CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. 2026-2028 GAS OPERATIONS CAPITAL PROGRAMS/PROJECTS

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. 2026-2028 GAS CAPITAL PROGRAMS	Year Total Current Budget Total Dollars ($000)		
Project/Program Description	**RY1**	**RY2**	**RY3**
Distribution System Improvement Programs			
Distribution Integrity			
Gas Infrastructure Replacement and Reduction Program	$ 448,441	$ 461,620	$ 475,000
Distribution Integrity Main Enhancement	$ 14,835	$ 15,132	$ 15,434
Service Replacement Program	$ 114,277	$ 120,939	$ 124,658
Large Diameter Gas Main Program	$ 8,990	$ 8,990	$ 9,267
Gas Methane Capture Project	$ 700	$ 300	$ 500
	$ 587,243	**$ 606,980**	**$ 624,859**
System Reliability			
System Reinforcement Program - Winter Load Relief	$ 8,487	$ 7,868	$ 7,293
Regulator Station Revamp	$ 4,762	$ 3,762	$ 3,877
Gas Reliability Improvement Program	$ 9,021	$ 5,864	$ 6,040
	$ 22,270	**$ 17,493**	**$ 17,210**
Distribution System Improvement Program Total	**$ 609,513**	**$ 624,473**	**$ 642,069**
Transmission Programs and Projects			
Transmission Risk Reduction and Reliability Projects			
Westchester / Bronx Border to White Plains	$ 36,985	$ 36,985	$ 38,122
Bronx River Tunnel to Bronx Westchester Border	$ 21,000	$ 20,000	$ 21,000
Queens Transmission Upgrade	$ 31,000	$ 32,000	$ 33,000
Remotely Operated Valves (ROVs)	$ 3,354	$ 3,354	$ 3,457
Newtown Creek Metering Station		$ 15,600	$ 14,400
Cortlandt Gate Station Refurbishment	$ 10,000	$ -	$ -
Transmission Main Relocation for Blind Brook	$ 5,000	$ -	$ -
	$ 107,339	**$ 107,939**	**$ 109,979**
Pressure Control			
PC - Regulator Automation OPP	$ 19,570	$ 20,157	$ 20,762
PC - Regulator Station Related Improvements	$ 1,119	$ 1,119	$ 1,119
PC - GR-450 A&B Relocation	$ 6,000	$ 6,000	$ 2,000
PC - RTU & Communications Upgrade at 1st Avenue Tunnel	$ 1,000		
	$ 27,689	**$ 27,276**	**$ 23,881**
Transmission Programs and Projects Total	**$ 135,028**	**$ 135,215**	**$ 133,860**
Natural Gas Detectors			
AMI Natural Gas Detector	$ 34,165	$ 31,513	$ 29,681
Natural Gas Detectors Total	**$ 34,165**	**$ 31,513**	**$ 29,681**
Customer Connections			
Customer Connections	$ 71,875	$ 63,258	$ 57,593
Customer Connections Total	**$ 71,875**	**$ 63,258**	**$ 57,593**
Technical Operations			
Liquefied Natural Gas (LNG)			
LNG - Electrical Distribution System Upgrade Project	$ 7,000	$ -	$ -

LNG - Nitrogen Refrigeration Cycle Replacement	$ 25,000	$ -	$ -
LNG - Plant Controls Instrumentation Upgrade Project	$ 4,000	$ -	$ -
LNG - Resiliency Improvement Program	$ 1,000	$ 1,000	$ 1,000
LNG - Tank Pressure and Vacuum Relief Valves	$ -	$ 1,000	$ -
LNG - Ground Combustor Replacement Project	$ -	$ 5,000	$ -
LNG - Control Center Refurbishment	$ -	$ 1,000	$ 2,000
LNG - Shafer Emissions Controlled Actuation Technology	$ 500	$ -	$ -
LNG - Compressor Station Fire Detection Upgrade	$ -	$ 2,000	$ 6,000
	$ 37,500	**$ 10,000**	**$ 9,000**
Tunnels			
Tunnels - Concrete Restoration Program	$ 1,000	$ 1,000	$ 1,000
Tunnels - Astoria Elevator Modernization	$ 750	$ 5,000	$ 3,000
Tunnels - Flushing Tunnel Bulkhead Replacement	$ 1,100	$ -	$ -
Tunnels - Steel Replacement Program	$ 1,000	$ 1,000	$ 1,000
Tunnels - Annual Sump Pumps	$ 150	$ 150	$ 150
Tunnels - Carbon Fiber Wrap Program	$ 10,000	$ 10,000	$ 10,000
Tunnels- Astoria Cast Steel Liner Replacement	$ 250	$ 1,000	$ 1,000
Tunnels - Lighting Improvement Program	$ 250	$ 250	$ 250
	$ 14,500	**$ 18,400**	**$ 16,400**
Meters			
Meter Purchases	$ 12,764	$ 12,764	$ 12,764
Meter Installations	$ 22,152	$ 22,152	$ 22,152
	$ 34,917	**$ 34,917**	**$ 34,917**
Technical Operations Total	**$ 86,917**	**$ 63,317**	**$ 60,317**
Gas Information Technology			
GCC EOL Equipment Upgrade	$ 69	$ 154	$ 30
Primary GCC Furnishing	$ 1,250	$ -	$ -
GERC EOL Equipment Replacement	$ 600	$ 600	$ 600
Primary GERC Relocation Furnishing	$ 4,000	$ 1,000	$ 1,000
Alternate GERC Relocation	$ 8,500	$ 4,500	$ -
Gas Information Technology Total	**$ 14,419**	**$ 6,254**	**$ 1,630**
Grand Total	**$ 951,916**	**$ 924,030**	**$ 925,149**

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1. DISTRIBUTION SYSTEM IMPROVEMENT PROGRAMS

DISTRIBUTION INTEGRITY:
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 Infrastructure Replacement and Reduction Program	
Project/Program Manager: Stephen Sweeney	**Project/Program Number (Level 1): 23320236, 23320226, 23320234, 23320233**
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: 2,283,693** **O&M:**	

Work Description:

This program includes the replacement or reduction of leak prone gas mains, defined as small diameter (12" and smaller) cast iron, wrought iron, and unprotected steel (pre-1972) mains. Small diameter unprotected steel gas mains account for approximately 15 percent (643 miles) of the gas distribution main inventory, while small diameter cast iron has a similar proportion at 14 percent (610 miles). Wrought iron mains account for approximately 1 percent (40 miles). This program will be spread across all four service territories and will replace gas mains on both a planned and emergent basis.

