Enterprise standard tooling: A well-populated and maintained enterprise data catalog provides the following benefits:
 - Increases understandability, acceptance, and trust of data, directly enhancing AI model transparency
 - Decreases time spent searching for data and more on delivering actionable insights
 - Supports data lineage analysis - increases the ability to trace data from source (operational databases) to target (reports)
 - Supports impact analysis by increasing the ability to measure the impact of change
 - Provides a standard, centralized platform where subject matter experts can share their knowledge about data sources
 - Reduces redundancy and helps identify existing assets that can meet user needs
- Improves AI model health through high quality, trustworthy training data
- Better data, higher value: Development and measurement of data quality metrics enhances the quality of data in reporting and analytics platforms and in transactional systems. According to Gartner in their May 2021 article *Data Sharing Is a Business Necessity to Accelerate Digital Business*, organizations that offer users access to a curated catalog of internal and external data will realize twice the business value from analytics investments than those that do not.
- Increased trust: Enhanced data quality increases trust in data reported to regulatory agencies.
- Error and issue avoidance: Data issues are identified earlier in business processes and handled before adversely affecting operations and business decisions. In addition, improved data quality means that business processes will have a higher First Time Right performance (by preventing inaccurate reporting) and lower process costs (by improving data-driven decision-making).

- Enable innovation: According to Gartner in their March 2024 article *D&A Leaders Adopt Different Approaches for GenAI Governance*, organizations with established governance structure and practices are able to adapt better to changing technologies and enable innovation, such as in the case of adoption of GenAI.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

The program will support the Company's strategic IT goals and long-range plans. Based on several studies conducted by Gartner and benchmarking with other utility companies, we have found that a data governance program indirectly results in improved productivity and lower operating costs (e.g. efforts and costs associated with data discovery, processing, and remediation). Financial benefits are described in the next section below. The program will also result in non-financial benefits including improved centralization and enterprise standard tooling for the company.

2. Major financial benefits

Data governance is a strategic enabler that indirectly contributes to financial benefits. As an extension of DG, AI governance contributes similarly to financial benefits. In a 2021 Forbes article, *Flying Blind: How Bad Data Undermines Business*, they reference a Gartner study saying "Gartner also found that nearly 60% of those surveyed didn't know how much bad data costs their businesses because they don't measure it in the first place."

The DG&AI program seeks to avoid such issues. With robust Data & AI governance frameworks, data and technology implementations have increased speed to deployment due to discoverability and robust documentation of data, and the use and production of higher quality data after implementation of the key components of the Program (sensitive data inventory, data catalog, data stewardship operating model, etc.)

Some of the indirect cost avoidance opportunities with a comprehensive Data & AI Governance Program include the following:

- Data breach fines:
 - Identification of where sensitive data is located and implementation of data protection controls (for example, data access controls, data masking, data encryption) mitigates the risk of data being viewed, accessed, and stolen by unauthorized individuals.
 - Establishment of robust AI governance frameworks (e.g. access controls, audits) mitigate the risk that AI-enabled tools expose sensitive data.
- Regulatory fines:
 - Identification of walled data that should be separated by business functions (e.g. marketing vs. transmission data) can be tagged accordingly in the data catalog and mitigate the risk of improper data access.
 - Improved data quality mitigates the risk of inaccurate data reports to regulators.
 - Improved data management and understanding of data reduces the risk of inaccurate customer classification and billing.
 - Established AI use case review processes mitigates the risk of improper data access and ensures AI-enabled tools are using sensitive data responsibly.

3. Basis for estimate

The cost estimates for the Data & AI Governance Program were based on:

- Experience with running the Data Governance Program
- Analogous IT projects and programs
- Foundational work done on data governance tooling and framework
- Third party vendor estimates for cloud-based software licenses for data governance tools to deliver data governance data issue management processes and workflows
- IT standard estimating models for infrastructure costs

IT standard estimating models for contractor resources to deploy and configure cloud solutions

CapEx			
	2026	2027	2028
FTE Labor	\$ 1,200,000	\$ 1,000,000	\$ 750,000
Contract Sevices	\$ 2,825,000	\$ 2,550,000	\$ 2,325,000
Purview	\$ 50,000	\$ 50,000	\$ 50,000
Overheads	\$ 425,000	\$ 400,000	\$ 375,000
Total	\$ 4,500,000	\$ 4,000,000	\$ 3,500,000

OpEx			
	2026	2027	2028
FTE Labor	\$ 700,000	\$ 1,000,000	\$ 2,000,000
Contract Sevices	\$ 380,000	\$ 670,000	\$ 260,000
Purview	\$ 20,000	\$ 30,000	\$ 40,000
	\$ -	\$ -	\$ -
Total	\$ 1,100,000	\$ 1,700,000	\$ 2,300,000

Project Risks and Mitigation Plan

Risk 1

Limited business unit engagement results in less-than-optimal value from the program

Mitigation Plan

- Utilize a DG implementation team to embed with the business and help with the biggest technical lift during integration with the enterprise framework.
- Execute active, well-developed communications
- Utilize leadership forums to maintain awareness and lines of communication with stakeholders
- Execute quick wins with high business value to demonstrate early successes of the program
- Show program value by engaging with in-flight projects to address and facilitate data issue resolution early in project lifecycles
- Discover and socialize data governance practices that have developed organically in the Company, and succeeded in improving data quality, and share with other business units
- Leverage learnings from other utilities
- Deploy policy at a corporate level

Risk 2

Technical challenges in deploying new technology solutions

Mitigation Plan

- Select technologies that score highly in independent assessments (for example, Gartner and Forrester reviews) and having a significant industry installed base.
- Select technologies that have a strong community of practice to share insights and lessons learned.
- Engage and partner with the Enterprise Architecture department to ensure successful execution
- Select for ability to integrate with other technologies currently in-use by the Company

Technical Evaluation / Analysis

Gartner's *Ignition Guide to Building a Data and Analytics Governance Program* states that:

- *"Our research indicates that average financial impacts of poor data on businesses is \$15 m/ year." And "84% of CEOs are concerned about the quality of the data and analytics they're basing their decisions on." While at the same time there is a "Growing reliance on data and analytics...[as] businesses are implementing data-driven strategies...but processes and regulations haven't kept pace with the questions these strategies raise."*

And in their article April 2022 article, *Choose Adaptive Data Governance Over One-Size-Fits-All for Greater Flexibility* they write:

- *"Our analysts estimate that through 2025, 80% of organizations seeking to scale digital business will fail because they do not take a modern approach to data governance."*

From research done by McKinsey presented in their article *Designing Data Governance that Delivers Value*:

- *"Without quality-assuring governance, companies not only miss out on data-driven opportunities; they waste resources...[R]espondents to our 2019 Global Data Transformation Survey reported that an average of 30 percent of their total enterprise time was spent on non-value-added tasks because of poor data quality and availability."*

Project Relationships (if applicable)

The framework, technologies, and operating model to be delivered and refined with the Data & AI Governance Program will enable collaboration between IT and business organizations to increase trust, protection, and improve the management of data assets across all data projects in the Company.

The Data & AI Governance Program will work in partnership with the Privacy Readiness Program to build out governance and controls for data sharing and AI use cases in support of data privacy imperatives such as compliance with laws, rules and regulations related to the rights of data subjects (our customers and employees), and the discovery, classification, and protection of sensitive data.

This white paper is part of our holistic enterprise data and analytics program, leveraging a centralized enterprise data and analytics architecture to optimize interdependent analytics use cases. The following papers make up the products and capabilities of the program:

- Grid Asset Reliability and Resilience Data & Analytics
- Forecasting and Planning Data & Analytics
- Electric Work Management Data & Analytics
- Clean Energy Programs, AMI and DER Data & Analytics
- Customer Data & Analytics
- Gas Systems Analytics
- Supply Chain Data & Analytics
- Data & Analytics Foundational Capabilities

- Data and AI Governance (this white paper)

This program directly impacts projects across the enterprise which are expected to leverage the data and analytics provided by the use cases presented in this program.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M					169	
Regulatory Asset						
Capital				4,212		4,608

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	169	1,028	1,408	2,001	2,001
Regulatory Asset					
Capital (Total)	2,334	4,500	4,000	3,500	3,500
Labor	1,000	1250	1,000	750	750
M&S					
Contract Svcs.	900	2,825	2,600	2,375	2,375
Other		0	0	0	0
Overheads	400	425	400	375	375

Corporate/CE Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☒ Strategic	
Project/Program Title: Data Integration Modernization	
Project/Program Manager: David Byrne	Project/Program Number (Level 1): 25496793
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2025	Estimated Date In Service: 8/1/2029
2025-2029 Funding Request (\$000) Capital: \$22.45M O&M: \$17.533M	
Work Description: Data integration is a critical IT function and enables business transaction processing, process functions, data sharing and exchanging data within the Coned network and external partners in a safe and secure way. The current tools and technologies supporting these functions must be continued to be modernized to meet the strategic initiatives like Distributed Energy Resource Management System (DERMS), Privacy, Integrated Energy Data Resource (IEDR) and the fast-growing demand for integrations across the company. From 2022 to 2025, Con Edison worked on the successful implementation of the enterprise data publishing system known as Data Distribution Hub (DDH), which has proven to be a powerful platform for seamless data transfer from core business systems to a large collection of target systems. The project's initial phase has been highly successful, enhancing several business operations by establishing more than 150+ integration feeds, including customer related Meter Data Management System (MDMS) data sent to the IEDR platform. This assisted in creating a centralized platform across the state for efficient access to valuable energy data, fostering innovative clean energy business models and bringing benefits to New York's energy consumers. These accomplishments have attracted the interest of new business sectors and a desire to integrate new data sources and destinations. The capital request is for funding the hardware and software of the integration technology platform, procuring consulting and vendor services essential for the implementation and support of the environment, developing, and deploying projects tailored to meet selected business use cases, and formulating processes to operationalize the technology and deliver project work. The O&M request is designed to finance the integration staff needed to support the project work, maintain the platform, and provide continuous support as a service. The project is set to persistently adopt cutting-edge integration technologies, tools, and infrastructure, thereby facilitating the handling of substantial data volumes. This includes the incorporation of new data streams and catering to the historical data requirements of our customers, all while meeting stringent performance and timeliness benchmarks. These	

advancements will further solidify our commitment to supporting ongoing initiatives related to meter and billing data feeds to interested subscribers to satisfy their business needs.

We also aim to enhance the capabilities of DDH by developing a streaming platform to enable real-time data ingestion into cloud in a variety of formats. This will empower users to build applications capable of filtering, correlating, and processing events in real-time. This objective is to facilitate immediate action based on streaming information, utilizing advanced correlation patterns, time-series analytics, geospatial analysis, and machine learning.

New Data Sources:

In response to our customers' integration requirements, we are formulating strategies to introduce new data sources for:

- The Oracle Network Management System (NMS), a premier outage management system utilized by Con Edison. This will enable us to develop new integrations that provide data pertaining to customer outage reports, damage assessments, and SCADA, among others.
- The Outage Management System (OMS), which acts as the primary conduit for conveying outage information to both internal and external stakeholders during and after storm events. We plan to create new integrations that will enhance our ability to manage, track, and resolve customer outages on the electric distribution system efficiently.
- Oracle Human Capital Management (HCM), which will aid in the development of integrations for advanced and predictive workforce analytics.
- Work and Asset Management Systems (WMS) will aid in the development of integrations that provide insight into resource workload, adherence to deadlines, and progress of ongoing work, along with integrated analytics with spatial capabilities.
- An Enterprise Geographical system (eGIS) is a robust platform that integrates geographic data with utility operations to enhance decision-making, asset management, and service delivery. We will enable the creation of new integrations to extract and distribute key information for analysis providing business intelligence through a system of record, engagement, and insights.

These initiatives underscore our commitment to meeting our customers' evolving needs and maintaining our dedication to innovation and efficiency.

DDH Historical Data Integrations:

We are witnessing a growing demand for historical data from various teams, each with unique integration needs. These include:

- Evaluations Team: Conducts studies for early insights and checks data usability of AMI meter data.
- Measurement & Verification (M&V) Team: Analyzes energy/demand savings to determine incentives and potential earnings for customers.
- Customer Care and Energy Programs (CCEP) Strategy & Planning: Assesses changes in customer bills post heat pump installation biannually.
- Commodity Team: Uses AMI meter data for predictive insights, reconciling system peaks, and forecasting.
- Pilot: Analyzes AMI data daily to identify savings measures for Small & Medium Business (SMB) customers.
- Platform Engineering: Performs daily analysis to forecast winter peak load changes.

- **Rate Strategy & Analysis:** Assesses the impact of transitioning customers between rate classes biannually.
- **Evaluation, Measurement, and Verification:** Reviews AMI meter data samples biannually for quality assurance.

To cater these demands and ensure availability of historical data, DDH is planning to invest in establishing a dedicated historical environment, necessitating additional hardware, storage, and resources. We have also identified a growing trend where users require both Customer Care and Billing (CC&B) and Meter Data Management System (MDMS) historical data to be centralized to facilitate research. This arrangement allows them to correlate and analyze the data more effectively, leading to the generation of metadata that promotes interaction between CC&B and AMI data for billing pattern analysis. Our commitment is to thoroughly comprehend the unique data needs and create innovative data streams that will facilitate the transmission of MDMS Meter Data and CC&B information to peripheral systems via the Data Distribution Hub (DDH).

Hardware and Software Upgrade of DDH Platform:

Considering the projected five-year upgrade cycle, our DDH infrastructure, initially established in 2022, is due for an extensive modernization as the current lifespan of the hardware and support concludes in 2026. To ensure we remain up to date with software versions for vendor support and the latest cybersecurity requirements, the DDH system is slated for an upgrade to the most recent version during the capital request period of 2026 – 2028.

This initiative is aimed at enhancing system capabilities and countering technological obsolescence. The project's scope includes a thorough upgrade of the DDH computing infrastructure to better cater to our clients' evolving integration needs. This involves a series of technological advancements across our server hardware, database systems, operating environments, and foundational application technologies.

To ensure continued manufacturer support and the acquisition of essential security updates, we plan to transition to the latest Exadata hardware, update our operating system, upgrade our GoldenGate software to the AI version, and migrate our Oracle database to the latest version. In addition, our Oracle Data Integrator (ODI) servers and applications will be upgraded to the latest operating system and the most recent ODI software.

The new hardware must be designed and deployed to ensure high availability across both our primary production data center and our disaster recovery site, leading to a significant reduction in Disaster Recovery (DR) times during failover. We anticipate that these improvements will significantly refine the integration workflow, reduce the reliance on manual operations, and consequently decrease the incidence of human errors. Furthermore, vendor support is necessary for troubleshooting external defects related to third-party errors.

Moreover, the following enhancements is expected to be incorporated within the DDH platform:

1. Incorporate Data Observability Practices on DDH Platform:

Implement comprehensive monitoring and observability measures to guarantee the quality of data on the platform. This includes setting up real-time tracking systems to monitor data flow, establishing alert mechanisms for any anomalies, and creating dashboards for visualizing data health metrics. These measures will ensure the integrity, accuracy, and reliability of the data, thereby enhancing the overall performance and effectiveness of the platform.

2. Establish Standard Data Governance Practices on DDH Platform:

Integrate standard data governance protocols into the platform, which include the implementation of a Data Catalog, Data Quality measures, and Master Data Management.

- **Data Catalog:** Create a centralized repository that provides a comprehensive inventory of available data sets. This catalog will facilitate easy discovery, understanding, and access to relevant data, thereby improving collaboration and decision-making.
- **Data Quality:** Implement rigorous data quality checks to ensure the accuracy, consistency, and completeness of the data. This involves setting up validation rules, data profiling, and anomaly detection mechanisms to identify and rectify any data quality issues promptly.
- **Master Data Management:** Establish a master data management system, to ensure data is consistently accurate and reliable across the organization. This system will provide a single, consistent view of critical data entities supporting better decision making and operational efficiency. It will manage the creation, maintenance, and distribution of master data, ensuring data consistency and accuracy across all business operations.

These practices will enhance the reliability and usability of the data, thereby maximizing the value derived from the platform.

3. Incorporate Process and Testing Automation on Data Distribution Hub (DDH) Platform:

Implement automation strategies to streamline processes and improve efficiency. This includes:

Process Automation: Automate repetitive tasks and processes to reduce manual effort and increase productivity. This could involve automating data ingestion, transformation, and loading processes, or automating routine maintenance tasks.

Testing Automation: Establish automated testing frameworks to ensure the reliability and performance of the platform. This involves creating automated test scripts to validate data integrity, functionality, and performance. Automated testing can help detect issues early, reduce testing time, and ensure consistent quality.

These automation practices will not only enhance the efficiency and reliability of the platform but also free up resources to focus on more strategic tasks.

4. Incorporate Elasticity on DDH Platform:

Enhance the platform with elastic capabilities to efficiently manage resource utilization based on demand. This includes:

Scalability: Implement scalable solutions that can adjust to fluctuations in data volume and processing demands. This ensures that the platform can handle peak loads without compromising performance and scale down during periods of low demand to conserve resources.

Auto-scaling: Set up auto-scaling mechanisms that automatically adjust the number of active servers or instances based on real-time demand. This not only ensures optimal resource utilization but also improves cost-efficiency.

Fault Tolerance: Build in redundancy to ensure the platform remains operational even if one or more components fail. This enhances the platform's resilience and ensures uninterrupted service.

By adding elasticity, the platform can adapt to changing needs and ensure consistent performance, regardless of the volume or complexity of the data being processed.

5. Incorporate DevOps Practices on DDH Platform:

Integrate DevOps methodologies into the platform to enhance collaboration, streamline processes, and improve efficiency. This includes:

Continuous Integration/Continuous Deployment (CI/CD): Implement CI/CD pipelines to automate the build, test, and deployment processes. This ensures that code changes are integrated and deployed more frequently and reliably, reducing the time to market and improving product quality.