During the 2026-2028 rate period, the Gas Infrastructure Replacement and Reduction Program ("GIRRP") will replace 80 miles, or 422,400 feet of leak prone main per year. Up to 5 miles each year of leak prone gas mains abandoned under other programs will count toward this total. The average unit cost for this program during the 2026-2028 period is forecasted at **$1166** per foot of replacement. This annual level of replacement will allow for elimination of all leak prone pipe by the end of 2040.

Justification Summary:

The GIRRP serves an important safety function by mitigating the risk of a gas distribution event. The program mitigates the risk of fire or explosion on the gas distribution system, by abandoning leak prone gas mains or by replacing them with plastic and/or protected steel. These materials are proven to be safer and more resilient. Methane emission reduction will be addressed by focusing on the replacement or reduction of cast iron, wrought iron, and unprotected steel pipes, which are significant contributors to fugitive methane emissions.

This program also mitigates the risk of a significant customer loss event through the proactive replacement or abandonment of low-pressure gas mains within flood zones. This will reduce the likelihood of water infiltration and gas service outages during a flood event or water main break.

Planned main replacement is driven by reasons such as top-ranked risk replacement, methane emissions opportunities, and system planning improvements. We utilize a computer-based probabilistic risk model

to prioritize the risk-based planned portion of our replacement program.
Emergent main replacement occurs due to conditions such as irreparable leaks, cast iron encroachments, or compromised main conditions discovered by field personnel.

The Company will target to complete more than 10 miles per year of the GIRRP to be focused on "Top-Ranked" segments, from a risk perspective.

Replacement of leak prone pipe also supports the reduction of O&M costs for leak repair, by replacing gas assets with high leak maintenance costs, with plastic and protected steel mains which leak at much lower rates.

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

The GIRRP is a main component of the risk reduction and decarbonization strategies for the gas system. The program will support decarbonization of the gas system by replacing or abandoning leak prone pipes that have higher fugitive emissions as well as by targeting simplification opportunities that will decrease the footprint of the distribution gas system. This effort will include abandonment of redundant facilities, as well as pursuing customer electrification opportunities on radial blocks of the gas system.

Additionally, the Company is looking to focus more of the replacement work in areas that are expected to be the hardest to electrify rather than in areas considered easier to electrify. Where possible, leak prone pipe replacement in areas considered easier to electrify will be deferred. The GIRRP will focus on replacement within the hard to electrify areas when possible. This may allow the Company to abandon the deferred gas mains in the future without replacement should customer electrification occur.

Customers throughout the Company's service territory, including those in disadvantaged communities, will benefit from this program.
The GIRRP will also support climate adaption and resilience activities by replacing low pressure gas mains in flood-prone areas. The Company will target six miles of flood-prone gas main replacement per year, with the goal of replacing all low pressure leak prone pipe gas mains in FEMA+3' areas by 2040.

2. Supplemental Information

Alternatives

None

Risk of No Action

This is a rate case performance indicator and therefore a penalty will be assessed for failing to meet the target.

Non-Financial Benefits

The elimination of small diameter cast iron, wrought iron, and unprotected steel gas mains has a direct impact on our Principal Sustainability Strategy objective to continue to reduce methane emissions from the gas distribution system. According to methodology from nationally recognized EPA emissions factors, cast iron and wrought iron mains are the largest contributors to methane emissions on our gas distribution system followed by unprotected steel gas mains. Overall, leak prone gas mains make up

36% of gas distribution system mains, however they are responsible for 70% of emissions from the gas system. Historically, this program has targeted an even split of unprotected steel and cast iron /wrought iron replacement. Simplification of the gas distribution system (targeted 5 miles per year) will also serve to accelerate our methane emissions reduction. Simplification projects will abandon assets which will not be required long-term, given the lower system demand anticipated from Climate Leadership and Community Protection Act investment activities.

The replacement of cast iron and unprotected steel gas mains is a primary safety program to mitigate the risk of a gas distribution system event. In addition to the safety benefits, main replacement also reduces the need to respond to and repair gas leaks thus, decreasing negative reaction from the public.

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

Some leak prone mains targeted for replacement contain active leaks. Their replacement will directly reduce the leak backlog, therefore reducing the O&M costs associated with repair and surveillance. The proactive replacement of mains that are prone to leakage also reduces the financial expenditures needed to respond to and repair future gas leaks and decreases negative reaction from the public.

2. Major financial benefits

This program will allow the Company to meet a rate case performance indicator and avoid a negative revenue adjustment.

3. Basis for estimate

The estimate was created based on a historical distribution of costs while factoring in a 3% annual escalation cost due to inflation. These historical patterns were applied to the planned distribution of work designed to accomplish the previously stated goals. In calculating the portion that contributed directly to climate change mitigation, two main assumptions were used. Ninety percent of the total budget was expected to go toward the replacement of leak prone pipe with the other 10% spent on replacing adjacent non-leak prone pipe. This is a conservative estimate, as the emissions for the new pipe are expected (in some cases) to be even lower than the non-leak prone pipe being replaced. Of the 90% of the budget considered, it is expected that an average of 10% must be spent on restoration efforts.

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	Mitigation plan
Changes to Company climate change mitigation plan. Ex: Electrification and retirement of the gas system becomes a viable option in some areas of the gas territory.	Re-address the planned gas Main Replacement Levels and adjust goal to replace all leak prone gas pipe by 2040.