Infrastructure as Code (IaC): Adopt IaC practices to manage and provision the platform's infrastructure through code. This enables version control, consistency, and repeatability, making the infrastructure more maintainable and scalable.

Monitoring and Logging: Set up comprehensive monitoring and logging systems to track the platform's performance and troubleshoot issues. This provides visibility into the system's operation, helping to detect and resolve issues more quickly.

Collaboration and Communication: Foster a culture of collaboration and communication between development and operations teams. This breaks down silos, accelerates decision-making, and improves product quality.

By adding DevOps practices, the platform can deliver faster, more reliable updates, improving the overall quality and efficiency of the platform.

6. Incorporate Data Product Creation on DDH Platform:

This involves identifying valuable data sets, processing, and transforming the data into a usable format, and packaging it into a product that can be easily consumed by other systems or users.

Pre-population in DDH: Once the data products are created, they should be pre-loaded into the DDH. This ensures that the data products are readily available for use, reducing the time and effort required to access and utilize the data.

Reusability: By creating reusable data products, we can avoid duplicating efforts and improve efficiency. Other systems or users can leverage these pre-populated data products for their own needs, leading to consistent data usage across the organization.

By implementing these practices, we can maximize the value derived from our data and enhance the overall effectiveness of the DDH.

Justification Summary:

Few of the benefits include:

- The comprehensive upgrade of DDH platform will enhance system capabilities, counter technological obsolescence, ensure high availability, and reduce manual operations, thereby refining the integration workflow and decreasing human errors.

- Enhancing resilience and reliability in securely delivering data assets, minimizing data duplication, and eliminating the need for direct integrations with source systems will improve operational flexibility and accelerate value realization
- Adopting a modern integration platform will support mission-critical projects and high-value operations, catering to both on-premises and cloud solutions. This platform will swiftly scale to handle large workloads and high volumes during events like storms.
- Enforcing governance, establishing common data definitions, and providing visibility and transparency as data moves across systems will aid in better decision-making. This is particularly relevant for Privacy, AMI, and outage and restoration processes.
- Implementing standard data governance practices, automating processes and testing, and adding elasticity to the platform will maximize the platform's value, improve efficiency, and ensure consistent performance.
- Integrating DevOps practices will foster collaboration and improve the platform's efficiency and quality.
- Creating and pre-populating data products in the DDH will maximize data value and enhance the platform's effectiveness.

These collective practices contribute to a robust, efficient, and valuable DDH platform.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This project will support business projects that require sophisticated and advanced integration designs and capabilities to implement business requirements and improve operational excellence and advance the business agenda.

Risk 1 Name: Department. Customer Ops, Electric/Gas/Steam Ops, PSC Penalties

The Data Distribution Hub establishes a unified data platform that simplifies data sharing and governance, reducing the risk of penalties associated with customer response times by quickly deflecting calls and answering questions.

Risk 2 Name: User experience

The Data Distribution Hub enhances business operations higher maintenance costs, user frustration, revenue loss, and missed business opportunities. Here are a few examples:

High Maintenance Costs - Without DDH, each group will create their own data management systems, leading to high maintenance costs for the company.

	Frustrated Users: Inconsistent data and slow access to data causes frustration and inefficiencies. Missed Business Opportunities: The inability to quickly act on data meant the company often missed out on market trends and customer preferences.
Risk 3 Name: Corporate ConEd.Regulatory and Compliance.Fraud	A lack of control over data governance can result in hefty penalties.
Risk 4 Name: Department.Information Technology.Unauthorized access or loss of sensitive data	Operating on an outdated platform significantly complicates ongoing maintenance and heightens the risk of HPI errors and security breaches. Older platforms are particularly vulnerable to security threats due to the lack of regular updates. Ensuring these systems comply with current regulations can be both time-consuming and costly. As systems age, maintenance expenses rise due to the frequent need for fixes, updates, and the challenge of sourcing compatible parts or software.
Risk 5 Name: Corporate ConEd.Operations.Major Storm	Continuing to run on an older platform constrains proper maintenance of same which can result in delays or failure when the system is stressed during a storm event. Restoration efforts can be hampered due to delayed delivery of timely data.

2. Supplemental Information

Alternatives

Persisting with current technologies, outdated design patterns, and traditional batch integration is inadequate for meeting the demands of real-time data, flexibility, performance, and increasing data volumes. The growing number of data sources and high workloads from existing and new projects, which introduce additional data requirements, are straining the system. These workloads are expected to grow exponentially with the implementation of new projects.

Risk of No Action

Risk1: Mandated functions and data sharing will be impacted in the case of a failure, increasing the likelihood of penalties associated with the speed of responding to customers and timeliness of delivery of mandated customer information.

Risk 2: System failures can cause a lack of visibility and control over data processing, delaying the timely delivery of data and resulting in an inability to make the best business decisions. This can result in frustrated customers, loss of revenue, and missed business opportunities.

Risk 3: Continuing to run on an unsupported platform means degradation of the security of the data flowing through it and the lack of new capabilities to address fraud protection.

Risk 4: Continuing to run on an unsupported platform makes performing ongoing maintenance very difficult and greatly increases the possibility of HPI errors and security breaches.

Risk 5: Continuing to run on an unsupported platform constrains proper maintenance of same which can result in failure when the system is stressed during a storm event. Restoration efforts can be hampered due to delayed delivery of timely data.

Non-Financial Benefits

The non-financial benefits generated for the Company by this program include:

- **Standardization:** Consistent use of management practices, data sources, tools, platforms, and methods.
- **Efficiency:** Proper utilization of resources and automated data processing, reducing manual intervention, speeding up data handling, and minimizing errors.
- **Safety:** Real-time monitoring increases safety by quickly detecting and addressing data anomalies, preventing potential security breaches.
- **Reliability:** Redundant data paths ensure continuous data flow, minimizing downtime even if one path fails.
- **Customer Satisfaction:** Timely data access provides users with quick and reliable access to data, improving their overall experience.
- **Improved Workflows:** Enhanced communication and workflows among departments.
- **Stronger Relationships:** Strengthened relationships with the community and regulators.
- **Regulatory Compliance:** Ensuring adherence to regulatory requirements.
- **Cost Avoidance:** Avoiding high maintenance costs, user frustration, revenue loss, and missed business opportunities. Older platforms are more prone to security breaches due to irregular updates. Maintaining compliance with current regulations for older systems can be time-consuming and costly. As systems age, maintenance costs rise due to frequent fixes, updates, and the challenge of finding compatible parts or software.

Projects like the Integrated Energy Data Resource (IEDR) can significantly strengthen relationships with both the community and regulators in several ways:

Community Benefits:

- **Transparency:** Provides clear energy data, building trust.
- **Empowerment:** Helps consumers make informed energy choices.
- **Enhanced Services:** Improves service reliability and response.

Regulatory Benefits:

- **Compliance:** Eases regulatory reporting and adherence.
- **Informed Decisions:** Aids regulators in policy-making.
- **Collaboration:** Encourages innovation and stakeholder cooperation.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

3. Basis for Estimate

The capital request is allocated for:

- Funding the hardware and software of the integration technology platform.
- Procuring consulting and vendor services essential for the implementation and support of the environment.
- Development and deployment of programs tailored to meet selected business use cases.
- Formulation of processes to operationalize the technology and deliver project work.

The O&M request is designed to finance the integration staff needed to support the project work, maintain the platform, and provide continuous support as a service.

Project Risks and Mitigation Plan

During the course of this project, we have identified potential risks that could extend the project timeline, prevent completion, or lead to cost overruns. We have also developed a plan to minimize these risks.

Risk 1: Unforeseen Technical Challenges

Technical challenges that were not anticipated at the project's outset could potentially delay our timeline or increase costs.

Mitigation Plan: We have assembled a team of experienced professionals who are well-versed in troubleshooting and problem-solving. Regular team meetings will be held to discuss progress and address any technical issues that arise. Additionally, we will allocate a portion of the project budget to handle unexpected technical challenges.

Risk 2: Changes in Project Requirements

Changes in project requirements can lead to delays and increased costs as they may require additional work or modifications to the work already completed.

Mitigation Plan: To mitigate this risk, we will maintain open and regular communication with all stakeholders to ensure that any changes in requirements are identified and addressed promptly. We will also use agile project management methodologies, allowing us to adapt quickly to changes.

Technical Evaluation / Analysis.

Technology solutions are carefully selected by studying products, conducting feasibility studies, and further calibrated with the short-and long-term business goals, IT strategy and planning process. A cross functional IT team, spanning cyber, subject matter experts, vendors and

company employees participate in the decision-making process. In addition, standard RFP/RFI processes are leveraged to implement the technology and deliver business capabilities.

Project Relationships (if applicable)

The project will support business projects that require sophisticated and advanced integration designs and capabilities to implement business requirement and improve operational excellence and advance the business agenda.

Data Distribution Hub (DDH) supports broader company plans and CLCPA compliance by optimizing operations, enabling data-driven decision making, and facilitating the creation of scalable workflows. It helps organizations modernize legacy systems, improving energy efficiency and reducing environmental impact, which aligns with CLCPA's goals for emissions reduction and renewable energy adoption. Furthermore, DDH enhances collaboration across organizations, crucial for implementing comprehensive climate action plans required by the CLCPA, while providing real-time insights for tracking progress towards sustainability targets.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M				1725.0	1725.0	1725.0
Regulatory Asset						
Capital			1577.6	3850.0		2750.0

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	1725.0	5,825	5,849	5,859	5,859
Regulatory Asset					
Capital (Total)	2451.0	4500.0	6500.0	5500.0	3500.0
Labor		800.0	500.0	500.0	500.0
M&S		2700.0	4500.0	3500.0	1000.0
Contract Svcs.		1000.0	1500.0	1500.0	2000.0
Other					
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

Enterprise Data & Analytics / Electric Operations 2025-2029

1. Project / Program Summary

Type: ☒ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Electric Work Management Data and Analytics	
Project/Program Manager: Joe Somma	Project/Program Number (Level 1): 27696069
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date:	Estimated Date In Service:
2025-2029 Funding Request (\$000) Capital: 30,125 O&M: 6,114	

The Enterprise Data and Analytics (ED&A) program was established in 2017 and has grown and evolved over the years. The strategy is comprised of centralized governance functions (Platform Architecture, Data and AI Governance, Strategy & Planning) and business partner initiatives across major themes like Grid Asset Reliability and Resilience, Electrification and the Clean Energy Future as well as Customer Experience Excellence. Through the ED&A centralized governance function all initiatives are vetted and reviewed to ensure consistency, create standardization and minimize duplication of efforts.

Electric Work Management Data and Analytics, aims to modernize analytics for Electric Work Management to continue to improve the ability to predict and manage pre-requisite requirements, work scheduling and grouping related jobs at the same location to make truck rolls more operationally efficient.

Key areas of this Electric Work Management Data and Analytics program include:

- **Resource Management Analytics** that optimize dispatch and scheduling across the grid, to support employee safety and minimize crew delays, with the following use cases:
 - **Job duration estimates:** Provide additional job-level analytics including job complexity and expected timing for job completion to allow for enhanced scheduling and bundling.
 - **Safety analytics:** Compute safety score for jobs based on past job data, and SME inputs, to alert crews of job specific location precautions.
 - **Open jobs analytics** to identify root cause for jobs that remain open past their expected completion time. Output from this analysis will then be leveraged to ensure crews have contextual information for future jobs.
 - **Automation of job verification** processes to ensure work completion by flagging open work components when crew leaves the location, checking for serial number correlation with replaced parts and notifying for human

verification of job completion. This improves data quality, increases efficiency, reduces chances of error, and provide inputs to job duration forecasting.

- **Automated customer notification**, including live tracking of status for jobs and occasional notifications to impacted customers, to improve customer experience and align with customer expectations of increased transparency.
- **Work closure analytics** to better identify work that is complete, but not closed in the system. This will help to ensure accurate data and records, reduce crew visits to completed work, and maintain assets appropriately.
- **Leverage photo recognition** to validate job site photo documentation, reducing clerical tasks.

- **Data integration:** The Company aims to implement a self-service strategy for work management data through a centralized data product on the Enterprise Data & Analytics Platform with standardized fields, sample data and documentation that can be reused across the enterprise data & analytics portfolio. The data product will include data from multiple resource planning applications harmonized into a standard taxonomy. Examples of datasets leveraged include, current status of jobs and crews, truck location, city data including traffic flows and parking spaces, customer, and meter data. Additionally, data from other data & analytics programs will be accessible to for inclusion in work management metrics as appropriate.

The use cases listed above will be led by project and work resource management and implemented leveraging a joint business and IT team, with requisite business skills including data scientists, data engineers and deep domain experts.

Justification Summary:

Enhance current resource management analytics use cases leveraging advanced analytics solutions, providing opportunities to support a safety culture environment, improve operational efficiencies and reduce costs. The current forecasting capabilities need to be supplemented to ensure the Company can maintain system performance, safety of customers and employees and keep service affordable for its customers. The Electric Work Management Data and Analytics program supports the Company's strategic value propositions and goals, with impacts detailed below. Data and analytics enable value use cases that increase reliability, safety, quality of the customer experience, and enable the clean energy transition at a decreased cost to the Company's rate base¹. Industry leaders are seeing increasing adoption of analytics for work management, with similar impacts^{2,3}.

Safety of Our Employees and Our Customers

The proposed analytics use case around pre-requisite management leverages risk analytics and safety scores to help workforce management with scheduling and dispatch of crews that are correctly equipped to perform jobs and potentially reduce safety incidents. Better matching of crews to job types also improves safety by having crew with the correct skills on the job. In addition, updated eGIS models will enable crews to know details about physical locations of assets and cross commodity assets through pre-

¹ Winner takes all? Digital in the utility industry, McKinsey & Company, published March 2023, <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/winner-takes-all-digital-in-the-utility-industry>

² Smart Scheduling for utilities: A fast solution for today's priorities, McKinsey & Company, published January 2023, <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/smart-scheduling-for-utilities-a-fast-solution-for-todays-priorities>

³ Smart scheduling: How to solve workforce-planning challenges with AI, McKinsey & Company, published November 2022, <https://www.mckinsey.com/capabilities/operations/our-insights/smart-scheduling-how-to-solve-workforce-planning-challenges-with-ai>

requisites shared, that will enable crews to understand the assets at job locations and improve safety. Industry leaders see increased safety through implementation of these programs as well².

System Performance and Reliability

Proposed use cases such as work scheduling, pre-requisite management, open jobs analytics, automated job verification and mutual aid crew analytics help keep downtimes low, ensuring reliability of the grid through higher first-time completion rates on high priority jobs, faster repairs, optimized inspection, and maintenance. Optimized crew sequencing and routing and automated job verification ensure increased reliability of the grid through reduced downtime. With increasing uncertainties around weather-related events and transition towards clean energy solutions, maintaining grid reliability has become increasingly important and these analytics use cases help maintain the grid reliability at current levels (as measured by the Network reliability Index), even with these changes impacting the grid. Higher system performance is also maintained by incorporating user feedback around ease of use, number of clicks etc.

Optimize Cost

These use cases enable the Company to improve planning and scheduling to allow more efficient spending and optimization of costs through optimal use of crew time. Optimized work management and emergency response also help keep repair and maintenance costs in check. Based on industry implementation of similar efforts, the Company estimates that these analytics will lead to efficiency benefits across repair and planning costs ensuring that the Company optimizes costs for key assets replacements and repairs. including reduced repair costs, time spent on jobs and reduced false truck rolls.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The Electric Work Management Data and Analytics program supports the Company's central Enterprise Data and Analytics program in achieving CLCPA goals and aligns with broader Company plans and initiatives. It aligns with the broader Company-wide instruction CI 610-4 that establishes climate risk governance across the Company.

By combining jobs and reducing truck rolls where possible, the Company will get more jobs completed more efficiently and support the electrification goals quicker. Consolidating truck rolls reduces the emissions in the service territory.

The Company's aim to implement electrification across the service territory is driven by its work management practices. The team's ability to execute and manage work from efficient scheduling of clean energy programs, resiliency upgrades, and emergency work all affect the grid's reliability for customers. It is vital that the team has the advanced analytics to seamlessly integrate the work of electrification into the daily crew operations to get the Company closer to its clean energy transition goals to maximize the work at each job site.

The team will leverage advanced analytics to identify areas where customers will significantly contribute load to the grid so jobs can be grouped pre-emptively and reduce the amount of truck rolls for the same work site. With a focus on lessening the impact of additional load to the grid, the team will contribute to the Company goal of electrification across the service territory.

Overall the goal of this white paper is to utilize analytics to become more efficient and productive in the work management space, thereby opening increased work capacity to focus on investments in resiliency.

2. Supplemental Information

Alternatives

Briefly describe reasonable alternatives and reason for rejection (e.g., costs, timing, etc.). At least one is required.

Alternative 1 – Continue program as-is

One alternative to investing in the Electric Work Management Data and Analytics program is to continue with the current environment where some data is siloed with respective teams and creates challenges for a unified view providing consistency and accessibility across the organization facilitating the streamlined use of information. This significantly impacts the Company's analytics capabilities and ability to use data from multiple departments in reporting and analytics. Absence of centralized data products will lead to longer development times stemming from the current lack of reusable solutions. For new use cases, the possibility of duplication of design and development efforts and most importantly for the increased potential for inaccurate and inconsistent reporting products.

Alternative 2 – Procure analytics solutions from vendors instead of developing them in-house

Another alternative is to procure off-the-shelf analytics applications. This would likely result in higher implementation, integration, and operational costs with limited flexibility to meet some of the unique Company needs and we would need to invest time and resources to format our data to input into an off-the-shelf analytics solution. Additionally, this puts the reusability potential and data sharing potential at risk.

Risk of No Action

Following are the enterprise risks if the Program is not implemented:

- Reduced reliability: Unoptimized scheduling, and dispatch can lead to inefficient crew routes, increasing crew time spent on jobs, downtime, and impacting reliability of the grid, especially during storms. Absence of predictive inspection analytics can also increase chances of failures, leading to potential failures and reduced reliability.
- Sub-optimal capital deployment: Inaction results in sub-optimal capital deployment, as crews lack required pre-requisites and unoptimized dispatch and scheduling, leading to delays in repairs. Unoptimized scheduling and dispatch leading to unoptimized crew routes can increase crew time spent on jobs, increasing costs for the Company. Absence of predictive inspection analytics can also increase chances of failures and increased costs to the Company through failures and additional replacement costs.
- Unoptimized customer experience: Failing to take action in the Electric Work Management Data and Analytics program hinders the opportunity to improve scheduling and dispatch, crew routes, and pre-requisite management. This leads to increased Estimated Time to Restoration (ETR), impacting customer experience during both blue-sky days and storm events.
-

Non-Financial Benefits

With deep insights from the Electric Work Management Data and Analytics program, the Company is enabled to provide higher reliability to customers as they are introduced to new programs and services that will advance progress toward New York State's clean energy goals. Each use case delivered as part of the program is expected to provide additional non-financial benefits to the Company and customers based on the specific insights that the analytics produce. These benefits include improved customer experience through less truck rolls, reducing Company vehicles in customer neighborhoods impact their daily lives, improved workforce planning and grid operations through grouping related jobs at a single

site, employee experience increasing job satisfaction, and others that will be evaluated as the program is implemented.

Summary of Financial Benefits and Costs

1. Cost-benefit analysis

The proposed analytics use cases support strategic priorities for the Company. The project will directly and indirectly lead to financial benefits through improved workforce management scheduling, predictive maintenance, and reduced service interruptions.

2. Major financial benefits

The proposed analytics use cases will help the Company create work efficiency to support the reduction of backlogs and strengthening of our electric infrastructure through optimized job scheduling and prerequisite management.

3. Basis for estimate

Costs:

Based on the rubric and methodology outlined below, this white paper was costed as follows:

Base Pod Costs			
FTE Total		1,380,376	
Consultant Total		3,600,000	
Medium Pod Total		4,980,376	

<i>PER YEAR</i>	Electric Work Management	Capital	
Rating		Year 1 (75%)	6,097,782
Data Complexity	High (2)	Year 2 (100%)	8,130,376
Data Volume	Low (.5)	Year 3 (90%)	7,317,339
Use Case Complexity	High (2)	Total	21,545,497
Use Case Volume	Very High (3)	O&M	
Average	1.88	Year1	597,000
FTE Cost	1,380,376	Year2	1,437,000
Consultant Cost (Base * Avg)	6,750,000	Year3	2,040,000
Average Capital Per Year	8,130,376	Total	4,074,000

**Due to a clerical error the official ask is \$21,366M as opposed to the \$21,545M shown above.*

Rationale

Many high value use cases exist in the work management space, all with high complexity due to both the need for near real time data integration as well as significant change management when deploying solutions with the field. Data integration involves working with disparate systems with significant data quality challenges.

Methodology

Consistent with our learned experience in analytics delivery and agile best practices, we developed our costs on team capacity basis.

- Capacity was determined based on an analytic rubric that looked at four major categories of data & analytics development:
 - Data Complexity – accessibility, quality and interoperability of necessary data
 - Data Volume – number of systems and integration techniques
 - Use Case Complexity – Complexity of underlying analytics and operationalization
 - Use Case Volume – the number of high value use cases available

- We then defined descriptions of high, medium and low examples of each category. (see below)
- Based on our experience, industry research and work with our consulting partners we identified the team necessary to execute a medium capacity analytics program.
- The resourcing structure reflects the Utility tendency to utilize System Integrators for direct development work and have the smallest possible FTE footprint that also enables the business to lead value capture and business process integration and appropriately managed staff augmentees building to the technical specification and requirements of the organization. This allows us to effectively managed program demand peaks over many years.
- Costs are based on two major factors: Employee and Consultant Totals:
- From here we looked at each white paper and determined the number of PODs necessary and scored them based on the use cases and our knowledge of the existing data architecture.
- Based on the rubric score for each white paper, consultant resources were scaled up or down to size capacity correctly.
- The yearly average was then distributed with 75% of the total in year one to account for ramp up time, 100% in year two and 90% in year 3 to account for defining new use cases.
- O&M was calculated as a standard 12% of build costs to start, and then adjusted downward by working with our business partners to determine how many of the FTE roles could be filled with existing head count. This accounts for change management, enhancements to the products and labor once use cases are placed in service.

Rubric:

<i>Sizing Rubric</i>	High	Medium	Low
Data Complexity	Multiple, often legacy systems with unclear governance structures, quality and documentation. Data is not easily modeled.	Multiple systems with clear ownership structures and some quality issues. Documentation is available but incomplete. Data can be modeled across systems.	Few sources with clear governance structures and documentation in place. Data is already modeled across systems.
Data Volume	Many data sources with unclear or large historical retention needs. Data may require streaming technology.	Limited number of source systems, of normal volumes. Bath or API transfer is appropriate.	Few source systems of small volume with limited historical data. Batch transfer is appropriate.
Use Case Complexity	Solutions Require net new analytics design and / or complex algorithms. Outputs require integration with and action in source system as well as significant business process change.	Solutions are industry standard but need customization. Standard BI dashboards or simple custom user interfaces are sufficient for most of the use cases. Business process change is necessary.	Use Cases are industry standard and port well to Con Edison's environment. BI reporting is sufficient as a front end.
Use Case Volume	Significant number of high value use cases requiring multiple teams to deliver.	Many high value use cases that can be delivered with one team.	Most of the value is in self-service analytics or with BI reporting on top of the model.

Complexity / Volume	High	Medium	Low
Data Complexity	2	1	0.5
Data Volume	2	1	0.5
Use Case Complexity	2	1	0.5
Use Case Volume	3	1	0.5

Staffing:

Pod Structure

Full Time Employees

● Product Director	1	Defines Pod's strategy, responsible for successful implementation of value case initiatives
● Analytics PO	1	Owens delivery of analytics for the business. Defines requirements and leads business process integration.
● Data PO	1	Owens delivery of data products for the business. Defines requirements and self-service strategy
● Data Steward	1	Operationalizes governance policy & practice
● Tech Lead	1	Coordinates technical components and team to deliver solutions
● Tech PO	1	Connectivity between business and IT by refining use cases and defining MVPs, solution adoption.
● IT BSD	0.36	Works between source system IT and EDAP Platform
● Domain Architect	0.25	Owens domain strategy and technical and analytical design
● EDAP	0.18	Enterprise Data & Analytics Platform support
		Employee Annual Cost 1,380,376

IT Staff Augmentation

Annual Costs

Data Scientists, Engineers, etc.	300K Month
Consultant Total	3,600,000

Medium Pod Total

4,980,376

● IT FTE ● Business FTE ● IT Consultant

Project Risks and Mitigation Plan

Risk 1

New technologies emerge that can deliver the program in a more efficient manner

Mitigation: The data and analytical capabilities built to support this effort were based on industry-leading adaptable platforms and analytical capabilities to achieve the goals described in this white paper. The Enterprise Data and Analytics team continues to evaluate the available technologies to ensure that latest trends are captured in the implementation of the use cases proposed in this white paper.

Risk 2

Data source and analytics complexity may affect program timelines and costs

Mitigation: The program's governance structure includes a monthly review of the roadmap with the opportunity to re-prioritize or shuffle data sources and use cases based on changes in information and costs over time.

Risk 3

Business teams have limited bandwidth to act on the insights that are provided by the program's analytics use cases

Mitigation: Prior to starting, the use case receives buy-in from the use case's product owner and its manager for the timing and value of delivering the given analytics use case. The plan would include a monthly "look-ahead" process where the next six months of work is reviewed with the data governance team, delivery team and product owners to ensure clear alignment on expectations and risks. Additionally, the program is being delivered in an agile manner to ensure that use cases can be built and prioritized based on near-term business value and priorities.

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

This white paper is part of our wholistic enterprise data & analytics program, leveraging a centralized enterprise data & analytics architecture to optimize interdependent analytics use cases. The following papers make up the products and capabilities of the program:

- Grid Asset Reliability and Resilience Data & Analytics
- Forecasting and Planning Data & Analytics
- Electric Work Management Data & Analytics (this white paper)
- Clean Energy Programs, AMI and DER Data & Analytics
- Customer Data & Analytics
- Gas Systems Analytics
- Supply Chain Data & Analytics
- Data & Analytics Foundational Capabilities
- Data and AI Governance

This program directly impacts projects across the enterprise which are expected to leverage the data and analytics provided by the use cases presented in this paper.

Following related white papers are submitted by the workforce management and storm response teams:

- New Work Management System (WMS) system

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		597	1,437	2,040	2,040
Regulatory Asset					

Capital (Total)		6,098	8,131	7,137	8,579
Labor		961	961	961	961
M&S					
Contract Svcs.		4,723	6,756	5,762	7,204
Other					
Overheads		414	414	414	414

Enterprise Data & Analytics 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Enterprise Data & Analytics Foundations	
Project/Program Manager: Dan Smilowitz	Project/Program Number (Level 1): 27696080
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date:	Estimated Date in Service:
2026-2028 Funding Request (\$000) Capital: \$31,009 O&M: \$13,875	
Work Description: The Enterprise Data and Analytics (ED&A) program was established in 2017 and has grown and evolved over the years. The strategy is comprised of centralized governance functions (Platform Architecture, Data and AI Governance, Strategy & Planning) and business partner initiatives across major themes like Asset Reliability and Resilience, Electrification and the Clean Energy Future as well as Customer Experience Excellence. Through the ED&A centralized governance function all initiatives are vetted and reviewed to ensure consistency, create standardization and minimize duplication of efforts. This white paper summarizes Enterprise Data & Analytics foundational investments required to support the various business white papers. This white paper centralizes platform architecture, design and overall strategy as well as costs for compute, data storage and platform licensing and support to ensure that our business partners are supported and empowered. The Enterprise Data & Analytics Platform (EDAP) is comprised of 2 main platforms, C3Ai and Azure Databricks. It is delivers analytics solutions to the enterprise. This white paper addresses the need to upgrade and enhance the existing platforms to accommodate increasing demands from emerging analytics (as in the case of forecasting asset failures in the face of an expected S-curve in grid load from electrification) and the required Machine Learning (ML)/ Artificial Intelligence (AI), and generative artificial intelligence applications (GenAI) capabilities. This will equip the Company to achieve departmental and enterprise-wide objectives. This enhancement also supports the existing Data Governance and Data Privacy frameworks, essential for advancing Analytics, AI and GenAI initiatives. The ongoing foundational program will persist through the 2026-2028 rate case period. Scope: Several key components must be addressed to ensure a robust, efficient, and forward-looking platform. These components are categorized into two main areas: technology enhancements and human resource allocations, both crucial for supporting the consolidation and expansion of the data analytics capabilities over the next three years (2026 - 2028).	

Technology Requirements

- **Platform Upgrades and Enhancements:** To accommodate an increasing volume of data and more complex analytic and AI/ML processes, we need to expand the capacity of our Azure/Databricks platform. This includes additional computing and storage capabilities to handle larger datasets and more sophisticated processing requirements. In addition, investment in the necessary infrastructure to support emerging AI and GenAI technologies.
- **Self-service analytics:** Implementing a cloud-based low code/no code access layer to the data platform. This aids in user adoption of the data across the enterprise with minimal barriers.
- **Data Integrations:** Implementing new data ingestion standards and developing robust data pipelines are critical to ensure that data flows efficiently into our systems from various sources, is processed correctly, and is readily available for analysis. In addition, we need to expand integrations between C3Ai and Azure Databricks data.
- **Licensing and Operational Costs:** Budgeting for all necessary Azure, Databricks, and PowerBI licensing, is essential to support our analytics products. These costs are fundamental to maintaining the functionality and security of our data platforms.
- **Automation and Cloud Data Storage:** Enhancements to improve the automation of our data workflows, making them more efficient and less prone to error. Increased cloud data storage capacity will be required to store an ever-growing amount of data securely.

Strategic Planning & Portfolio Management

- Continue to develop centralized governance and oversight for the efficient use of resources through **management of enterprise portfolio**, coordinating data and analytics interdependencies and platform architecture, and aligning technical capabilities.
- **Build on the process to capture new projects and use cases as well as prioritization across departments and organizations. We want to eliminate duplication of efforts and prioritize items that can be used across multiple groups.**

Human Resource Needs

- **Analytical Development Resources:** Additional architects, data engineers and developers are needed to build the new analytics use cases and data products. Resources dedicated to platform governance will ensure that our data handling practices comply with regulatory requirements and Company policies. These professionals are crucial for integrating new technologies and ensuring the platform's reliability and scalability as well as implementing new standards, procedures, and processes that align with our data governance and privacy policies.
- **Platform Governance, Development and Operations Teams:** Hiring additional data architects and engineers will support the design, implementation, and maintenance of the expanded platform. These professionals are crucial for integrating new technologies and ensuring the platform's reliability and scalability.
- **Development Security Operations (DevSecOps) / Machine Learning (MLOps):** Investment in DevSecOps and MLOps capabilities is necessary to streamline development, data access and operational processes, particularly as we increase our focus on machine learning models and AI-driven analytics.
- **Architecture and portfolio strategy resources:** Data strategists to coordinate platform, product build and manage enterprise portfolio.

This request for the 2026 - 2028 rate case period addresses critical needs in technology and human resources to elevate the Enterprise Data & Analytics platform. This consolidation and enhancement

effort will not only support the influx of emerging analytic and AI/ML capabilities but also align with our data governance and privacy frameworks. By investing in these areas, the Company will be better equipped to meet departmental and enterprise-level goals, leveraging data as a strategic asset.

Justification Summary:

To enhance the Enterprise Data & Analytics platform from 2026 to 2028, the Company will upgrade technology and expand human resources. This includes platform enhancements, new data integrations, and hiring additional data architects and engineers. These efforts aim to support advanced analytics, AI capabilities, and align with data governance and privacy frameworks, ensuring reliable and scalable platform operations.

Enterprise Data & Analytics Foundation Program, is a continued strategic investment in the EDAP platform, made up of the C3.AI and Azure/Databricks platforms as we build up and modernize our analytics capabilities. This investment is justified by the multitude of benefits that directly address the core needs of modern data and analytics outlined in the proposed business programs, ensuring both efficiency and compliance.

Data Pipeline Integrity

This program ensures the integrity of data from source to platform, crucial for maintaining the accuracy and reliability of analytics outputs. If we do not safeguard against gaps, it will affect whether the platform is considered a reliable and single source of truth. It is paramount that the data pipeline is dependable enough to consistently meet the expectation of a higher level of data quality. This integrity is foundational for establishing trust in the analytics insights provided, which directly impacts driving informed business decisions.

Shortens Cycle Time to Develop Analytic Solutions

By providing timely access to data and simplifying the analytics process, the continued development of the centralized EDAP, specifically Azure/Databricks significantly reduces the time required to develop and deploy analytic solutions. This acceleration enables quicker responses to market changes and faster realization of business value from data projects.

Decouples Source Systems from Analytics

The platform minimizes the impact of changes in source systems on analytics. This decoupling ensures that analytics operations are stable and continuous even when underlying source systems are modified, thus protecting analytics against disruptions.

Centralized Data Products are governed for exception detection

With centralized data management, the program ensures that data across the organization is governed, and integrity is maintained on EDAP. This centralization is key to consistent and reliable data analytics outputs across different departments and use cases. This active data monitoring also serves the source system owners and enables them to both monitor data quality and identify trends.

Enterprise Data & Analytics

The platform supports a broad spectrum of analytics needs across the enterprise, facilitating a unified approach to data management and analytics. This enterprise-wide capability enhances collaboration and leverages data as a strategic asset.

Build Once – Reuse Many Times

The architecture of EDAP allows for data products to be developed once and reused multiple times across different scenarios and business units. This approach not only speeds up the deployment of new analytics capabilities but also reduces the cost and effort involved in maintaining them.

Pre-requisite to GenAI

Investing in the program sets the groundwork for adopting GenAI technologies on the EDAP, which represent the next level of analytics and AI applications. This makes the platform a forward-looking investment that prepares Company for future technological advancements.

Alignment with Data Privacy and Cyber Security

The platform ensures that all data handling and analytics processes are compliant with data privacy laws and protected against cybersecurity threats. This tight coordination is essential in maintaining the trust of internal and external consumers and protecting the Company from data breaches.

Strategy

The team will support platform architecture and coordinated portfolio management through the deliberate planning and execution of high-value initiatives across the enterprise. The team will also ground architecture strategy in change management and empower employees through self-service. By preserving flexibility and minimizing technical debt, the program aims to advance operational efficiency across the businesses.

The continued significant financial investment in the Enterprise Data & Analytics Foundations comprehensively enhances the Company's analytics capabilities and enables compliance, security, and efficient use of resources.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The Enterprise Data & Analytics Foundations program provides the core technology and resources needed to build and implement business driven analytics capabilities, most of which contribute to the Company's strategic plan, CLCPA goals, other climate resiliency programs and clean energy transformation.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

Do nothing. This option was abandoned because maintaining the data platforms in their current state will not support the business-driven analytics, nor will it allow Company to take advantage of the burgeoning GenAI capabilities. This option will lead to potential adoption of additional technology to meet the business needs not met or planned by Enterprise Data & Analytics Foundations which will dilute the value of having a single source of truth. If this platform does not consolidate and modernize now, it will not be able to effectively manage the clean energy transition that must occur during the rate case period to meet the CLCPA's requirements and Company's strategic vision.

Risk of No Action

Risk 1

Limits Company ability to expand GenAI capabilities due to fractured data sets and limited quality and monitoring controls on the data. Additionally, the current technical environment does not include the tools required for a full GenAI program including Vector database and automated data ingestion and monitoring.

Risk 2

Not advancing this Foundational program limits the influence and reach of the Enterprise Data & Analytics team to ensure data integrity on the analytics platform. This creates the risk for data quality issues, platform performance issues and potentially inconsistent metric results.