Risk 2	Mitigation plan
Unable to complete targeted miles due to constructability barriers (lack of resources, lack of materials, pandemic, etc.).	Shift miles of replacement to other program years, to maintain goal of all leak prone replacement by 2040.

Technical Evaluation / Analysis

As described in Con Edison's Distribution Integrity Management Program ("DIMP"), distribution mains and services are subject to threats that can interrupt normal operation and increase risk to both life and property. DIMP identifies corrosion of wrought iron and steel mains and services as the highest risks to Con Edison's distribution system. DIMP also recognizes that small diameter cast iron mains are prone to breakage due to their low beam strength. Additionally, a large percentage of incoming gas leaks are linked to joint failures on all materials. This program reduces probability of failure through the analysis of various factors which, when paired with a replacement strategy, mitigates the risk of a gas distribution system event.

Project Relationships (if applicable)

The GIRRP is comprised of leak prone pipe replacement, including cast iron replacement due to encroachment. This program is directly related to the Service Replacement Program. As we replace our gas mains, we also address any services within the scope of work that require replacement.

3. Funding Detail ($000)

Historic Spend

	Actual 2020	**Actual 2021**	**Actual 2022**	**Actual 2023**	**Test Year* (O&M Only)**	**Forecast 2024**
O&M						
Regulatory Asset						
Capital	352,171	460,399	488,623	411,081		430,406

2025-2029 Request:
Total Request by Year:

	2025	**2026 (RY1)**	**2027 (RY2)**	**2028 (RY3)**	**2029**
O&M					
Regulatory Asset					
Capital (Total)	429,428	448,441	461,620	475,000	469,204
Labor	21,471	22,422	23,081	23,750	23,460
M&S	42,943	44,844	46,162	47,500	46,920
Contract Svcs.	257,657	269,065	276,972	285,000	281,522
Other	0	0	0	0	0
Overheads	107,357	112,110	115,405	118,750	117,301

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

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: Distribution Integrity Main Enhancement Program	
Project/Program Manager: Gregory Kasbarian	**Project/Program Number (Level 1):** 23320326, 23320433, 23320434, 23320441
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:** $75, 688 **O&M:**	

Work Description:

The Con Edison gas main system consists of mains that vary in age, size, material, and pressure. Gas Operations has been utilizing the Gas Infrastructure Replacement or Reduction Program ("GIRRP") to provide funding for the replacement of leak prone pipe ("LPP") such as cast iron, wrought iron, and unprotected steel (pre-1972) to reduce risk. Analysis of the system on a planned and emergent basis has determined that non-LPP such as plastic and protected steel (post-1971) mains must also be replaced under certain limited conditions where required due to external requirements or in association with other larger project requirements. This is known as the Distribution Integrity Main Enhancement ("DIME") program.

Justification Summary:

This program covers the replacement of existing plastic and protected steel gas mains. Both types of mains may warrant replacement under conditions including, but not limited to: third party damages, leaks, burnouts, water intrusion, code compliance, proximity to steam, or ancillary benefits to other program work. Replacement of these mains may be made with a larger pipe to improve pressures in particular situations, for example, in response to poor pressure complaints or when eliminating short system bottlenecks.

There are also conditions associated with specific plastic components and materials that may require replacement such as Aldyl A or Driscopipe 7000/8000 plastic which do not meet current design criteria. Similarly, protected steel gas mains may require replacement where they need to be brought up to current cathodic protection requirements. In conjunction with geographic areas, both materials may require pressure test and upgrades or replacement if they were installed by methods or with components unable to meet system design criteria at elevated pressures when performing area system pressure upgrades.

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

The DIME program allows the Company to provide best in class safety, quality, compliance, and customer experience through identifying active or potential risks and creating a plan of action to resolve them. Aldyl A and Driscopipe 7000/8000 are identified as sub-threats under the material or weld failure primary threat category within the Distribution Integrity Management Plan. Although Aldyl A is considered a low threat in the Distribution Integrity Management Plan, it may require replacement under this program when it is in the vicinity of other work or is potentially subject to a squeeze-off.

Replacement of aging infrastructure and materials that do not meet current design criteria or that have been subject to potential or actual damage by external forces or circumstances are key to reducing the risk of a distribution system event.

The replacement of substandard pipe has a direct impact on our objective to continue reducing methane emissions from the gas distribution system.

Customers throughout the Company's service territory, including those in disadvantaged communities, will benefit from this program.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

Where viable based on system needs, Non-Pipeline Alternatives ("NPA") and simplifications can be utilized to avoid the need for replacing an existing plastic or protected steel main with new infrastructure. There is also the possibility of repairing the existing main that has experienced one of the aforementioned conditions, as long as the extensiveness of the condition is not irrecoverable. Replacement of non-LPP will only be performed when other alternatives are deemed infeasible, not cost effective, or insufficient to meet system and operating needs.

Risk of No Action

If no action is taken, the reliability of the system can be compromised. The aforementioned conditions will negatively affect the gas mains, cause negative environmental impacts, and hinder the performance of the system.

Non-Financial Benefits

The replacement of specified mains will improve the reliability of the gas system, reducing the likelihood of large-scale customer outages. The replacement of substandard pipe helps reduce methane emissions and is a primary mitigation method for a Gas Distribution system event. Another objective impacted by this program is New York State's Climate Leadership and Community Protection Act, which aims to reduce greenhouse gas emissions by 40% of 1990 levels by 2030, and by 80% by 2050 (NYS DEC, 2020). In addition to the safety benefits, main replacement also reduces the need to respond to and repair gas leaks thus, decreasing negative reaction from the public. The replacement of

undersized gas mains or mains that were subject to water intrusion will allow the Company to provide customers with adequate supply and avoid poor pressure conditions or loss of 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
The estimate is based on historical unit costs and projected volume of work.