Non-Financial Benefits

An enterprise data platform is required to support a robust enterprise data program. It offers a range of non-financial benefits that can significantly enhance the operational efficiency and Company's ability to generate impactful insights and monitor its progress toward Clean Energy and decarbonization goals.

IT Productivity Improvements for Analytics Delivery

By optimizing data management and processing, utilities can streamline their IT operations, leading to faster delivery. Additionally, the program enhances productivity by automating routine tasks and enabling employees to focus on more strategic activities that add value to the business.

Delivery of New Capabilities, Services, and Businesses

The implementation of a robust data architecture enables utility companies to innovate and develop new capabilities. This could include the introduction of more smart grid technologies, renewable energy integration, and advanced customer service solutions.

The non-financial benefits impact multiple aspects of operations, from cost management to customer service. These benefits help support grid reliability and regulatory compliance in a challenging industry environment.

Summary of Financial Benefits and Costs

1. Major financial benefits

Reduced costs associated with duplicative work related to this enterprise analytics platform will be realized in the following ways:

- *Operational cost reductions:*
 - Reduced future cost of hosting and maintaining two discrete delivery pipelines: labor, networking, integration, development, cloud and licensing costs can be avoided when data domains are implemented on the technology stack of best fit.
- *Reduced costs from data readiness for GenAI solutions including simplified data governance and avoiding duplicative efforts to ingest and manage data across platforms*

2. Basis for estimate

Explain the method used to create the estimate. Include all key assumptions. Include assumptions for the portion of costs that could be associated with climate change mitigation and/or adaptation, if applicable.

Based on industry standards, costs were determined on the following base assumptions and experience operating the platform to date.:

- C3 platform will send significant insights into Azure/DataBricks
- C3 will require Gold (24/7) level support by 2027
- Incremental C3.AI costs are 5% YOY starting in 2027
- Azure/ DataBricks will scale to 411 Terabytes (TB) with future data and analytics products
 - This is based on industry standard 3TB per use case and 15 TB per data product
- 50% contingency on Azure costs on new build plus 10% on overall compute due to high market uncertainty
- Platform Resources includes Architects, Data Engineers and Data Strategists

Future azure costs were developed using azure calculators

	CapEx		
	2026	2027	2028
Azure/ Databricks CapEx	\$ 4,620,000	\$ 2,773,589	\$ 1,851,726
Platform FTEs (50%)	\$ 771,120	\$ 771,120	\$ 771,120
C3.AI CapEx	\$ 1,200,000	\$ 1,200,000	\$ 1,200,000
Data Interoperability	\$ 3,000,000	\$ 5,000,000	\$ 4,000,000
Total	\$ 9,591,120	\$ 9,744,709	\$ 7,822,846

OpEx			
	2026	2027	2028
Incremental Compute/ Storage	\$ 1,672,000	\$ 2,972,000	\$ 3,246,000
FTE's Platform & Planning	\$ 358,000	\$ 565,000	\$ 653,000
Gold Support (c3)		\$ 1,000,000	\$ 1,000,000
Portfolio Support	\$ 540,000	\$ 540,000	\$ 540,000
Contingency (10%)	\$ 167,200	\$ 297,200	\$ 324,600
Total	\$ 2,737,200	\$ 5,374,200	\$ 5,763,600

Project Risks and Mitigation Plan

Risk 1 Managing Data Quality

Ensuring the data in the platform is accurate and complete prior to the deployment of analytics. This requires active involvement by the data governance team and coordination with source system owners to document expected data values and build business rules to check for data quality.

Risk 2 Lack of analytics usage by business

Active involvement from the business units during the data product and analytic product development to ensure the solutions meet expectations complemented by robust adoption plans that includes training on the meaning of the data as well as the mechanics to access and use it.

Technical Evaluation / Analysis

N/A

Project Relationships

This white paper is part of our wholistic enterprise data and analytics program, leveraging a centralized enterprise data and analytics architecture to optimize interdependent analytics use cases. The following papers make up the products and capabilities of the program:

- Grid Asset Reliability and Resilience Data & Analytics
- Forecasting and Planning Data & Analytics
- Electric Work Management Data & Analytics
- Clean Energy Programs, AMI and DER Data & Analytics
- Customer Data & Analytics
- Gas Systems Analytics
- Supply Chain Data & Analytics
- Enterprise Data & Analytics Foundations (this white paper)
- Data and AI Governance

This program directly impacts projects across the enterprise which are expected to leverage the data and analytics provided by the use cases presented in this paper.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						

Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		2,737	5,734	5,764	5,783
Regulatory Asset					
Capital (Total)		9,591	9,745	7,823	3,850
Labor		460	460	460	460
M&S					
Contract Svcs.		8,791	8,945	7,023	3,050
Other					
Overheads		340	340	340	340

Enterprise Data & Analytics / Energy Management / Strategic Planning 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Forecasting and Planning Data and Analytics	
Project/Program Manager: Kathleen Trischitta	Project/Program Number (Level 1): 27696079
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 1/1/202	Estimated Date In Service: 1/1/2029
2025-2029 Funding Request (\$000) Capital: 33,611 O&M: 5,407	
Work Description: The Enterprise Data and Analytics (ED&A) program was established in 2017 and has grown and evolved over the years. The strategy is comprised of centralized governance functions (Platform Architecture, Data and AI Governance, Strategy & Planning) and business partner initiatives across major themes like Grid Asset Reliability and Resilience, Electrification and the Clean Energy Future as well as Customer Experience Excellence. Through the ED&A centralized governance function all initiatives are vetted and reviewed to ensure consistency, create standardization and minimize duplication of efforts. Forecasting and Planning Data and Analytics, incorporates the analytics needs of both the Commodity Forecasting and Strategic Planning teams. While these teams have different specific use cases, both teams are focused on creating and using predictive analytic models that leverage historical data and the breadth of Advanced Metering Infrastructure (AMI), customer and asset data available. In the previous rate case period, the Company provided valuable insights from AMI and other customer-specific data to enhance commodity forecast accuracy by developing use cases to address emerging policy and load-modifying technologies. In the 2026-2029 period, the Company plans to expand its successful analytics program for Commodity Forecasting. This expansion includes developing advanced predictive models for residential and commercial customers and assessing the impact on grid planning and assets across all three commodities. The program will also enable the Company to track and report progress towards its clean energy goals, per the CLCPA. Key areas of this program include the design and development of analytic use cases that leverage the centrally governed and quality-controlled data sets, as detailed below: In pursuance to the PSC regulatory order Case #:23-G-0147 build an analytics solution to perform ongoing and iterative optimization process to identify a preferred pathway towards electrification. Part of our long-term strategic initiatives is to enable support for the CLCPA.	

This initiative will require a comprehensive, organization-wide effort, integrating data and analytics outputs from across the entire enterprise data & analytics portfolio to guide our 10–20-year planning horizon and understand our customers' propensity to electrify within our service territory and our optimized next best actions.

- Developing advanced analytics and **Commodity Forecasting** models for each business unit (Electric, Gas, and Steam) with an emphasis on Supply forecasting to complement the existing load and demand forecasting previously implemented.
 - **Model the impact of customer, building and regional electrification on demand** utilizing inputs from clean energy programs and customer insights **which would help understand** current impact and predict the likelihood of different customer segments and regions to electrify, aiding in demand forecasting, distribution planning as well as long term strategic planning.
 - **Load signature detection and disaggregation** models to identify customer-level load modifiers (e.g., heat pumps, energy efficiency measures such as equipment replacement or change in building envelope measures, Electric Vehicles (EVs), solar photovoltaics (PVs), combined heat and power (CHP), and energy storage systems (ESS)) and their impact on the grid. This requires utilizing customer information, metering, and distribution engineering data to forecast specific impacts on grid resiliency and reliability.
 - **Reconciliation of load forecasts** using customer-level data and net load curves with Electric, Gas, and Steam meter-level data. This process will enable the Company to measure and report the impact of load modifiers on the Company's clean energy goals and its customers at a more granular level. Future use cases could include an ability to layer external data such as publicly available data for oil and propane customers who can potentially convert to electric end-uses impacting our forecasts.
 - **Reconciliation of load forecasts with weather adjusted peaks** to ensure that energy supply matches consumer demand, especially during peak weather conditions which can significantly alter energy usage patterns. Reconciling load forecasts with weather-adjusted peak demands involves several strategic approaches to manage and predict energy demand more accurately. This reconciliation against weather helps prepare grid infrastructure for higher cooling loads and managing higher peak temperatures helps in handling extreme weather events and preventing power interruptions.
 - Localized **historical peak performance** and delivered volume impacts of installed Distributed Energy Resources (DERs) to reconcile with forecasts and estimate the impact of the in-queue projects at more granular subdivisions of the Company's distribution systems.
 - **Improved methodologies** include machine learning to accurately predict the impacts to grid supply and demand as customers adopt electrification technologies, through the correlation of long-term demographic patterns of change, and policy incentives
- Developing advanced analytic products to facilitate the **Strategic Planning** mission
 - Automated models to measure and report on environmental, social, and governance (**ESG**) **metrics**, leveraging data across commodities (grid, gas, and steam) and external data to ensure compliance with regulatory reporting requirements.

- Models to **forecast assets long-term across all our commodities** (e.g, transformers) with a 20-year horizon, incorporating customer needs and preferences, business sustainability, and affordability. This ensures reliability and value for investors and customers while aligning with CLCPA goals.
- **High-level geographical models** leveraging geographic information systems (GIS) data, electric assets, gas assets, steam assets, and cross-commodity analytics data. The models assess physical locations for clean energy initiatives, such as transitioning from gas to electric, to avoid islanding and optimize overall operational costs for the Company. Ability to include layers of customer data reflecting Disadvantaged Communities (DAC), undergrounding projects, etc., that will cut across projects across all commodities which can further provide more detailed cost projections and prioritize projects.

Justification Summary:

The current forecasting and planning use cases need to be supplemented to continue to perform advanced analytics that will further enable the Company to meet its clean energy goals, ensure system performance and provide safe, reliable, and affordable service to its customers. This project will enable clearer pathways towards meeting these goals and will reduce uncertainty in forecasting energy supply and demand. Investments in these use cases help the Company accurately direct capital resources to infrastructure forecasted to precipitate the greatest need for investment to maintain operations and reliability. The Forecasting and Planning Data and Analytics program supports the Company's strategic value propositions and goals, with impacts detailed below. Data and analytics enable value use cases that increase reliability, safety, quality of the customer experience, and enable the clean energy transition with specific use cases around grid planning and investments for the clean energy transition¹.

System Performance and Reliability

Proposed use cases in forecasting and planning analytics will help identify the propensity for adoption of load-modifying technologies including Solar and EVs, allowing Operations teams to ensure that assets and operations respond to changing loads accordingly. Use cases such as regional electrification modeling, load signature detection and disaggregation models, load forecast reconciliation, technology adoption models, peak performance models, asset forecasts and geographical models allow the Commodity Forecasting and Strategic Planning teams to ensure reliability of the grid. Building from curated data sets shortens the analytic build time and yields a higher data quality solution. Strategic Planning also serves as a strategic enabler to allow other businesses such as Electric Operations, Central Operations, and Gas to prepare for deployment of assets in the right places at the right time, which enables the Company to redeploy capital headroom in second order initiatives such as clean energy integration, resiliency, etc. Other potential benefits include mitigating customer rate volatility and improving system performance with targeted programs implemented in response to data analytics.

Investing in Our Clean Energy Future:

The Commodity Forecasting and Strategic Planning teams are uniquely poised to deliver analytics models that predict customer behavior and climate change impacts with a long-term view that supports the clean energy program's goals for the next 25 years and beyond. These use cases supplement the

¹ Grid planning under uncertainty: Investing for the energy transition, McKinsey & Company, published December 2023, <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/grid-planning-under-uncertainty-investing-for-the-energy-transition>

current practices enabling the Company to more accurately forecast and plan assets to enable integration of clean energy initiatives and solutions going forward, and ensure assets are in place for the grid to allow the transition to clean energy.

Cost Avoidance

The use cases included in this paper enable the Company to get better visibility into the Company cost projections, and capital and O&M expenses to allow more efficient allocation of infrastructure resources informed by insights provided in load forecasts. Load forecasting and geographic modeling also helps the Company to better understand where investments can best made to assist with the associated with the gas transition and electrification efforts. Based on industry implementation of similar efforts, the Company estimates that the Forecasting and Planning Data and Analytics use cases can enable cost avoidance across infrastructure and repair costs. Together with the other white papers in the larger program, the ability to forecast and plan on a 10–20-year time horizon will ensure our ability to make highly calibrated decisions about our investments, limiting stranded assets and targeting investments that preserve optionality as our pathways to CLCPA goals evolve.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This program supports the Company’s central Enterprise Data and Analytics program in achieving CLCPA goals and aligns with broader company plans and initiatives.

City and state level legislations have significantly increased the importance of the utility planning processes and have put pressure on the accuracy of the short-, medium-, and long-term forecasting of the electric and gas systems. In support of the city and state goals such as CLCPA, the Company must be prepared to leverage the capabilities of clean energy technologies including EVs, heat pumps, battery storage, and solar panels to enable a dynamic and reliable electric grid.

The Company’s five- and ten-year plans include preparing for a green energy future as outlined in the CLCPA. This project addresses CLCPA-related investment activity by implementing Forecasting and Planning Data and Analytics Program that addresses use cases aligned with the CLCPA’s goals. For example, the CLCPA includes goals to install 3,000 MW of battery storage in New York State by 2030. The Company is seeking to approve interconnection requests in its service territory by 2025 to aid in the State’s achievement of this goal. Forecasting and Planning Data and Analytics use cases could examine the performance of batteries currently installed on the system and provide the Company with insights of where batteries can be deployed based on their performance and where they might be most useful.

Similarly, use cases addressing the additional load incurred by building electrification or lost by adoption of energy efficiency and building envelope improvements can provide a fundamental understanding of technology that will help to decarbonize New York State. Forecasting and Planning Data and Analytics can help to develop better commodity forecasts, which acts as an input to the Company’s revenue forecast. Improving energy usage analytics also helps the Company to mitigate risk. Insufficient information regarding emerging technologies leads to inaccurate commodity forecasts, which are used to plan energy purchases and strategic planning. Inefficient scheduling or operational work could result in increased customer bills, a decrease in operational reliability, and negatively impact stakeholder relations.

2. Supplemental Information

Alternatives

Alternative 1 – Continue program as-is

One alternative to investing in the Forecasting and Planning Data and Analytics program is to continue with the current environment where data is siloed with the operations team. This will significantly impact the Company's analytics capabilities and the ability to use data from multiple departments in artificial intelligence and analytics. Absence of centralized data products will lead to longer development times stemming from the current lack of reusable solutions. For new use cases, the possibility of duplication of design and development efforts and most importantly for the increased potential for inaccurate and inconsistent artificial intelligence and analytics products.

Alternative 2 – Procure analytics solutions from vendors instead of developing them in-house

Another alternative is to procure off-the-shelf analytics applications. This would likely result in higher implementation and operational costs with limited flexibility to meet some of the unique Company needs. Additionally, this puts the reusability potential and data sharing potential at risk.

Risk of No Action

Following are the enterprise risks if the Program is not implemented:

- Hindered transition to clean energy: Reduced ability to accurately measure and monitor the Company's transition to decarbonization and reduced emissions and our progress towards the CLCPA goals.
- Sub-optimal capital deployment: This becomes a risk without adequate analytical capabilities, leading to increased capital needs to achieve objectives related to grid resiliency and reliability, DER integration, and the clean energy transition.
- Unoptimized customer experience: Inaction hinders the opportunity to improve customer experience, especially related to the transition to clean energy goals. Inaccurate predictions can undermine strategic initiatives, customer experience, and the transition to clean energy.
- Productivity loss from analysts: A lack of trusted, accessible, and curated data for analysts leads them to spend more time looking for and cleansing data as opposed to generating useful business insights.

Non-Financial Benefits

With deep insights from the Forecasting and Planning Data & Analytics program, the Company can meet rising customer expectations and introduce customers to new programs and services that will advance progress toward New York State's clean energy goals and local laws. Each use case is delivered as part of the program is expected to provide additional non-financial benefits to the Company and customers based on the specific insights that the analytics produce. These benefits include improved reliability, customer experience and Customer Satisfaction (CSAT) score, grid and gas operations, employee experience, helping customers achieve their clean energy goals and others that will be evaluated as the program is implemented.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

The project will lead to financial and non-financial benefits through grid and gas network resiliency and reliability, enhanced customer and employee experience through improved data sharing across the Company and improved visibility on the progress toward clean energy and decarbonization goals.

2. Major financial benefits

The proposed analytics use cases will lead to O&M and Capital cost avoidance. The Forecasting and Planning Data and Analytics use cases will lead to financial benefits by planning our investment judiciously to prevent stranded or undersized assets across our infrastructure investments. Other financial benefits of downstream analytics use cases will be realized and assessed as the use cases are implemented.

3. Basis for estimate

Costs:

Based on the rubric and methodology outlined below, this white paper was costed as follows:

Base Pod Costs	
FTE Total	1,380,376
Consultant Total	3,600,000
Medium Pod Total	4,980,376

<i>PER YEAR</i>	Forecasting & Planning	
	Forecasting	Planning
<i>Rating</i>		
Data Complexity	Low (.5)	Medium (1)
Data Volume	Low (.5)	Low (.5)
Use Case Complexity	High (2)	Medium (1)
Use Case Volume	Medium (1)	Low (.5)
Average	1.00	0.75
FTE Cost	1,380,376	1,380,376
Consultant Cost (Base * Avg)	3,600,000	2,700,000
Average Capital Per Year	4,980,376	4,080,376
	<i>Avg Per Year</i>	9,060,752

Capital	
Year 1 (75%)	6,795,564
Year 2 (100%)	9,060,752
Year 3 (90%)	8,154,677
Total	24,010,994
O&M	
Year1	636,000
Year2	1,257,000
Year3	1,757,000
Total	3,650,000

Rationale

The use cases outlined in this paper require inputs from around the company, standardizing data and working through complex forecasts and multi-variable optimizations.