Project Risks and Mitigation Plan

Risk 1 & Mitigation plan:

Risk - Plastic and protected steel gas mains are eligible to be replaced under the DIME program when certain conditions are identified by a reporting party. If Engineering receives inaccurate or incomplete information, or interprets the information incorrectly, there is a potential for improper resolution of the at-risk pipe situation.

Mitigation Plan - Human Performance Improvement tools (HPI tools) are to be implemented to ensure the risk is identified, communicated, designed, and resolved. The reporting party and Engineering will collaborate to ensure all inadequate conditions are correctly satisfied.

Risk 2 & Mitigation plan:

Risk - Securing contractors qualified to perform replacement jobs as well as potential interference issues encountered during replacement procedures.

Mitigation Plan - Secure contracts well in advance of project timeline. Scope the job, confirm feasibility, and identify any issues that may prevent the use of traditional replacement methods.

Technical Evaluation / Analysis

Computer model analysis software is utilized to determine if a Polyethylene ("PE") main is undersized for existing and future loads. Factors incorporated in this model include design basis criteria and projected customer demands. Distribution Integrity Management Program ("DIMP") analytics, including the use of a computer based risk model, are used to determine specific asset classes that are considered substandard. Some classes of plastic mains and fittings are not eligible for upgrade due to the outdated design that makes it prone to leak if it were to be upgraded to a higher pressure. The Gas Development Lab has identified some plastic models that should be replaced if pressure tested and upgraded. The lab is also conducting further research to determine cut-off years for old plastic that should be replace so engineering can factor that into replacement projects.

Project Relationships (if applicable)

Plastic and protected steel mains may be replaced within the scoping limits of a GIRRP project as an ancillary benefit to the system by providing an opportunity to avoid system pressure bottlenecks due to having undersized gas mains at a specific location between other replacements.

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
Capital	$10,474	$8,602	$11,377	$16,475		$18,591
Regulatory Asset						
O&M						

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$14,544	$14,835	$15,132	$15,434	$15,743
Labor	$727	$742	$757	$772	$787
M&S	$1,454	$1,483	$1,513	$1,543	$1,574
Contract Svcs.	$8,726	$8,901	$9,079	$9,260	$9,446
Other				-	
Overheads	$3,636	$3,709	$3,783	$3,859	$3,936

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

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 Replacement Program	
Project/Program Manager: Stephen Sweeney	**Project/Program Number (Level 1): 23320449/ 23320453/ 23320450/ 23320452**
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: $597,219** **O&M:**	

Work Description:

This program will replace gas services that are actively leaking, associated with capital main replacement programs, or identified for replacement by the Distribution Integrity Management Program ("DIMP"). This program will also address leak prone services, also known as vintage services, that are connected to non-leak prone mains. A leak prone gas service or vintage service is defined by the Company as an unprotected (pre-1972) steel service.

Justification Summary:

Approximately 19% of incoming outside gas leaks are identified to be on existing pre-1972 steel gas services. If left in service, leaking gas services will likely require multiple repairs, which is not cost effective and which would negatively impact the customer. Therefore, to enhance safety and reliability for the customer, these services must be replaced.

Approximately one service is replaced for every 150 feet of associated capital main replacement through the Gas Infrastructure Replacement and Reduction program ("GIRRP"). While these services may not be actively leaking, we proactively replace them to avoid future leaks, limit repeated customer and community impacts, and reduce emissions. The replacement of non-leaking services when completing the replacement of the main complies with the Company's Gas Specifications G-8100 and G-8005.

The Company's DIMP has identified approximately 13,000 leak prone services that exist on non-leak prone gas mains that would not be scheduled for replacement. These services would eventually be replaced on a reactive basis when a leak would occur. The proactive replacement of these services will enhance a safe and continued operation. We plan to initially address 100 of these services annually, which started in 2020, along with approximately 700 services replaced in conjunction with other capital programs.

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

This program is necessary to support the GIRRP, which is a main component of the Company's decarbonization strategy. This Service Replacement Program itself also supports decarbonization of the gas system by replacing services which are actively leaking, as well as leak prone services that have higher fugitive emissions than services constructed with modern materials.

Climate change presents increased issues with global impacts such as the rise of sea levels and expansion of flood plains. The GIRRP and Service Replacement Program will accelerate the replacement of leak prone pipe, and the services associated with these pipes, within flood-prone areas. These areas are identified as within the "FEMA +3 feet" level, which considers one foot of sea level rise and two feet of freeboard added to the 2015 PFIRM Base Flood Elevation to determine the Design Flood Elevation. Replacement of these leak prone mains and services will also strengthen our gas distribution system against future storms, part of the efforts for mitigating climate effects and adaptation activity.

Customers throughout the Company's service territory, including those in disadvantaged communities, will benefit from this program.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
Non-Pipeline Alternatives ("NPA") can be considered to replace customer gas equipment with electric equipment and allow for the abandonment of leak prone gas services. The Energy Exchange ("EX") program, under NPA, is currently targeting leak prone services for electrification through customer outreach. The conditions for success rely on having a long lead time to complete the work and willingness from the customer to do so. These factors limit the scalability of EX and prevent elimination of the Service Replacement Program which can be used for both emergent and planned service replacements. Rather, Energy Exchange will act as an alternative in specific cases when possible.

Risk of No Action

Risk 1

A gas leak on a service is potentially hazardous to life and property. Repairing a leak on a service without replacing it may result in a future leak which could create a condition leading to an Uncontrolled Gas Release with Explosion, one of the largest Enterprise risks to the Company. The replacement of the leaking service is both a risk and cost avoidance measure, as it minimizes future excavation and repair costs. This proactive approach will contribute to climate adaptation, in addition to improving customer satisfaction by decreasing service interruption and customer impact.

Non-Financial Benefits

This program will enhance our ability to continue providing safe and reliable natural gas to our customers. The replacement of leak prone services and actively leaking services will minimize the risk of current and future leaks resulting in increased public safety and a reduction in natural gas emissions

into the environment.

The Company's aggressive leak repair schedule is believed to avoid over 90% of emissions per year compared to the New York Regulatory scheduling requirements. This emissions reduction measure includes the replacement of leaking services.

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 is based on historical leaking service replacement and projected volume of work for 2026-2028 built upon the GIRRP and other capital program goals. The historical unit costs for service replacement were utilized to project future spend.

Project Risks and Mitigation Plan

Risk 1 & Mitigation plan

Risk 1- Customer access or field interferences associated with completing these service replacements.

Mitigation Plan 1 - Proper planning and communication with the customer ahead of work schedule, DOT and permitting coordination, and early planning and project scope development can reduce potential project delays or cost overruns.

Technical Evaluation / Analysis

Steel services that are not cathodically protected will corrode. Based on historical data, these vintage services lead to approximately 30% of incoming outside gas leaks and thus should be targeted for replacement.

Additionally, leaking gas service replacement is considered critical in maintaining the safest possible operation of our system. Therefore, the elimination of the leaks through the replacement of these services reduces the workable leak backlog and minimizes the risk for future leaks. In addition, the elimination of leak prone pipe has a direct impact on our Sustainability Strategy and the reduction of methane emissions from the gas distribution system.

Project Relationships (if applicable)

This program is directly related and proportional to the incoming leak trends and GIRRP. Therefore, if incoming leaks trend upwards and/or main replacement increases, so too will the service replacements under this program and vice versa.

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital	$96,486	$130,797	$121,806	$98,207		$109,342

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$108,947	$114,277	$120,939	$124,658	$128,398
Labor	$15,066	$15,803	$16,725	$17,239	$17,756
M&S	$1,477	$1,518	$1,607	$1,656	$1,706
Contract Svcs.	$59,995	$62,931	$66,599	$68,647	$70,707
Other	$3,812	$3,998	$4,231	$4,361	$4,492
Overheads	$28,627	$30,027	$31,778	$32,755	$33,737

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

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: Large Diameter Gas Main Program	
Project/Program Manager: Stephen Sweeney	**Project/Program Number (Level 1):** 23320210/ 23320212/ 23320219/ 23320225
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:** $45,275 **O&M:**	

Work Description:

This is a multi-year program focusing on rehabilitating or replacing large diameter distribution supply gas mains 16" and larger. Since these mains are critical for supply, disruption of service can have severe impacts on the distribution system. Because of the high cost and system impact associated with the replacement of these large diameter mains, rehabilitation is typically preferred and investigated first. However, due to logistical or field constraints or main condition, replacement may be deemed necessary.

In addition, some 12” cast iron and steel mains may be considered Supply Mains by the Gas System Analysis and Planning group. These mains are also subject to rehabilitation under this budget using the methods listed below.

This program will utilize three methods of addressing identified mains:

1. Cast Iron Sealing Robot (“CISBOT”): Seals and reinforces cast iron joints internally. This technology can be performed on live mains, and it requires one small pit for entry. This technology uses minimal excavation, can travel up to 700 feet in each direction, and can seal up to 80 joints.

2. Liner: Utilizes cured-in-place liner technology on mains to seal the main and extend the life of the host pipe. Cured-In-Place liner is a seamless / joint-less circular woven fabric-hose made of polyester yarns and a plastic coating (PU/PE) which is bonded as inner liner into the host pipe using a solvent-free two-component adhesive custom fit to each project. This method can be used on steel or cast iron and will extend the life of the existing main.

3. Replacement: Existing gas main is removed from active service and replaced with a new gas main. This program does not include the replacement of 12” LPCI or unprotected Steel mains, as that would fall under the Gas Infrastructure Replacement or Reduction Program.

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Justification Summary:

Large diameter and supply gas mains are critical for supplying gas to multiple areas and neighborhoods. The integrity of these mains is paramount for keeping gas service uninterrupted to these areas by keeping system pressure at or above acceptable levels, as well as for public safety. Leaks on these mains may interrupt the supply of gas to areas served and lead to natural gas emissions, presenting a public safety risk and negative environmental impact due to the large volume of gas that they carry. Should a large diameter main need to be taken out of service due to an emergency, area pressures may drop well below required levels and could lead to outages and inside gas leaks when brought back into service. Therefore, these mains should be proactively rehabilitated or replaced to avoid such emergencies.

Historical main repairs prove that joints, generally located approximately 12 feet apart, are point of failure for the large diameter cast iron gas mains. CISBOT, which seals the gas main hubs internally, is performed under live conditions, thus allowing for continuous flow of gas to the system. CISBOT would be used as a restorative process in order to extend the lifespan of the current main without the need for costly excavations for its entire length. This makes CISBOT a great candidate for rehabilitating 12" cast iron supply mains and cast iron mains 16" and larger.

Cured-In-Place Liners have shown to be an effective restorative process by extending the life of the host pipe. This technology will also minimize lengthy excavation and restoration but require the host pipe to be taken out of service while the work is being conducted to perform rehabilitation.

Finally, in cases where the repair methods listed above are not possible or are too costly, replacement of large diameter mains would be necessary. In these cases, a new main would be installed that would replace the existing main and meet operational needs.

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

Large Diameter Gas Main Replacement supports the Company's decarbonization strategy through replacement or rehabilitation of vintage large diameter mains that have higher fugitive emissions than mains constructed of modern materials. This program also mitigates the risk of a significant customer loss event by reducing the likelihood of water infiltration and gas service outages during a flood event or water main break.

Customers throughout the Company's service territory, including those in disadvantaged communities, will benefit from this program.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

One alternative to this program is to be reactive and repair or replace large diameter gas mains due to leaks rather than replacing or rehabilitating proactively. This would not only result in potential public safety hazards and customer outages but may result in a large financial cost to replace or repair the

large diameter main on an emergency basis. Additionally, leaks on large diameter gas mains can result in large quantities of emissions being released.