Methodology

Consistent with our learned experience in analytics delivery and agile best practices, we developed our costs on team capacity basis.

- Capacity was determined based on an analytic rubric that looked at four major categories of data & analytics development:
 - Data Complexity – accessibility, quality and interoperability of necessary data
 - Data Volume – number of systems and integration techniques
 - Use Case Complexity – Complexity of underlying analytics and operationalization
 - Use Case Volume – the number of high value use cases available
- We then defined descriptions of high, medium and low examples of each category. (see below)
- Based on our experience, industry research and work with our consulting partners we identified the team necessary to execute a medium capacity analytics program.
- The resourcing structure reflects the Utility tendency to utilize System Integrators for direct development work and have the smallest possible FTE footprint that also enables the business to lead value capture and business process integration and appropriately managed staff

augmentees building to the technical specification and requirements of the organization. This allows us to effectively managed program demand peaks over many years.

- Costs are based on two major factors: Employee and Consultant Totals:
- From here we looked at each white paper and determined the number of PODs necessary and scored them based on the use cases and our knowledge of the existing data architecture.
- Based on the rubric score for each white paper, consultant resources were scaled up or down to size capacity correctly.
- The yearly average was then distributed with 75% of the total in year one to account for ramp up time, 100% in year two and 90% in year 3 to account for defining new use cases.
- O&M was calculated as a standard 12% of build costs to start, and then adjusted downward by working with our business partners to determine how many of the FTE roles could be filled with existing head count. This accounts for change management, enhancements to the products and labor once use cases are placed in service.

Rubric:

<i>Sizing Rubric</i>	High	Medium	Low
Data Complexity	Multiple, often legacy systems with unclear governance structures, quality and documentation. Data is not easily modeled.	Multiple systems with clear ownership structures and some quality issues. Documentation is available but incomplete. Data can be modeled across systems.	Few sources with clear governance structures and documentation in place. Data is already modeled across systems.
Data Volume	Many data sources with unclear or large historical retention needs. Data may require streaming technology.	Limited number of source systems, of normal volumes. Bath or API transfer is appropriate.	Few source systems of small volume with limited historical data. Batch transfer is appropriate.
Use Case Complexity	Solutions Require net new analytics design and / or complex algorithms. Outputs require integration with and action in source system as well as significant business process change.	Solutions are industry standard but need customization. Standard BI dashboards or simple custom user interfaces are sufficient for most of the use cases. Business process change is necessary.	Use Cases are industry standard and port well to Con Edison's environment. BI reporting is sufficient as a front end.
Use Case Volume	Significant number of high value use cases requiring multiple teams to deliver.	Many high value use cases that can be delivered with one team.	Most of the value is in self-service analytics or with BI reporting on top of the model.

Complexity / Volume	High	Medium	Low
Data Complexity	2	1	0.5
Data Volume	2	1	0.5
Use Case Complexity	2	1	0.5
Use Case Volume	3	1	0.5

Staffing:

Pod Structure			
Full Time Employees			
● Product Director	1	Defines Pod's strategy, responsible for successful implementation of value case initiatives	
● Analytics PO	1	Owns delivery of analytics for the business. Defines requirements and leads business process integration.	
● Data PO	1	Owns delivery of data products for the business. Defines requirements and self-service strategy	
● Data Steward	1	Operationalizes governance policy & practice	
● Tech Lead	1	Coordinates technical components and team to deliver solutions	
● Tech PO	1	Connectivity between business and IT by refining use cases and defining MVPs, solution adoption.	
● IT BSD	0.36	Works between source system IT and EDAP Platform	
● Domain Architect	0.25	Owns domain strategy and technical and analytical design	
● EDAP	0.18	Enterprise Data & Analytics Platform support	
			Employee Annual Cost 1,380,376
IT Staff Augmentation			Annual Costs
● Data Scientists,			
● Engineers, etc.			300K Month
Consultant Total			3,600,000
Medium Pod Total			4,980,376
● IT FTE	● Business FTE	● IT Consultant	
Project Risks and Mitigation Plan			
<u>Risk 1</u>			
New technologies emerge that can deliver the program in a more efficient manner			
<u>Mitigation:</u> The proposed data and analytical capabilities are based on industry-leading adaptable platforms and tools. The Enterprise Data and Analytics team continues to evaluate emerging technologies to optimize the value from each use case. The modular design of the solutions coupled with an Agile project approach enable maximum flexibility.			
<u>Risk 2</u>			
Data source and analytics complexity may affect program timelines and costs			
<u>Mitigation:</u> The program's governance structure includes a monthly review of the roadmap with the opportunity to re-prioritize or shuffle data sources and use cases based on changes in information and costs over time.			
<u>Risk 3</u>			
Business teams do not have the bandwidth to act on the insights that are provided by the program's analytics use cases			
<u>Mitigation:</u> Prior to starting each use case, the program receives full buy-in from the use case's product owner and its manager for the timing and value of delivering the given analytics use case. The program has also implemented a monthly "look-ahead" process where the next six months of work is reviewed with the delivery team and product owners to ensure clear alignment on expectations and risks. Additionally, the program is being delivered in an agile manner to ensure that use cases can be built and prioritized based on near-term business value and priorities.			
Technical Evaluation / Analysis			
N/A			

Project Relationships (if applicable)

This white paper is part of our wholistic enterprise data & analytics program, leveraging a centralized enterprise data and analytics architecture to optimize interdependent analytics use cases. The following papers make up the products and capabilities of the program:

- Grid Asset Reliability and Resilience Data & Analytics
- Forecasting and Planning Data & Analytics (this white paper)
- Electric Work Management Data & Analytics
- Clean Energy Programs, AMI and DER Data & Analytics
- Customer Data & Analytics
- Gas Systems Analytics
- Supply Chain Data & Analytics
- Data & Analytics Foundational Capabilities
- Data and AI Governance

This program directly impacts projects across the enterprise which are expected to leverage the data and analytics provided by the use cases presented in this paper.

- REV/DER Forecasting Tool Suite
- Gas Distribution Forecast Tool
- EM AMI Use Case Application

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		636	1,257	1,757	1,757
Regulatory Asset					
Capital (Total)		6,796	9,061	8,155	9,599
Labor		1,934	1,934	1,934	1,934
M&S					
Contract Svcs.		4,034	6,299	5,393	6,836
Other					
Overheads		828	828	828	828

Enterprise Data & Analytics / Gas 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Gas Systems Analytics	
Project/Program Manager: Lindsey Fitzgerald	Project/Program Number (Level 1): 27696076
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date in Service: 12/31/2028
2025-2029 Funding Request (\$000) Capital: \$18,470 O&M: \$2,618	
Work Description: The Enterprise Data and Analytics (ED&A) program was established in 2017 and has grown and evolved over the years. The strategy is comprised of centralized governance functions (Platform Architecture, Data and AI Governance, Strategy & Planning) and business partner initiatives across major themes like Grid Asset Reliability and Resilience, Electrification and the Clean Energy Future as well as Customer Experience Excellence. Through the ED&A centralized governance function all initiatives are vetted and reviewed to ensure consistency, create standardization and minimize duplication of efforts. Gas Systems Analytics aims to modernize gas analytics for multiple use cases across gas customer operations, gas operations, gas workforce management and inter-commodity operations. With the multi-year journey, the Company wants to enable the gas operations team to accurately predict and plan assets, perform predictive maintenance, perform cross-commodity analytics, workforce management, emergency response, etc. Key areas of the Gas Systems Analytics program include: • Building additional inputs and analysis on existing models within Gas operations: ○ Strategic initiatives to optimize planning and Artificial Intelligence (AI) for gas operations with the intention of making gas operations more reliable to our customers, with the following use cases: – Granular emission monitoring analytics to model, measure and report on reductions in greenhouse gas (GHG) emissions. – Risk-based predictive maintenance for key components of the gas network, considering structural information, maintenance records, weather events, load and variation, criticality, meter data, and financial implications. This allows for proactive maintenance and the optimization of capital spend by identifying risk hotspots and reducing the risk of commodity events.	

- **Enhance Mains replacement analytics** to support current processes and include additional data points used to prioritize main lines based on factors such as emissions impact, replacement cost, relevance for electrification, number and type of users, materials of construction, etc.
 - **Street hardware defect detection** leveraging public data to identify defects in street hardware (e.g., hardware boxes, curb valves, sinkholes) through image processing to improve public safety.
 - **Cross-commodity analytics** leveraging asset, electric flow, and geographic information systems data to assess physical asset locations, quantify crossover event (e.g., electric burnout igniting a gas line) and optimize maintenance and repair of faults.
 - **Contractor damage prevention** model to predict potential damage to gas pipelines through construction or renovation activities leveraging publicly available data, to identify third party construction work and overlay with eGIS data, to predict high risk areas, to optimize crew dispatch, and to prevent damage and cordon off sensitive gas pipeline areas during construction activity.
- **Resource Gas Management Analytics** that optimize dispatch and scheduling across the Gas network with the following use cases:
 - **Updated work scheduling** leveraging data from upstream models including crew availability, cross commodity impacts, riskiness of assets, and bundling of work based on location of assets to minimize access issues (e.g., paving and building access) and to optimize routes for crews.
 - **Optimized pre-requisite management** (e.g., work documentation, parking space, ensuring access to the physical location, cross commodity information, work authorization and permits) to optimize crew time spent on jobs.
 - **Emergency Response** Analytics use cases incorporating data from both gas and grid operations in addition to city and weather data to optimize emergency dispatch and repairs with the following use cases:
 - **Extension of the advanced analytics leak detection** and Gas Emergency Call Volume Forecasting Systems that leverage Natural Gas Detector (NGD) sensors to log information and optimize customer notifications. Another use case is potentially leveraging AI to detect leaks even if NGD sensors are offline, by identifying signatures at neighboring online meters and sensors.
 - Predictive analytics to identify **potential volume and location of NGD alarms** using weather as a key data point
 - **Disaggregate overcapacity signals** from individual gas meters to identify root cause of unexpected signals
 - **Optimized storm response** by maximizing non-wrench time (e.g., driving time) through crew dispatch and sequencing and enabling pre-storm grey sky crew placement to reduce storm response time for gas emergencies during storm.

Justification Summary:

Current Gas analytics use cases rely on manual data collection and aggregation, leading to operational inefficiencies and increased costs. The current use cases provide forecasting capabilities but need to be

supplemented to ensure the feasibility of the Company's clean energy goals, system performance, safety of customers and employees, and affordability for customers. The Gas Systems Analytics program supports the Company's strategic value propositions and goals, with impacts detailed below. Data and analytics enable value use cases that increase reliability, safety, quality of the customer experience, and enable the clean energy transition at a decreased cost to the Company's rate base¹. The industry is also seeing increased adoption of advanced analytics and artificial intelligence in the gas utilities space².

Safety of Our Employees and Our Customers

The Gas Systems Analytics program helps reduce the risk of unplanned events and improves safety for both crews and customers through better predictive maintenance analytics, cross-commodity analytics, street hardware defect detection, pre-requisite management and emergency response. These analytics use cases ensure a resilient gas network to avoid commodity events, enable the crews to have more information on jobs to avoid safety incidents, and ensure the right crew is assigned to the right job. Better analytics will also help the team address leaks faster and ensure that customers and employees are safer.

System Performance and Reliability

Gas Systems Analytics help maintain overall health of the gas and grid networks. Improved load forecasting helps the gas operations team to ensure network reliability. Use cases such as predictive maintenance, cross commodity analytics, resource management and emergency response help keep downtimes low, ensuring reliability of the grid through inspection, maintenance, and faster repairs. In addition, centralization of data and analytics improves operational efficiency for analytics use cases across the Company, ensuring operational excellence.

Investing in Our Clean Energy Future

Investments in gas analytics will help the company enable transition to the clean energy future. Granular emissions analytics helps the Company better track and report progress towards its clean energy goals. A reduction in contractor damages will help mitigate GHG emissions. As we choose the best pathway to meet our CLCPA goals, this will give the team more tools to know which alternatives are the most efficient. Load forecasting helps the Company plan economic ramp-downs of gas networks, optimizing costs associated with the gas-to-electric transition, because a better visibility into our emissions allows us to understand how we can mitigate GHG emissions. As customers transition from gas to electricity, load forecasting capabilities enable the Company to optimize operations to meet its clean energy goals. These also enable the Company to react effectively to changes in regulations and to support the customers going through the transition.

Cost Avoidance

These use cases enable the Company to improve planning and scheduling to allow more efficient spending and optimization of costs, through more informed work scheduling. Based on industry implementation of similar efforts, the Company estimates that these analytics will lead to financial benefits in the form of avoided costs across asset and repair costs, including labor. In addition, use cases such as predictive maintenance, resource management and emergency response help keep repair and maintenance costs in check. As the gas services ramp down, it becomes increasingly important to efficiently manage costs and draw more value out of limited resources.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

¹ Winner takes all? Digital in the utility industry, McKinsey & Company, published March 2023, <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/winner-takes-all-digital-in-the-utility-industry>

² Artificial Intelligence for Natural Gas Utilities: A Primer, National Association of Regulatory Utility Commissioners (NARUC), published October 2020, <https://pubs.naruc.org/pub/F74D4EC2-155D-0A36-310F-F5B22DC3E286>

The Gas Systems Analytics program supports the Company's central Enterprise Data and Analytics program to achieve CLCPA goals and aligns with broader Company plans and initiatives. The Company has a long-term strategy to enable cost-effective clean energy transition by preparing customers, facilitating supply transformation, focusing on economic viability and maintaining safety, reliability and resilience of the existing system. The use cases in the paper support economic viability of the transition and maintaining safety, reliability, and resilience of the existing system.

The Gas Systems Analytics program provides the Company with a mechanism to identify how internal clean energy programs more accurately convert to reduced emissions. This capacity for increased granular analytics and artificial intelligence to optimize asset strategy based on cost, emissions and feasibility will also enable the Company to provide detailed and accurate proof of progress to regulators, investors, and customers.

2. Supplemental Information

Alternatives

Alternative 1 – Continue program as-is

One alternative to investing in the Gas Systems Analytics program is to continue with the current environment where data is siloed with respective teams. This will significantly impact the Company's analytics capabilities and the ability to use data from multiple departments in AI and analytics. Lack of easy access to integrated additional data sources leads to longer development times stemming from the current lack of reusable solutions. For new use cases, the possibility of duplication of design and development efforts and most importantly for the increased potential for inaccurate and inconsistent AI products.

Alternative 2 – Procure analytics solutions from vendors instead of developing them in-house

Another alternative is to procure off-the-shelf analytics applications. This would likely result in higher implementation and operational costs with limited flexibility to meet some of the unique Company needs. Additionally, this puts the reusability potential and internal data sharing potential at risk.

Risk of No Action

Risks

Following are the enterprise risks if the Program is not implemented:

- Hindered transition to clean energy: Reduced ability to accurately measure and monitor the Company's transition to decarbonization and reduced emissions hinders the success of strategic programs such as CLCPA.
- Unreliable system: Lack of optimized predictive maintenance and cross-commodity models increases the risk of asset failure, customer outages, and safety hazards for crew members.
- Sub-optimal capital deployment: This becomes a risk without adequate analytical capabilities, leading to increased capital needs to achieve objectives related to gas system reliability, dispatch, and clean energy transition.
- Unoptimized workforce management: Crews lack accurate geographical information on asset locations, leading to delays and inaccuracies in repairs. Unoptimized workforce management also impacts the customer experience with avoidable or duplicate customer appointments. The

absence of cross-commodity analytics and predictive maintenance further impact maintenance and inspection dispatch, increasing costs for the Company.

•

Non-Financial Benefits

With deep insights from Gas Systems Analytics program, the Company can meet rising customer expectations and introduce customers to new programs and services that will advance progress toward New York State's clean energy goals. Each use case delivered as part of the program is expected to provide additional non-financial benefits to the Company and customers based on the specific insights that the analytics produce.

Summary of Financial Benefits and Costs

1. Cost-benefit analysis

The proposed analytics use cases support strategic priorities for the Company. The project will directly and indirectly lead to financial benefits through improved workforce management scheduling, predictive maintenance, reduced interruptions and improved reliability and customer experience.

2. Major financial benefits

The proposed analytics use cases will lead to O&M and Capital savings through predictive maintenance, leak analytics, and job scheduling. An estimated avoided costs across asset and repair costs like leveraging risk-based predictive maintenance of gas network parts, including labor is expected through implementing these analytics use cases. Other downstream analytics use cases will also lead to decreased costs (such as through more efficient work scheduling leading to less truck, more efficient job site visits, targeted marketing campaigns, accurate billing, etc.). Other financial benefits of downstream analytics use cases will be realized and assessed as the use cases are implemented.

3. Basis for estimate

Costs:

Based on the rubric and methodology outlined below, this whitepaper was costed as follows:

Base Pod Costs	
FTE Total	1,380,376
Consultant Total	3,600,000
Medium Pod Total	4,980,376

<i>PER YEAR</i>	Gas System Analytics
<i>Rating</i>	
Data Complexity	Medium (1)
Data Volume	Medium (1)
Use Case Complexity	Medium (1)
Use Case Volume	Medium (1)
Average	1.00
FTE Cost	1,380,376
Consultant Cost (Base * Avg)	3,600,000
Average Capital Per Year	4,980,376

Capital	
Year 1 (75%)	3,735,282
Year 2 (100%)	4,980,376
Year 3 (90%)	4,482,339
Total	13,197,997
O&M	
Year1	314,000
Year2	951,000
Year3	1,353,000
Total	2,618,000

Rationale

Investments in Gas Central and other technologies set the foundations well for analytics development. The asset and work management use cases are well understood in the industry and learnings from solutions developed for electric assets can potentially be modified.

Methodology

Consistent with our learned experience in analytics delivery and agile best practices, we developed our costs on team capacity basis.

- Capacity was determined based on an analytic rubric that looked at four major categories of data & analytics development:
 - Data Complexity – accessibility, quality and interoperability of necessary data
 - Data Volume – number of systems and integration techniques
 - Use Case Complexity – Complexity of underlying analytics and operationalization
 - Use Case Volume – the number of high value use cases available
- We then defined descriptions of high, medium and low examples of each category. (see below)
- Based on our experience, industry research and work with our consulting partners we identified the team necessary to execute a medium capacity analytics program.
- The resourcing structure reflects the Utility tendency to utilize System Integrators for direct development work and have the smallest possible FTE footprint that also enables the business to lead value capture and business process integration and appropriately managed staff augmentees building to the technical specification and requirements of the organization. This allows us to effectively managed program demand peaks over many years.
- Costs are based on two major factors: Employee and Consultant Totals:
- From here we looked at each white paper and determined the number of PODs necessary and scored them based on the use cases and our knowledge of the existing data architecture.
- Based on the rubric score for each white paper, consultant resources were scaled up or down to size capacity correctly.
- The yearly average was then distributed with 75% of the total in year one to account for ramp up time, 100% in year two and 90% in year 3 to account for defining new use cases.
- O&M was calculated as a standard 12% of build costs to start, and then adjusted downward by working with our business partners to determine how many of the FTE roles could be filled with existing head count. This accounts for change management, enhancements to the products and labor once use cases are placed in service.

Rubric:

<i>Sizing Rubric</i>	High	Medium	Low
Data Complexity	Multiple, often legacy systems with unclear governance structures, quality and documentation. Data is not easily modeled.	Multiple systems with clear ownership structures and some quality issues. Documentation is available but incomplete. Data can be modeled across systems.	Few sources with clear governance structures and documentation in place. Data is already modeled across systems.
Data Volume	Many data sources with unclear or large historical retention needs. Data may require streaming technology.	Limited number of source systems, of normal volumes. Batch or API transfer is appropriate.	Few source systems of small volume with limited historical data. Batch transfer is appropriate.
Use Case Complexity	Solutions Require net new analytics design and / or complex algorithms. Outputs require integration with and action in source system as well as significant business process change.	Solutions are industry standard but need customization. Standard BI dashboards or simple custom user interfaces are sufficient for most of the use cases. Business process change is necessary.	Use Cases are industry standard and port well to Con Edison's environment. BI reporting is sufficient as a front end.

Use Case Volume	Significant number of high value use cases requiring multiple teams to deliver.	Many high value use cases that can be delivered with one team.	Most of the value is in self-service analytics or with BI reporting on top of the model.

Complexity / Volume	High	Medium	Low
Data Complexity	2	1	0.5
Data Volume	2	1	0.5
Use Case Complexity	2	1	0.5
Use Case Volume	3	1	0.5

Staffing:

Pod Structure			
Full Time Employees			
● Product Director	1	Defines Pod's strategy, responsible for successful implementation of value case initiatives	
● Analytics PO	1	Owns delivery of analytics for the business. Defines requirements and leads business process integration.	
● Data PO	1	Owns delivery of data products for the business. Defines requirements and self-service strategy	
● Data Steward	1	Operationalizes governance policy & practice	
● Tech Lead	1	Coordinates technical components and team to deliver solutions	
● Tech PO	1	Connectivity between business and IT by refining use cases and defining MVPs, solution adoption.	
● IT BSD	0.36	Works between source system IT and EDAP Platform	
● Domain Architect	0.25	Owns domain strategy and technical and analytical design	
● EDAP	0.18	Enterprise Data & Analytics Platform support	
			Employee Annual Cost 1,380,376
IT Staff Augmentation			Annual Costs
● Data Scientists, Engineers, etc.			300K Month
Consultant Total			3,600,000
Medium Pod Total			4,980,376
● IT FTE	● Business FTE	● IT Consultant	

Project Risks and Mitigation Plan

Risk 1

Data source and analytics complexity may affect program timelines and costs

Mitigation: The program's governance structure includes a monthly review of the roadmap with the opportunity to re-prioritize or shuffle data sources and use cases based on changes in information and costs over time. These decisions and changes require approval of project leadership.

Risk 2

Business teams do not have the bandwidth to act on the insights that are provided by the program's analytics use cases

Mitigation: Prior to starting each use case, the program receives full buy-in from the use case's product owner and its manager for the timing and value of delivering the given analytics use case. The program will also complete a monthly "look-ahead" process where the next six months of work is reviewed with the delivery team and product owners to ensure clear alignment on expectations and risks. Additionally, the program is being delivered in an agile manner to ensure that use cases can be built and prioritized based on near-term business value and priorities.

Risk 3

New technologies emerge that can deliver the program in a more efficient manner

Mitigation: The proposed data and analytical capabilities are based on industry-leading adaptable platforms and tools. The Enterprise Data and Analytics team continues to evaluate emerging technologies to optimize the value from each use case. The modular design of the solutions coupled with an Agile project approach enable maximum flexibility.

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

This white paper is part of our wholistic enterprise data & analytics program, leveraging a centralized enterprise data and analytics architecture to optimize interdependent analytics use cases. The following papers make up the products and capabilities of the program:

- Grid Asset Reliability and Resilience Data & Analytics
- Forecasting and Planning Data & Analytics
- Electric Work Management Data & Analytics
- Clean Energy Programs, AMI and DER Data & Analytics
- Customer Data & Analytics
- Gas Systems Analytics (this white paper)
- Supply Chain Data & Analytics
- Data & Analytics Foundational Capabilities
- Data and AI Governance

This program directly impacts projects across the enterprise which are expected to leverage the data and analytics provided by the use cases presented in this paper.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		314	951	1,353	1,353
Regulatory Asset					
Capital (Total)		3,735	4,981	4,482	5,272
Labor		961	961	961	961

M&S					
Contract Svcs.		2,360	3,606	3,107	3,896
Other					
Overheads		414	414	414	414

Corporate/CE Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Integration Technical Obsolescence	
Project/Program Manager: David Byrne	Project/Program Number (Level 1): 27708284
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2025	Estimated Date In Service: 8/1/2029
2025-2029 Funding Request (\$000) Capital: 133,600 O&M: 36,000	
Work Description: Application and data integration is the process of connecting and synchronizing data across different systems and platforms. It enables organizations to share information and automate workflows across various applications, databases, cloud services, and devices. By integrating data and applications, organizations can improve data quality, reduce data silos, enhance business processes, and deliver better customer experiences. Application and data integration provides several benefits for organizations, such as: - It improves data accuracy and consistency by eliminating data duplication and ensuring data is updated in real time across all sources. - It reduces operational costs and complexity by simplifying data management and reducing the need for manual data entry and reconciliation. - It increases business agility and innovation by enabling faster and easier access to data and insights and supporting new business models and opportunities. - It enhances customer satisfaction and loyalty by providing personalized and seamless experiences across multiple channels and touchpoints. The methods and technologies used to implement these forms of integration at Con Edison have enabled many organizations to achieve data interoperability and business efficiency. However, as the volume, variety, and velocity of data increase, and as the demand for real-time and seamless integration grows, these traditional methods become insufficient to meet modern integration challenges. Therefore, it is time to upgrade to more modern and innovative approaches, such as event-driven integration, microservices integration, or low-code integration, that can offer more flexibility, scalability, reliability, and agility for data and application integration. The scope of work that will be addressed within this project is as follows:	

- Con Edison has been using Microsoft's BizTalk integration software since 2010 as the foundational tool for creating workflows between corporate systems. Over the years, every major corporate project (Advanced Metering, Customer Care and Billing, Corporate Financials, Work Management, etc.) relied on BizTalk for its application integration needs, resulting in a current inventory of over 1,400 integrations. Con Edison has kept pace with the new versions of BizTalk that Microsoft has released over the years, but Microsoft has now announced that the current version of BizTalk will be the last, with extended support of the product ending in 2030. It is not acceptable to stay on the product after it is no longer supported due to the potential cyber security risks and the lack of compatibility with future operating system upgrades. Moving away from BizTalk will require the integrations to be reengineered, rebuilt, and retested in the new integration technology. This effort will allow us to update how these systems interact with each other, moving away from older models and methods and adopting modern integration mechanisms.
- The project aims to conduct thorough due diligence in selecting a future-proof integration platform that will play a crucial role in digital transformation efforts for years to come. While Azure is a natural successor to BizTalk, the evaluation will consider other market leaders to ensure the best fit for long-term business needs.

Justification Summary:

Every major corporate system is highly dependent upon its integrations. No system exists on its own; each relies on fast and accurate integration with the other systems upon which they depend. Running these integrations on an unsupported platform (as would be the case in 2030 should we leave things as they are) leaves the company and our customers exposed to potential catastrophic failure. Should the integrations become non-operational, customer service capabilities such as paying bills and querying accounts would become non-functional. The automatic detection of gas leaks in customer's homes would not be reported to the control centers for rapid response. Customer reported gas and electric outages would not be routed to the proper systems for action. Outage information sent to the Public Service Commission would cease.

Moving integration workloads to a modern integration platform gains the following benefits:

Benefit	Description
Modern Integration Platform as a Service (iPaaS)	Azure Integration Services provides capabilities not yet conceived when BizTalk Server was originally built, for example: - The capability to create and manage REST APIs (definition included later in this section) - Scalable cloud infrastructure - Authentication schemes that are modern, more secure, and easier to implement - Simplified development tools, including many web browser-based experiences - Automatic platform updates and integration with other cloud-native services A REST API (Representational State Transfer Application Programming Interface) is a standardized way for different software systems to communicate over the

	internet using HTTP protocols. It allows applications to perform CRUD operations— Create, Read, Update, and Delete — on resources stored on servers. REST APIs utilize standard HTTP methods such as GET, POST, PUT, and DELETE to interact with these resources and can return data in various formats like JSON or XML. They are stateless, meaning each request is independent and contains all the necessary information for processing, which enhances scalability and performance. Overall, REST APIs provide a flexible and efficient means for integrating applications and enabling data exchange across diverse platforms.
Consumption-based pricing	With traditional middleware platforms, you must often make significant capital investments in procuring licenses and infrastructure, forcing you to "build for peak" and creating inefficiencies. Azure Integration Services provides multiple pricing models that let you pay for what you use. Although some pricing models enable and provide access to more advanced features, you have the flexibility to pay for what you consume.
Lower barrier to entry	BizTalk Server is a very capable middleware broker but requires considerable time to learn and gain proficiency. Azure Integration Services reduces the time required to start, learn, build, and deliver solutions. For example, Azure Logic Apps includes a visual designer that gives you a no-code or low-code experience for building declarative workflows.
Software as a Service connectivity	With REST APIs becoming standard for application integration, more SaaS companies have adopted this approach for exchanging data. Microsoft has built an expansive and continually growing connector ecosystem with hundreds of APIs to work with Microsoft and non-Microsoft services, systems, and protocols. In Azure Logic Apps, you can use the workflow designer to select operations from these connectors, easily create and authenticate connections, and configure the operations they want to use. This capability speeds up development and provides more consistency when authenticating access to these services using OAuth2.
Multiple geographical deployments	Multiple geographical cloud deployments enable organizations to distribute computing resources across different global regions, providing enhanced reliability, performance, and resilience. By strategically placing cloud infrastructure in various locations, businesses can reduce latency, ensure continuous service availability, comply with regional data regulations, and implement robust disaster recovery strategies. This approach allows companies to optimize user experience by routing traffic to the nearest data center, improve global scalability, enhance security through distributed data storage, and potentially reduce operational costs. Essentially, multi-region cloud deployments offer a flexible, efficient, and reliable approach to managing complex global IT infrastructure.
Microsoft BizTalk Server, while a powerful integration platform, is becoming outdated and will eventually be retired for several reasons:	
Outdated Technology	BizTalk has not evolved over the years to embrace newer integration patterns like APIs and event streaming (e.g. Kafka), making it inefficient for solving complex modern integration challenges.

Declining Expertise	BizTalk was introduced in 2000, and many specialists have retired or will retire soon. There is a declining influx of new talent comfortable with the aging technology, making it challenging to maintain and develop further.
Monitoring Limitations	BizTalk's monitoring tools focus on data flow, treating the underlying technical integrations as a black box. This limitation makes it difficult to troubleshoot failures and dependencies in complex hybrid integration landscapes.
End of Support	While Microsoft has no plans to retire BizTalk Server immediately, the latest version (2020) will reach end of support by 2028. Microsoft is positioning BizTalk 2020 as a bridge between legacy and modern systems, hinting at a future transition to Azure Integration Services.
Azure Integration Services Benefits	Azure Integration Services like Logic Apps offer a more modern, scalable, and cost-effective integration platform with lower barriers to entry, automatic updates, and integration with other cloud services. Migrating to Azure allows enterprises to leverage these benefits. In summary, while BizTalk Server remains relevant for now, its aging technology, declining expertise, monitoring limitations, and Microsoft's focus on Azure Integration Services necessitate a future migration for enterprises seeking modern, scalable integration capabilities. Azure Integration Services offers significant benefits to Con Edison by providing a robust platform for handling large-scale data processing from smart grids and meters. It enhances operational efficiency through workflow automation and seamless integration with existing systems. The platform ensures data security and regulatory compliance, crucial for utility companies. Azure's advanced technologies like IoT and AI enable Con Edison to optimize energy management and meet sustainability goals. Its resilient infrastructure and geographical flexibility ensure continuous operation of critical utility applications. Overall, Azure Integration Services empowers Con Edison to improve service quality, operational efficiency, and adaptability in the rapidly evolving energy sector.
Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act	
Azure Integration Services (AIS) supports broader company plans and CLCPA (Climate Leadership and Community Protection Act) compliance by optimizing operations, enabling data-driven decision making, and facilitating the creation of scalable workflows. It helps organizations modernize legacy systems, improving energy efficiency and reducing environmental impact, which aligns with CLCPA's goals for emissions reduction and renewable energy adoption. Furthermore, AIS enhances collaboration across organizations, crucial for implementing comprehensive climate action plans required by the CLCPA, while providing real-time insights for tracking progress towards sustainability targets.	

2. Supplemental Information

Alternatives

Alternative 1: Remain on the BizTalk platform for integrations. This is rejected because running such critical business, customer, and public safety workflows on an unsupported platform incurs levels of risk to our customers and the company that are not acceptable.

Risk of No Action

These general risks include:

- Increased cost to maintain a software asset, often referred to as “technical debt”.
- lack of agility resulting from its inability to align with changes in business requirements.
- limited capacity to integrate with up-to-date and cost competitive technologies (e.g. cloud).
- scarcity of skilled labor to maintain unsupported technologies.
- increased mistakes and resulting costs from supporting the complexity of many versions across components.

Risk1: PSC-mandated functions and data sharing will be impacted in the case of a failure, increasing the likelihood of penalties associated with the speed of responding to customers and timeliness of delivery of PSC-mandated customer information.

Risk 2: System integration failures will impact the proper functioning of corporate systems and thus impact the user experience, resulting in frustrated customers, loss of revenue, and missed business opportunities.

Risk 3: Continuing to run on an unsupported platform means degradation of the security of the transactions flowing through it and the lack of new capabilities to address fraud protection.

Risk 4: Continuing to run on an unsupported platform makes performing ongoing maintenance very difficult and greatly increases the possibility of Human Performance Improvement errors and security breaches.

Risk 5: Continuing to run on an unsupported platform constrains proper maintenance of same which can result in failure when the system is stressed during a storm event. Reported outages are routed through BizTalk to reach the company’s outage management system; the increased volume of outages during a storm would stress an unsupported platform. Restoration efforts can be hampered due to impact to outage management systems and work management systems.

Non-Financial Benefits

The non-financial benefits generated for the Company by this program include:

- Standardization: The consistent use of management practices, data sources, tools, platforms, and integration methods
- Efficiency: Proper utilization of resources, increased safety, reliability, efficiency, and customer satisfaction. Azure Integration Environment streamlines customer facing applications by centralizing resource organization and enabling real-time monitoring of critical processes. By integrating Azure Service Health notifications and supporting business process tracking, the environment helps Con Edison quickly identify, communicate, and resolve issues with enhanced efficiency.
- Improved workflows and communication among departments
- Stronger relationships with community or with regulators by enabling real-time data exchange and increased accuracy.
- Ensuring regulatory compliance.
- Avoidance of higher maintenance costs, frustrated users, loss of revenue and missed business opportunities.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

As the BizTalk platform will no longer be supported after 2030, maintenance costs will inevitably increase. With no other company offering support for the product, and developers shifting their focus to newer integration tools, expertise in working with BizTalk will become increasingly scarce. By transitioning to more modern integration tools, the company can achieve stability in both costs and the operation of our corporate workflows.

2. Major financial benefits

Rationalize the existing integration portfolio and reduce inventory by 30%.

3. Basis for estimate

Corporations with significant integration experience such as Accenture, Cognizant, and InfoSys, have been consulted to determine the approach to take and the costs involved. Details of our current integration inventory and the complexity of the same have been provided to inform their analysis. The results of their analysis have been used in producing this whitepaper.

Project Risks and Mitigation Plan

Risk 1:

Technical challenges implementing required integration functionality with the new integration tools.

Mitigation plan:

Existing integration patterns and mechanisms for communicating with systems will be confirmed and then representative samples of each will be implemented and tested utilizing the new integration technology early in the program. Successfully converted samples will act as templates to follow when converting similar integrations while samples that bring further challenges to light will be iterated upon until successful.

Technical Evaluation / Analysis

Corporations with significant integration experience such as Accenture, Cognizant, and InfoSys, have been consulted to determine the approach to take and the costs involved. Details of our current integration inventory and the complexity of the same have been provided to inform their analysis. The results of their analysis have been used in producing this whitepaper.