Alternative 2 description and reason for rejection

The Company applied suitability and screening criteria for Non-Pipe Alternatives ("NPA") to this program and determined the program does not contain projects that are suitable for NPA consideration. Rehabilitation and replacement of supply mains are necessary to maintain safe and reliable service to multiple areas and neighborhoods. Projects within this program are not suitable to be avoided through electrification of all customers as an Electric Advantage NPA at this time due to service obligations. Similarly, the projects are not suitable to be avoided through peak demand reduction as an Area Load Relief NPA.

Risk of No Action

Risk 1

If these mains are not rehabilitated or replaced, they will continue to deteriorate and develop leaks that will need to be repaired as they occur. These leaks would take a longer time to repair due to the size and location of large diameter mains that would lead to longer emission time that would adversely impact the environment. Repairing active leaks is a rate case mandate and, in many cases, necessary to ensure public safety. There is an increased risk of customer outages if a serious leak develops on a large diameter main, especially during the heating season. Taking out these critical supply mains can lead to a wider outage as it impacts other mains it currently supplies. The Company would like to address these mains before there is a leak that necessitates such an impact.

Non-Financial Benefits

Benefits of rehabilitating or replacing large diameter gas mains include increased safety by preventing leaks and reducing emissions, improving reliability and efficiency of the system and supply runs, and eliminating the threat of interrupting gas to customers in the event of an emergency. This program reduces the adverse effects of lost gas and water infiltration. Preventing future leaks on large diameter gas mains will help with reducing methane emissions to the atmosphere. Up to 100 percent can be contributed towards climate change and adaption since this program is directly related to reducing leaks by proactively rehabilitating or replacing the large diameter mains, ultimately reducing emissions.

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 is based on historical unit costs and projected volume of work. Increased forecasted spending for 2026-2028 is based on an increase in the number of CISBOT units, as well as higher projected levels of large diameter main replacement.

Project Risks and Mitigation Plan

Risk 1 & Mitigation plan

Risk 1 - Scheduling impacts and construction delays are risks, which may include securing contractors and vendors qualified to perform rehabilitation jobs, as well as potential interference issues encountered during rehabilitation procedures. Interference issues may consist of offsets or main blockages. In addition, scheduling and execution of work during the limited available work window of the non-heating season to avoid potential customer outages can add to project delays or extensions.

Mitigation Plan 1 - Contact vendors and secure contracts well in advance of project timeline. Scope the job and use in-line inspection methods to confirm rehabilitation feasibility and identify any areas that may prevent the use of the rehabilitation methods. Finally, properly plan and sequence the work to be performed on large diameter mains and supply mains during the non-heating season to keep the system reliability and efficiency.

Risk 2 & Mitigation plan

Risk 2 - Cost underruns or overruns are a potential risk due to the complexity of these jobs, as well as the potential increased quantities or unplanned locations in higher unit cost areas.

Mitigation Plan 2 - Try to identify all locations and outline cost ahead of time and track spend and work closely to avoid cost overruns.

Technical Evaluation / Analysis

CISBOT is a joint sealing robot manufactured by ULC Robotics that travels within the gas main to seal joints and prevent future leaks. This process is designed to launch a tool head through a special fitting into a live cast iron gas main, which travels up to 700 feet inside the pipe then drills and injects anaerobic sealant into each joint it passes, sealing any active leaks and preventing any future joint leaks while being pulled back to the launch site. The robot is then turned around to the other side of the launch fitting and the process is repeated in the second direction to complete up to 1,400 feet of main joint sealing from one insertion point with no release of gas to the environment and without disturbing service to our customers. The sealant used is an anaerobic sealant (cures in the absence of oxygen) made up primarily of acrylics that acts as a packing to stop gas from flowing between the dried-up jute fibers installed when the main was originally installed. This sealant has demonstrated through testing to be able to withstand the repeated ground movement from vehicular traffic, seasonal pipe movement from thermal expansion and contraction and will last at least 50 years.

Cured-in-place pipe liner is a seamless/ joint-less circular woven fabric-hose made of polyester yarns and plastic coating which is bonded to the host pipe using a solvent free two component adhesive that is custom fit depending on the project.

The listed rehabilitation methods (CISBOT & Cured-in-place Liner) each serve to increase the useful life of existing gas distribution mains. Because of the long lead times and the high cost of replacing these mains, it is best to perform these methods to avoid the need to replace the mains in the near future. These methods can extend the useful life of the mains by 50 years at a relatively low cost (compared to replacement) while also simplifying construction efforts and minimizing community impact.

In cases which logistical or field condition constraints prevent the use of the aforementioned technologies, large diameter distribution gas mains will be replaced.
Project Relationships (if applicable) N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital	$6,301	$19,412	$14,279	$8,403		$8,728

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$8,728	$8,990	$8,990	$9,267	$9,300
Labor	$262	$270	$270	$278	$279
M&S	$873	$899	$899	$927	$930
Contract Svcs.	$5,237	$5,394	$5,394	$5,560	$5,580
Other					
Overheads	$2,357	$2,427	$2,427	$2,502	$2,511

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

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 Methane Capture	
Project/Program Manager: Stephen Sweeney	**Project/Program Number (Level 1):** 26019226
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: $2,800** **O&M:**	

Work Description:

The Emissions Reduction program has been created to identify sources of greenhouse gas (GHG) emissions within the Con Edison gas system and resolve them by utilizing the Zero Emissions Vacuum Units (ZEVACs), or other similar technologies. The GHG sources and solutions are listed below:

Potential Emission Sources

Purging: When an in-service gas main is taken out of service to perform work the residual gas in the main must be released. Purging is performed on nearly every main replacement and can release a significant volume of natural gas into the atmosphere.

Blowdowns: During flow test procedures, gas must be emitted from live gas mains to confirm whether the pipe is tied to the gas main system. This procedure is known as a blowdown and is required on the majority of main cut-outs.

Emission Reduction Efforts

ZEVAC: The current process of blowdowns and purging on gas pipe replacements releases natural gas to the atmosphere. The ZEVAC unit commercialized by TPE Midstream Inc. can be utilized to mitigate methane emissions on larger volume pipe replacements for pipes operating at greater than or equal to medium pressure (15 psig MAOP) pipe replacements. The ZEVAC units mitigate emissions by attaching to standpipes that are used to perform purging and blowdowns and pumping the gas out of the isolated pipe segment being replaced into the portion of pipe remaining in service. The ZEVAC unit is also capable of drawing a vacuum. Currently, Con Edison has five ZEVAC Twin-D units and upon gaining operational experience with this fleet of units will purchase additional units.

Vacuum Purging: Currently, purging a pipe into service results in the release of natural gas until 98% concentration of gas is measured. One way to minimize emissions from purging a pipe into service is to draw down the new pipe to a vacuum prior to it containing natural gas and then introducing natural gas until 0 psig is measured. Vacuum purging can be accomplished by the ZEVAC unit. The process of vacuum purging and additional equipment to perform vacuum purging is still being analyzed by

Research & Development (R&D) and is anticipated to be completed within the next few years and incorporated into operational procedures.

Justification Summary:

As Con Edison continues to modernize and upgrade its utility infrastructure, the Company is fully supportive of the New York State Clean Energy Vision as well as New York City's "80 X 50" Initiative. This initiative is a policy objective where New York City will strive to achieve an 80% reduction of GHG emissions from 2005 levels by 2050 (NYC Sustainability, 2016). Another objective of the initiative is New York State's Climate Leadership and Community Protection Act, which aims to reduce greenhouse gas emissions by 40% of 1990 levels by 2030, and by 80% by 2050 (NYS DEC, 2020). Under these initiatives and as a provider of natural gas, Con Edison has a responsibility to operate its system safely and reliably, while remaining committed to limit methane emissions during the normal course of its operations. Natural gas (more specifically methane, which accounts for up to 95% of natural gas content) is a much stronger greenhouse gas than carbon dioxide, having a global warming potential that is 86 times stronger over 20 years (Myhre, G. , et al, 2013), and 28 to 36 times stronger over 100 years (EPA, 2017).

This project will deploy equipment into operational use that captures methane during processes which would otherwise release methane into the atmosphere.

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

Con Edison recognizes that climate is changing and considers that the floodplain will extend over time due to sea-level rise, and that temperature and rainfall amounts will also rise. We have identified multiple paths to mitigate our emissions footprint in the coming years and plan to build on it as an industry leader. Part of that initiative is to identify the sources of emissions and implement effective solutions to solve them. The Emissions Reduction program aims to do that by aiding current risk-reduction efforts so Con Edison can most efficiently achieve its Long Range Plan. In combination with accompanying goals, such as reducing the gas system footprint and replacing leak prone pipe, we can further reduce climate impact by minimizing methane releases to the atmosphere during the course of construction activity.

Customers throughout the Company's service territory, including those in disadvantaged communities, will benefit from this program.

2. Supplemental Information

Alternatives

There are a few other potential methods for reducing emissions from purging/blowdowns such as flaring, consuming in a natural gas fueled piece of equipment creating an applied load, or utilizing a no-blow flow test device.

Alternative 1 description and reason for rejection

Flaring and Applied Load: For some procedures such as pickling and purging, using a flare or applying a load (commonly a generator) at the outlet of the main can provide a reduction in methane emissions.

Several vendors produce mobile flaring apparatuses that can be transported to job sites and eliminate the need for temporary setups to be erected. This alternative is not recommended because combustion still releases carbon dioxide to the atmosphere instead of methane.

Alternative 2 description and reason for rejection

No-Blow-Flow Test Device: To reduce the need for purging gas for flow tests, a new no blow flow test device is currently being developed by ULC Robotics and is being evaluated through an R&D project. The small device is connected to an in-service gas main on both sides of a stopper fitting (isolation point) and simulates a flow of gas. Con Edison is currently awaiting a device to utilize in field testing.

Risk of No Action

Risk 1
If we do not implement these reduction measures, we will continue to impact the climate at a higher rate until the gas system as a whole has been altered enough to achieve our energy visions.

Non-Financial Benefits

The Emissions Reduction program will ensure Con Edison maintains and solidifies our status as a gas industry leader in climate change as we actively reduce our carbon footprint and create a more resilient workflow process that mitigates methane release. Integrating a climate-conscious approach into daily operations is a necessary aspect of demonstrating to our customers and regulators that we are dedicated to providing a cleaner and safer environment for all residents within our operating territory.

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

2. Major financial benefits
By keeping natural gas in the system which would have previously been released to atmosphere as a part of normal course of capital work, we are decreasing the volume of gas that is released from the system without passing through a customer meter.

3. Basis for estimate
The cost for this program is based on the total price for purchasing tools and implementing the active emission-reduction measures across our construction processes.

Project Risks and Mitigation Plan

Risk 1 & Mitigation plan

Risk - Securing materials and vendors qualified to be used during construction that are necessary to mitigating methane releases.

Mitigation Plan - Contact vendors and secure contracts well in advance of project timeline. Scope the job, confirm feasibility, and identify any issues that may prevent the use of the mitigation methods.

Risk 2 & Mitigation plan

Risk – Slower than expected adoption of the ZEVAC units in routine gas construction activity.

Mitigation Plan – Develop a clear and well-organized communication with our construction organizations so they understand the benefits of having the equipment utilized in our projects.

Technical Evaluation / Analysis

Con Edison tracks Environment & Sustainability measures of methane reduction as a key performance indicator (KPI) on a month-to-month basis. This KPI sets a target for reducing the total number of leaks on the system.

There is also the longer-term goal of reducing GHG emissions by 80% by 2050 under the New York State Clean Energy Vision.

Project Relationships (if applicable)

The Emissions Reduction program will have an impact on all programs that consist of construction activity on the gas system. Any project that can result in the release of methane to the atmosphere will therefore be impacted by this program to ensure we mitigate the carbon footprint.