Project Relationships (if applicable)

Azure Integration Services (AIS) supports broader company plans and CLCPA compliance by optimizing operations, enabling data-driven decision making, and facilitating the creation of scalable workflows. It helps organizations modernize legacy systems, improving energy efficiency and reducing environmental impact, which aligns with CLCPA's goals for emissions reduction and renewable energy adoption. Furthermore, AIS enhances collaboration across organizations, crucial for implementing comprehensive climate action plans required by the CLCPA, while providing real-time insights for tracking progress towards sustainability targets.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year* (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		3,000	7,000	13,000	13,000
Regulatory Asset					
Capital (Total)		33,400	33,400	33,400	33,400
Labor		10,000	10,000	10,000	10,000
M&S		1,400	1,400	1,400	1,400
Contract Svcs.		22,000	22,000	22,000	22,000
Other					
Overheads					

*The test year runs from 10/1/2023 to 9/30/2024

Information Technology 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Power Platform Governance and COE	
Project/Program Manager: Matt Ruiz	Project/Program Number (Level 1): 27708329
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date In Service: 12/31/28
2025-2029 Funding Request (\$000) Capital: \$5,646.3 O&M: \$7,745	
Work Description: Capital Blue Prism is a Robotic Process Automation (RPA) platform that allows the business to automate manual repeatable tasks such as loading invoices to a portal or taking information from a spreadsheet and loading it to a website. The Power Platform consist of automation, and application tools to help the business increase its capacity to reduce manual work through low code development. The Power Platform is an enterprise wide tool by Microsoft that comes with less expensive licensing cost and less time consuming development. This project will migrate 130+ automations from the Blue Prism platform to the Power Automate Desktop platform. Migrating to the Power Automate Desktop platform in Microsoft has numerous benefits including increased security, reduced training and onboarding time for new development efforts, promotes one enterprise, and allows Con Edison to take advantage of the full suite of Microsoft capabilities embedded within the power platform.	
O&M Increasingly, companies are implementing Enabling Technologies such as Robotic Process Automation (RPA), PowerApps, and middleware to streamline operations and reduce costs. Enabling Technologies can automate low-value, rules-based business processes, thereby enabling business users to devote more time to more strategic and higher-value tasks. Some examples of these tasks include automating customer billing, Microsoft 365 license assignment, and loading our commodity prices to the proper portals. These technologies can also enable Citizen Development (business users) to develop applications quickly without traditional lead times associated with complex-coding. Citizen Development enables users outside of IT to develop applications or automations to increase various efficiencies through digitizing processes. This reduces the burden on IT development groups and allows the business to self-serve reducing costs and the time to development. By using these technologies, Con Edison can foster better communications with customers, suppliers, employees, and other stakeholders.	
As part of Con Edison's Digital Transformation, IT is establishing a new Power Platform Technologies Center of Excellence (CoE) that will provide the governance, structure, and operating model to enable the implementation of Citizen Development, throughout the company. The Company is creating a CoE to govern the use, quality, and deployment of RPA and PowerApps. A CoE is a team of business process management and subject matter experts that utilize best practices and tools. The CoE promotes and	

governs the use of a given technology, such as Power Apps and RPA. The Enabling Technologies CoE will establish a team structure, methodology, processes, governance, and technology platform that will enable Con Edison to effectively and successfully implement throughout the organization.

Major components include:

- Definition, design, testing, deployment
- Design and implementation
- Governance
- Transition planning and management
- Process selection
- Automation tool selection
- Organization capability and capacity assessment
- Team design and training
- Organization communications
- Platform support

The Company intends to use these enabling technologies to automate existing processes in areas such as IT, Customer Service, Finance, Supply Chain, Emergency Preparedness, and Law.

Various organizations throughout the Company have implemented some form of Enabling Technologies or are considering implementing RPA, PowerApps, and SharePoint.

Justification Summary:

Power Platform is a suite of low-code and no-code tools that enable users to build applications (PowerApps), automate workflows (Power Automate), analyze data (Power BI), and create chatbots (Power Virtual Agents). The Power Platform empowers users to solve business problems and innovate faster, without requiring extensive coding skills or IT support.

However, with great power comes great responsibility. Power Platform also introduces new challenges and risks for organizations, such as data security, compliance, governance, and cost management. To address these challenges and risks, organizations need to implement a Power Platform governance strategy that balances the needs of the business and the IT department, and ensures that Power Platform is used in a secure, compliant, and efficient manner.

What is Power Platform governance?

Power Platform governance is the set of policies, processes, roles, and tools that help organizations manage and secure their Power Platform environment. Power Platform governance covers various aspects, such as:

- Who can create and use Power Platform solutions, and for what purposes
- How Power Platform solutions are developed, tested, deployed, and maintained
- How Power Platform solutions are monitored, audited, and reported
- How Power Platform solutions are aligned with the organization's data strategy, security standards, and compliance requirements
- How Power Platform resources are allocated, consumed, and optimized

Power Platform governance is not a one-size-fits-all approach. It depends on the organization's size, culture, maturity, and objectives. Power Platform governance should be flexible and adaptable, and evolve with the changing needs and demands of the organization and its users.

The onus remains, however, on IT operations teams to protect company data and ensure that business solutions operate smoothly. Without a robust Power Platform governance strategy, company data becomes vulnerable, administration and licensing permissions go unchecked, and monitoring the apps – without one unified dashboard – becomes an insurmountable task

Why is Power Platform governance important?

Power Platform governance is important for several reasons, such as:

- Mitigate cybersecurity risks due to being a low code platform and the access to premium connectors which can open the company up to risks of data breaches
- Mitigate organizational risks with “published” applications sitting on personal, team, and default environments
- Mitigate risk of lack of ownership of applications creating unusable clutter
- Mitigates risk of broken applications and processes
- Ensures that Power Platform solutions are consistent, reliable, scalable, and deliver value to the business and end users
- Fosters a culture of collaboration and innovation, where users can share best practices, learn from each other, and co-create solutions
- Enhances the visibility and accountability of Power Platform usage, performance, and impact across the organization

How to implement Power Platform governance?

Implementing Power Platform governance requires a holistic and iterative approach, that involves the following steps:

- Define the vision and goals of Power Platform governance, and align them with the organization's strategy and priorities
- Assess the current state of Power Platform adoption, usage, and maturity in the organization, and identify the gaps and opportunities for improvement
- Design the Power Platform governance framework, which includes the policies, processes, roles, and tools that will guide and support Power Platform governance
- Implement the Power Platform governance framework, and communicate it to the stakeholders and users
- Measure and evaluate the Power Platform governance framework, and collect feedback and insights from the stakeholders and users
- Review and refine the Power Platform governance framework, and make adjustments as needed

Conclusion

Power Platform governance is a critical success factor for organizations that want to harness the power of Power Platform, and use it in a secure, compliant, and efficient way. Power Platform governance helps organizations to manage and optimize their Power Platform environment, and ensure that Power Platform solutions deliver value and impact to the business and the end users. Power Platform governance is not a static or rigid process, but a dynamic and flexible one, that adapts to the changing needs and demands of the organization and its users. The Power Platform will enable Con Edison to digitize paper based processes to improve organizational efficiency across the board without placing the burden on IT. Low code development will enable Citizen Developers across Con Ed's different enterprises to build applications and automations that will save employee time creating cost savings as employees are able to focus more time on higher priority tasks. Additionally, the Power Platform will enable teams to do this without the high development costs and time to build necessitated by other

platforms. Con Ed will be able to realize the benefit of utilizing an enterprise wide tool through reduced licensing cost and integrations that cross the Microsoft suite to improve efficiencies without compromising security.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

2. Supplemental Information

Alternatives

Without a centralized governance and support team, siloed deployment of Enabling Technologies leads to inefficiencies, such as duplicated efforts, redundant tools, and less controls increasing unnecessary costs and labor intensive fixes at scale. Organizations will go into silos to implement automation processes and onboard various tools, which will result in a mixed environment that is hard to support.

Risk of No Action

Organizations may independently implement Enabling Technologies using disparate approaches and technologies, compromising IT support and increasing the potential for cybersecurity vulnerabilities which could ultimately impact customers. Processes that span multiple systems could be made more efficient by implementing a bot rather than modifying the multiple systems to implement process improvements.

Additionally, due to various teams managing governance, the company will be exposed to cybersecurity risk and operational risks due to different organizations having different rules and standards leaving minimally experienced citizen developers to choose from a variety of connectors, that create a bridge to other applications/systems that can compromise the company's security, and locations to publish their work. The result could be that connectors that put company data at risk are used, and that applications are not properly published and shared to mitigate the risk of connectors breaking and applications being rendered unusable when people leave the company.

Non-Financial Benefits

- Maintaining an Enabling Technologies CoE with proper tools to route RPA, and Power App requests establishes a best-in-class operation that is scalable and repeatable. Documented processes can be easily rolled out to new business units and will reduce the learning curve for future groups implementing Enabling Technologies. Automating low-value, rules-based business processes, will enable business users to devote more time to more strategic and higher-value tasks for our customers while also decreasing the need for complex traditional software development.
- An improved relationship between IT and Business Units, including increased collaboration and a jointly defined mandate to create impact, which will result in higher work process adherence, easy to use (minimal training needed) products and a more unified organization.
- A new collaborative, agile culture can help Con Edison transform its talent base in IT. Con Edison will be able to recruit cutting edge talent to modernize IT, which will ultimately lead to more efficient, effective, and safe service to our customers.

Enterprise-wide standard using the new platforms will allow greater transparency into costs, scheduling, work status, and productivity metrics through a consistent data platform and advanced analytics engine.
Summary of Financial Benefits and Costs (attach backup) The financial benefits of establishing an RPA CoE will be come from developing automation standards. These standards will reduce development costs, reduce error processing and reduce the maintenance cost of these automations. Additional savings will result from a central repository of best practices that can be shared across the organization. As these technologies are more broadly adapted, future groups will benefit from re-usable module code bases, existing infrastructure and existing methods of control and monitoring. There will be also a savings of roughly \$200,000 every 2 years from migration to Power Automate. Blue Prism upgrade costs are not included in the agreement, whereas Microsoft Upgrade costs are included with our current agreement which makes them have no additional cost. In addition to savings from upgrade costs there will also be savings on the licenses. Blue Prism costs \$130K a year for its usage based licenses versus Power Automate's premium license costs are included in the Microsoft 365 agreement that the company has and premium licenses will be purchased on an as needed basis. We currently estimate that the savings will be roughly \$50K a year.
Project Risks and Mitigation Plan N/A
Technical Evaluation / Analysis Con Edison met with several consulting firms to learn how a CoE can be established, staffed and organized. Centralized, decentralized and Hybrid CoE models were evaluated. Various tools were reviewed. Lastly, Con Edison's business groups such as Tax, Customer Operations, Human Resources, Supply Chain and Information Technology and Finance expressed interest and are already utilizing these enabling technologies with increased need for oversight, governance, and standards.
Project Relationships (if applicable)

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M	705.4	736.6	742.1	2,020.9		\$1,000
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M	1,787.3	2,463	2,641	2,641	2,641
Regulatory Asset					
Capital (Total)		1,549.2	2,052.5	2,044.6	
Labor		255.3	338.3	336.9	
M&S					
Contract Svcs.		1,293.9	1,714.2	1,707.7	
Other					
Overheads					

Information Technology 2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	Category: ☒ Capital ☐ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: SharePoint Forms Upgrade	
Project/Program Manager: Matt Ruiz	Project/Program Number (Level 1): 27708323
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	Estimated Date In Service: 12/31/26
2025-2029 Funding Request (\$000) Capital: \$5,438.4 O&M: \$0.00	
Work Description: Capital The SharePoint/ Power Apps side of the Power Platform Governance & Automation team has developed 101 applications in Angular SharePoint to help different organizations digitize paper-based processes and streamline them. At the time the applications were developed, Angular SharePoint was a premier tool, but with the development of Power Applications and SharePoint Online, they are reaching end of life. As a result, the applications pose a cyber security infrastructure risk and a risk of failing applications that different organizations within the company depend on. Upgrading the applications to PowerApps or SharePoint Online will upgrade the sites to be on the most recent Microsoft framework which will also have opportunities for significant improvements in time to build, eliminate down time for maintenance, enhance security, constantly updated framework, and improve user permissions. These benefits will come with a reduction in process time and improved reliability. The scope of the project will include: - Scoping out the 101 SharePoint Angular Applications - Decide whether SharePoint Online or PowerApps - Prioritize & develop implementation plan - Configure the applications in SharePoint Online or Power Apps - Test - Roll out to production Several business units in the company are currently using Angular SharePoint solutions including Finance, Law, and Supply Chain which support vital processes to the company's operations and would pose a risk if applications at end of life that were no longer supported failed. Additionally, upgrading to new infrastructure will come with being able to hold more data, quicker process time, more delineated security features, no downtime for system maintenance, and constantly updated infrastructure which reduces risk to the business in the future. Additionally, the consistent updates to the platform will prevent the forms from being out of support in the future.	

Justification Summary: SharePoint Angular Forms was key in digitizing paper-based processes and improving company efficiency. Now that they are at end of life, data is at risk due to the end-of-life applications not being secure, and processes are at risk of failing which could cause delays in key company processes. On top of addressing risks, upgrading to PowerApps or Angular forms will give the company an opportunity to improve the reliability and process time of these key applications.
Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

2. Supplemental Information

Alternatives Due to these applications being end of life, the alternative is for the owners to contract out to different companies to build the applications in PowerApps or SharePoint Online. Utilizing a contracting firm will come at an increased cost to the company due to several organizations contracting this out to different firms and replicating an effort that could be consolidated. This project also utilizes company resources increasing the company's technical capabilities.
Risk of No Action The risk of no action is that various organizations use Angular SharePoint such as Finance, Law, and Supply Chain for key company processes. The applications are at risk of breaking which will cause delays in processes until the applications are upgraded or configured in PowerApps. Additionally, using end of life technology can pose the company to cybersecurity risk because it exposes vulnerabilities which leaves the company exposed to cyber-attacks.
Non-Financial Benefits • Eliminating cybersecurity risk from allowing the applications to reach end of life and be supported • Reducing the risk of failure by not allowing the application to be unsupported. • An improved relationship between IT and Business Units • Improved process time and capability • Internal technical capacity in SharePoint Online and PowerApps development including bringing in new talent to the company
Summary of Financial Benefits and Costs (attach backup) The financial benefits of upgrading Angular SharePoint to PowerApps or SharePoint Online will be reduced cost for repair. The cost of maintaining the applications will be reduced through upgrading them due to newer infrastructure and higher capability.
Project Risks and Mitigation Plan N/A
Technical Evaluation/ Analysis

Con Edison met with a consulting firm to evaluate potential pathways forward with this project and determine if a vendor partner is necessary or if the team can use a mix of inhouse developers and tech leads along with contractors in VNDLY.

Project Relationships (if applicable)

3. Funding Detail (\$000)

Historic Spend

	<u>Actual</u> <u>2020</u>	<u>Actual</u> <u>2021</u>	<u>Actual</u> <u>2022</u>	<u>Actual</u> <u>2023</u>	<u>Test Year</u> <u>(O&M</u> <u>Only)</u>	<u>Forecast</u> <u>2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M					
Regulatory Asset					
Capital (Total)		2,719.2	2,719.2		
Labor		306	306		
M&S					
Contract Svcs.		2,413.2	2,413.2		
Other					
Overheads					

Enterprise Data & Analytics / Supply Chain 2025-2029

1. Project / Program Summary

Type: ☐ Project ☒ Program	Category: ☒ Capital ☒ O&M ☐ Regulatory Asset
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Supply Chain Data and Analytics	
Project/Program Manager: Jason Henry	Project/Program Number (Level 1): 27696070
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 1/2/2026	Estimated Date in Service:
2025-2029 Funding Request (\$000) Capital: \$21,800 O&M: \$2,685	
Work Description: The Enterprise Data and Analytics (ED&A) program was established in 2017 and has grown and evolved over the years. The strategy is comprised of centralized governance functions (Platform Architecture, Data and AI Governance, Strategy & Planning) and business partner initiatives across major themes like Grid Asset Reliability and Resilience, Electrification and the Clean Energy Future as well as Customer Experience Excellence. Through the ED&A centralized governance function all initiatives are vetted and reviewed to ensure consistency, create standardization and minimize duplication of efforts. White paper 7 of 10, Supply Chain Data and Analytics, aims to modernize category management, vendor management, procurement, inventory, and warehouse management for the Company; ultimately supporting our strategic goals, inclusive of the Clean Energy Future, and ensuring a more resilient and responsive, cost-effective Supply Chain. Key areas of this Supply Chain Data and Analytics program include: • Developing advanced analytics for supply chain forecasting models: ○ Spend intelligence and category analytics to identify opportunities for vendor optimization and minimize material/equipment specification variation for similar items while ensuring supplier diversity goals are met, through automated value-backed analytics across procurement levers, including: – Automated spend and item categorization models – Spend visibility and transparency – Automated category management analytics and vendor optimization – Modeled demand and supply at the line level – Streamlined and automated forecasting across Supply Chain, Materials and Distribution to ensure optimized material level (e.g., cable) analytics and visualization	

- **Contract and supplier analytics** supporting resources, potentially leveraging emerging technologies (e.g., Generative AI tools) in a responsible way to support category managers with the following use cases:
 - Optimized and centralized tools for **vendor management** including Request for Proposal generation, automated negotiation scripts, automated category management
 - Automated **contract insights** to identify missing critical clauses and language in contracts, auto-synthesis on next steps, automated prioritization of contracts based on value and terms
 - **Supplier performance analysis** to automate assessment of supplier performance against contract, fair price assessment, and reduction of value leakage
 - **Supplier diversity** and risk assessment models, leveraging third party risk management data to support supplier diversity goals
 - **Supply chain security** analysis to assess key risks across first-, second-, and third-tier suppliers for key assets
- **Warehouse inventory management and operations optimization** to efficiently manage space and yard and perform material fulfillment for our customers. With warehouse inventory, advanced analytics will develop optimization models such as par inventory. Within operations optimization, advanced analytics will deploy route and routing optimization for warehouse, pipe yard and logistics with an aim to reduce material movement for instance placing high moving materials closer to pick locations and improved shipment bundling.
- **Data preparation:**
 - Data from key supply chain applications will be integrated and made accessible via enterprise data stores to Supply Chain Data and Analytics and other programs. The data product will include:
 - Data sources requested by other teams such as spend data, spend profile and categories, supplier risk and diversity
 - Data from other applications and data products used in supply chain analytics e.g., third party risk management data, macroeconomic data, Maximo data, customer, gas, transportation data, and load forecasts.

Justification Summary:

Current Supply Chain Data & Analytics use cases rely on manual data collection and aggregation, leading to operational inefficiency. To further enable analytics capabilities and drive incremental value, Supply Chain's future use cases provide a focus on supporting a more resilient, responsive, and cost-effective supply chain operation.

Investing in Our Clean Energy Future

Investments in Supply Chain Data and Analytics will facilitate the Company's transition to a clean energy future by ensuring that assets and materials are available to support clean energy solutions, such as distributed generation. Contract and supplier analytics use cases will enable simplified onboarding of vendors for clean energy solutions and streamline the processes used by the Company to negotiate and assess contracts with them.

Cost Avoidance

Based on similar industry efforts the Company estimates that implementation of these analytics use cases can support cost avoidance of third-party spend. These use cases enable the Company to improve vendor

and category optimization and streamline contract negotiations and provide insights to allow more efficient spending. Given recent supply chain disruptions, these use cases allow the Company to assess and plan for supply chain risks and changing regulatory environments through the use case on Supply chain security analysis as well.

Operational Efficiency

Optimized material planning and warehouse operations increase the efficiency of store functions (inbound/outbound logistics, pick/pack/ship, etc.) and our ability to acquire the critical material, supplies and equipment. Vendor management tools will also improve vendor, procurement processes.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The Supply Chain Data and Analytics program will enable the Company's central Enterprise Data and Analytics program to achieve CLCPA goals and align with broader Company plans and initiatives. By looking beyond, the five-year plans and develop a longer-term outlook, these use cases provide deeper insights to the Company on which categories require special attention and enable budget planning through forecasting growth in these areas. The Company's five- and ten-year plans include preparing for a green energy future as outlined in the CLCPA, which are supported by the use cases in this paper that enable preparing and obtaining assets such as transformers, network protectors and cable for the transition. The program also enables a broader economic impact in the community by procuring from minority-owned businesses and enabling the diversity goals of the Company, which is a key mandate for the Company's long-term goals.

2. Supplemental Information

Alternatives

Alternative – Continue program as-is

The alternative to investing in the Supply Chain Data and Analytics is to continue with the current environment where data is siloed with respective teams. This will significantly impact the Company's analytics capabilities and the ability to use data from multiple departments in Artificial Intelligence and analytics. To meet the current and future demand we require centralized data products with reusable solutions. For new use cases, the possibility of duplication of design and development efforts and most importantly for the increased potential for inaccurate and inconsistent reporting products. Not deploying the analytics use cases has other impacts detailed in the Risk of No Action section below.

Risk of No Action

Following are the enterprise risks if the Program is not implemented:

- Sub-optimal capital deployment: Sub-optimal capital deployment becomes a risk without adequate analytical capabilities, leading to increased procurement and vendor management costs and procurement costs.
- Third-party risk: Potential exposure to third party risk through vendors, and risk of supplier diversity can have a downstream impact on reliability if vendors are unable to deliver quality parts on time.

- **Data integrity:** Without the centralization of data and advanced analytical tools with self-serve capabilities that the Enterprise Data and Analytics Platform (EDAP) provides, teams will leverage manual processes for forecasting, affecting employee experience and sub-optimal time spent on routine activities. This can also lead to different teams reporting different numbers and can potentially introduce errors in calculations.

Non-Financial Benefits

Each use case delivered as part of the program is expected to provide additional non-financial benefits to the Company, employees, and customers. With insights from Supply Chain Data and Analytics program, the Company can improve vendor and employee experience and prepare for a transition to clean energy. These benefits are represented in the reduction of repetitive, manual activities and shifting focus to value-add contributions, as well as greater accessibility to deeper analytical insights to drive improved business decisions and performance.

Summary of Financial Benefits and Costs

1. Cost-benefit analysis

The proposed analytics use cases support strategic priorities for the Company. The program will directly and indirectly lead to financial benefits through optimized procurement spends and reduced costs for manual interventions across supply chain analytics by re-focusing on value-add contributions. Financial benefits are described in the next section below. The program will also result in non-financial benefits including vendor risk management and improved employee experience through improved data sharing across the company.

2. Major financial benefits

The proposed analytics use cases will lead to O&M and Capital savings through optimized vendor management and automation of manual tasks across procurement. Other downstream analytics use cases will also lead to decreased costs (such as through strategic forecasting and planning, gas, and grid operations etc.) which will be realized and assessed as the use cases are implemented.

3. Basis for estimate

The scope of work requires one pod to support the use cases defined in this white paper.

Base Pod Costs	
FTE Total	1,380,376
Consultant Total	3,600,000
Medium Pod Total	4,980,376

<i>PER YEAR</i>	Supply Chain
<i>Rating</i>	<i>Supply Chain</i>
Data Complexity	Low (.5)
Data Volume	Low (.5)
Use Case Complexity	Medium (1)
Use Case Volume	Very High (3)
Average	1.25
FTE Cost	1,380,376
Consultant Cost (Base * Avg)	4,500,000
Average Capital Per Year	5,880,376

Capital	
Year1 (75%)	4,410,282
Year2 (100%)	5,880,376
Year3 (90%)	5,292,339
Total	15,582,997
O&M	
Year1	395,000
Year2	965,000
Year3	1,325,000
Total	2,685,000

Rationale:

Investments in Supply Chain Data and Analytics support our strategic goals, inclusive of the Clean Energy Future, and ensuring a more resilient and responsive, cost-effective Supply Chain.

Methodology:

Consistent with our learned experience in analytics delivery and agile best practices, we developed our costs on team capacity basis.

- Capacity was determined based on an analytic rubric that looked at four major categories of data & analytics development:
 - Data Complexity – accessibility, quality and interoperability of necessary data
 - Data Volume – number of systems and integration techniques
 - Use Case Complexity – Complexity of underlying analytics and operationalization
 - Use Case Volume – the number of high value use cases available
- We then defined descriptions of high, medium and low examples of each category. (see below)
- Based on our experience, industry research and work with our consulting partners we identified the team necessary to execute a medium capacity analytics program.
- The resourcing structure reflects the Utility tendency to utilize System Integrators for direct development work and have the smallest possible FTE footprint that also enables the business to lead value capture and business process integration and appropriately managed staff augmentees building to the technical specification and requirements of the organization. This allows us to effectively managed program demand peaks over many years.
- Costs are based on two major factors: Employee and Consultant Totals
- From here we looked at each white paper and determined the number of PODs necessary and scored them based on the use cases and our knowledge of the existing data architecture.
- Based on the rubric score for each white paper, consultant resources were scaled up or down to size capacity correctly.
- The yearly average was then distributed with 75% of the total in year one to account for ramp up time, 100% in year two and 90% in year 3 to account for defining new use cases.
- O&M was calculated as a standard 12% of build costs to start, and then adjusted downward by working with our business partners to determine how many of the FTE roles could be filled with existing head count. This accounts for change management, enhancements to the products and labor once use cases are placed in service.

Rubric:

<i>Sizing Rubric</i>	High	Medium	Low
Data Complexity	Multiple, often legacy systems with unclear governance structures, quality and documentation. Data is not easily modeled.	Multiple systems with clear ownership structures and some quality issues. Documentation is available but incomplete. Data can be modeled across systems.	Few sources with clear governance structures and documentation in place. Data is already modeled across systems.
Data Volume	Many data sources with unclear or large historical retention needs. Data may require streaming technology.	Limited number of source systems, of normal volumes. Bath or API transfer is appropriate.	Few source systems of small volume with limited historical data. Batch transfer is appropriate.
Use Case Complexity	Solutions Require net new analytics design and / or complex algorithms. Outputs require integration with and action in source system as well as significant business process change.	Solutions are industry standard but need customization. Standard BI dashboards or simple custom user interfaces are sufficient for most of the use cases. Business process change is necessary.	Use Cases are industry standard and port well to Con Edison's environment. BI reporting is sufficient as a front end.

Use Case Volume	Significant number of high value use cases requiring multiple teams to deliver.	Many high value use cases that can be delivered with one team.	Most of the value is in self-service analytics or with BI reporting on top of the model.

Complexity / Volume	High	Medium	Low
Data Complexity	2	1	0.5
Data Volume	2	1	0.5
Use Case Complexity	2	1	0.5
Use Case Volume	3	1	0.5

Staffing:

Pod Structure

Full Time Employees

● Product Director	1	Defines Pod's strategy, responsible for successful implementation of value case initiatives
● Analytics PO	1	Owens delivery of analytics for the business. Defines requirements and leads business process integration.
● Data PO	1	Owens delivery of data products for the business. Defines requirements and self-service strategy
● Data Steward	1	Operationalizes governance policy & practice
● Tech Lead	1	Coordinates technical components and team to deliver solutions
● Tech PO	1	Connectivity between business and IT by refining use cases and defining MVPs, solution adoption.
● IT BSD	0.36	Works between source system IT and EDAP Platform
● Domain Architect	0.25	Owens domain strategy and technical and analytical design
● EDAP	0.18	Enterprise Data & Analytics Platform support

Employee Annual Cost	1,380,376

IT Staff Augmentation

Data Scientists, Engineers, etc.	300K Month
Consultant Total	3,600,000

Medium Pod Total	4,980,376

● IT FTE ● Business FTE ● IT Consultant

Project Risks and Mitigation Plan

Risk 1

Data source and analytics complexity may affect program timelines and costs

Mitigation: The program's governance structure includes a monthly review of the roadmap with the opportunity to re-prioritize or shuffle data sources and use cases based on changes in information and costs over time.

Risk 2

Business teams do not have the bandwidth to act on the insights that are provided by the program's analytics use cases

Mitigation: Prior to starting each use case, the program receives full buy-in from the use case's product owner and its manager for the timing and value of delivering the given analytics use case. The program has also implemented a monthly "look-ahead" process where the next six months of work is reviewed with the delivery team and product owners to ensure clear alignment on expectations and risks.

Additionally, the program is being delivered in an agile manner to ensure that use cases can be built and prioritized based on near-term business value and priorities.

Risk 3

New technologies emerge that can deliver the program in a more efficient manner

Mitigation: The proposed data and analytical capabilities are based on industry-leading adaptable platforms and tools. The Enterprise Data and Analytics team continues to evaluate emerging technologies to optimize the value from each use case. The modular design of the solutions coupled with an Agile project approach enable maximum flexibility.

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

This white paper is part of our wholistic enterprise data & analytics program, leveraging a centralized enterprise data & analytics architecture to optimize interdependent analytics use cases. The following papers make up the products and capabilities of the program:

- Grid Asset Reliability and Resilience Data & Analytics
- Forecasting and Planning Data & Analytics
- Electric Work Management Data & Analytics
- Clean Energy Programs, AMI and DER Data & Analytics
- Customer Data & Analytics
- Gas Systems Analytics
- Supply Chain Data & Analytics (this white paper)
- Data & Analytics Foundational Capabilities
- Data and AI Governance

This program directly impacts projects across the enterprise which are expected to leverage the data and analytics provided by the use cases presented in this paper.

3. Funding Detail (\$000)

Historic Spend

	<u>Actual 2020</u>	<u>Actual 2021</u>	<u>Actual 2022</u>	<u>Actual 2023</u>	<u>Test Year (O&M Only)</u>	<u>Forecast 2024</u>
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	<u>2025</u>	<u>2026 (RY1)</u>	<u>2027 (RY2)</u>	<u>2028 (RY3)</u>	<u>2029</u>
O&M		395	965	1,325	2,132
Regulatory Asset					

Capital (Total)		4,410	5,881	5,292	6,217
Labor		961	961	961	1,045
M&S					
Contract Svcs.		3,035	4,506	3,917	4,758
Other					
Overheads		414	414	414	414

Exhibit IT-10 Figure A: Enterprise Data & Analytics Business Programs

White Paper	Description	Business Value
Current		
Customer Data and Analytics	Significantly improve efficiencies and customer experience by analyzing customer interactions and optimizing operations. Enable single view of the Con Edison customer to directly support strategic and operational initiatives for all business units.	• Staffing call centers based on skills and the time of day based on call traffic • Reducing the number of calls answered within 30 seconds as well as average handle time • Reducing customer arrears and the number of customers with late payments
Grid Asset Resilience & Reliability Data and Analytics	Build on the Company's predictive maintenance program, increasing reliability and improving capital efficiency while enabling focus on the long-term challenges of the changing grid.	• Improvements to reliability and performance metrics such as network resiliency index (NRI), SAIFI & CAIDI. • Identify opportunities for cost avoidance
Planned		
Electric Work Management Data and Analytics	Continue to optimize work management operations for agility, improving the Company's ability to predict and manage pre-requisite requirements, improve scheduling and dynamic response to changing field conditions.	• Avoid O&M maintenance costs and negative customer experience due to lack of communications around timely work closures • Building the Company's ability to predict and manage pre-requisite requirements
Forecasting and Planning Data and Analytics	Support long range planning through tools that optimize the pathway to electrification. Continually refine and	• Decreasing the variance between annual peak demand forecast and actual peak demand across electric and gas to

	improve the accuracy of demand forecasting models across commodities and democratize their use in operations.	empower more insightful decision-making to better serve our customers • Lowered cost of avoided carbon emissions penalties due to enabling increased electrification • Tool to aid in optimizing the electrification pathways
Clean Energy Programs, AMI and DER Data and Analytics	Deliver analytics solutions that improve the efficacy of programs through propensity modeling, allow for the reliable scaling of DERs and storage into the grid and understand the continued impact of emerging clean energy technologies.	• Increase energy efficiency program enrollment, improving grid resiliency
Gas System Analytics	Build analytics tools that increase reliability, safety and operating efficiency and guide the evolution of the Gas System.	• Improve gas leak response time and reduce safety events • Quickly identifying emergencies from non-issues to deploy the workforce appropriately
Supply Chain Data and Analytics	Leverage predictive analytics to enhance the procurement strategy, achieve cost savings and operational efficiencies throughout the supply chain as well as ensure a reliable and sustainable supply of resources for the Company.	• Identify opportunities for cost avoidance • Create more on-time orders, reducing lead time, reducing the number of open orders, and increasing the number of compliant contracts

Exhibit IT-11:

Figure 1: Overall Maximo roadmap

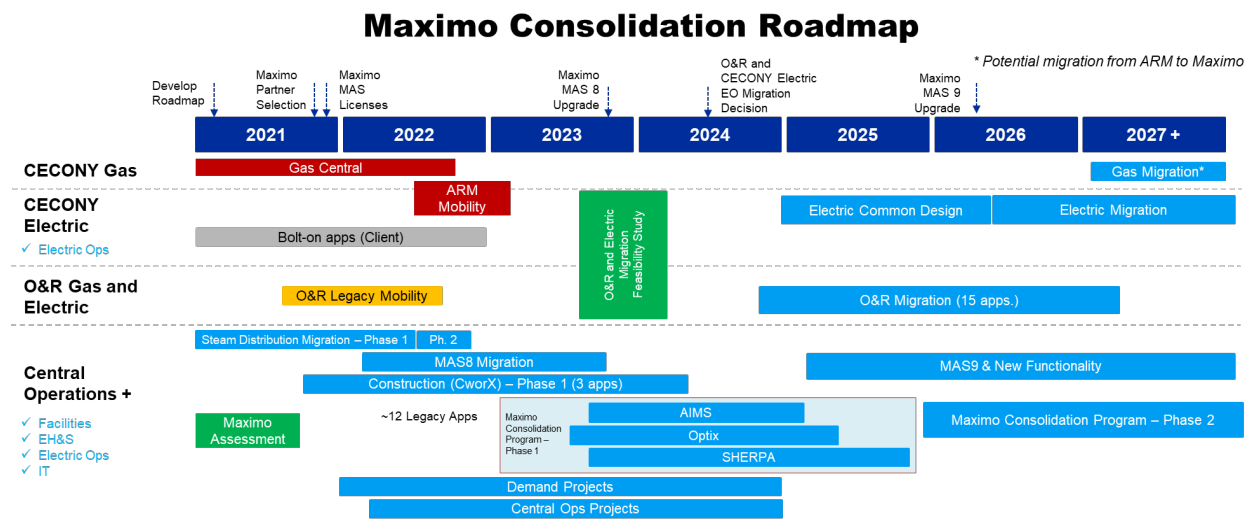


Figure 2: WMS Projects and their costs:

Work Management	2026	2027	2028	Total
Maximo Consolidation Program - Phase 2	\$13,323,060	\$12,742,720	\$10,287,202	\$36,352,982
Electric - ARM Replacement	\$2,000,000	\$2,000,000	\$12,000,000	\$16,000,000
Work Management Mobility	\$5,000,000	\$5,000,000	\$5,000,000	\$15,000,000
Gas Digital As-Building	\$5,800,000	\$6,200,000	\$8,000,000	\$20,000,000
WMS Oracle Exadata Replacement	\$7,575,000	\$3,575,000	\$0	\$11,150,000
Electric WMS - Open Grid Field Implementation	\$4,600,000	\$3,500,000	\$0	\$8,100,000

Maximo New Functionality & Sustainability Project	\$2,303,097	\$2,359,050	\$2,402,991	\$7,065,138
WMS Sustainability Project - Phase 3	\$2,300,000	\$2,300,000	\$2,300,000	\$6,900,000
Total	\$42,901,157	\$37,676,770	\$39,990,193	\$120,568,120

Exhibit IT-12: IT Organization Chart