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital			-	-		$110

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$1,000	$700	$300	$500	$300
Labor					
M&S					
Contract Svcs.	$1,000	$700	$300	$500	$300
Other					
Overheads					

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

SYSTEM RELIABILITY:
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: System Reinforcement Program – Winter Load Relief	
Project/Program Manager: Stephen Sweeney	**Project/Program Number (Level 1): 10039468/ 10039495/ 10039501/ 10039509**
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: $38,649** **O&M:**	

Work Description:

This program includes the installation and replacement of gas mains for system reinforcement in areas where pressures do not meet the current design criteria on a design hour based on the prior winter's system performance.

The PSC Code (NYCRR 255.623) and the Con Edison Gas System Design Criteria requirements are:

- Each operator shall maintain a pressure throughout its low-pressure distribution systems at no less than 4" water column ("w.c.") and shall not be more than 12" w.c. as measured at the customer's end of service.
- The maximum pressure variation at any point on the system shall not be greater than 50% of the maximum pressure on that day (Part 255.623).
- As per Con Edison's System Design Criteria, supply mains shall be designed to maintain system pressures as per the "Operating Pressure Guidelines" issued by the Gas Distribution Engineering Planning Section. These guidelines are intended to reduce operating system pressures and, in turn, reduce incoming leaks in the distribution system. Additionally, the high pressure supply pressure to any medium or low-pressure regulating station shall not be lower than 25 psig.
- The optimal pressure range at the outlet of a medium pressure regulating station shall be 7 psig to 13 psig.
- The minimum pressure at extremity points on a medium pressure system shall not be lower than 2 psig.
- The medium pressure supply pressure to any low-pressure regulating station shall not be lower than 5 psig.

Justification Summary:

Gas Engineering is responsible for analyzing the gas distribution system using the Synergi Gas network model. Each year, these models are updated to include newly installed facilities and added system loads to replicate actual system conditions for the coldest day of the season. Once calibrated, gas engineers

look for areas of our gas distribution systems that do not meet the pressure requirements of the current design criteria and PSC code requirements on a design peak hour. System reinforcement is then recommended for these areas to improve gas system pressures to meet these requirements.

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

The Winter Load Relief ("WLR") program improves the safety and reliability of the gas system by ensuring that gas customers receive adequate pressures for their gas equipment at the end of the service line. The system reinforcement performed under the WLR program helps to ensure reliable service and reduce the potential of customer outages that can affect many customers at once. Having a safe and reliable gas system is a major goal of the Company's Integrated Long Range Plan.

Additionally, the system reinforcement work under the WLR program is performed to ensure that low point pressures are above design and redundancy is considered as part of the design. Both improve the resiliency of the gas system during a Gas Distribution Event and would mitigate the risk of customer outages.

Climate change has global impact that can potentially cause sea-level rise, expansion of floodplains, and extreme weather events that can result in increased rainfall amounts. Flooding may adversely impact a gas distribution system because of potential water migrating into the inside of the gas pipe causing blockage of the gas flow and subsequent customer outages.

As such, gas facilities replaced under the WLR program will also help to mitigate the potential water intrusion issue due to flooding. Polyethylene ("PE") plastic pipe is the predominant replacement piping and its ability to withstand water intrusion will greatly reduce the chance of water getting into the gas system. Additionally, the design philosophy of converting low pressure system to high pressure will also help to minimize water intrusion because the higher gas pressure will make it less likely for water to infiltrate the gas system.

Customers throughout the Company's service territory, including those in disadvantaged communities, will benefit from this program.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
In cases where main reinforcement is recommended, the required footages were selected to maximize the system benefits. Alternatives with shorter required footages either did not provide the required benefit or were not feasible therefore there are no other viable alternatives. In all cases, a comparative analysis was performed, or consideration was given to see if the installation of a regulator station provided a better alternate when considering capital expenditures and resulting system benefit.

Risk of No Action

Risk 1
If no action is taken, the system low-points and downstream regulator inlet pressures identified are predicted to fall below the requirements stated above. This could lead to the possibly of customer outages on the coldest winter days and/or non-compliance with the PSC's minimum delivery pressure

requirements.

Non-Financial Benefits
This program will support reducing the risk of a distribution event. It will also support the continued reliability and availability of the gas system. Furthermore, the mains replaced under the Winter Load Relief program will also help to mitigate the potential water intrusion issue due to flooding. PE pipe is the predominant replacement piping and its ability to withstand water intrusion will greatly reduce the chance of water getting into the gas system. Additionally, the design philosophy of converting low pressure system to high pressure will also help to minimize water intrusion because the higher gas pressure will make it less likely for water to infiltrate the gas system.

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

2. Major financial benefits
Reinforcing the system to address actual system performance issues will mitigate customer loss the following winter and avoid the O&M cost of service restoration.

3. Basis for estimate
Historical cost of similar projects.

Project Risks and Mitigation Plan

N/A

Technical Evaluation / Analysis

Locations are identified where the gas network analysis model predicts conditions of lower than required system performance, along with the predicted benefit after the recommended reinforcement is completed.

Project Relationships (if applicable)

N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital	2,270	9,049	4,167	5,043		1,000

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	8,240	8,487	7,868	7,293	6,761
Labor					
M&S	1,236	1,273	1,180	1,094	1,014
Contract Svcs.	4,944	5,092	4,721	4,376	4,057
Other					
Overheads	2,060	2,122	1,967	1,823	1,690

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

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: Regulator Station Revamp Program	
Project/Program Manager: Stephen Sweeney	**Project/Program Number (Level 1): 23318346, 27174474**
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: $20,297** **O&M:**	

Work Description:

This program is for the revamp of existing regulator stations in order to continue the Company's obligation to serve existing gas customers. The work required will vary, depending on the existing design of each regulator station and the future gas load. Work can involve the installation of new regulator station vaults, inlet and outlet piping, replacement of regulator hardware, and installation of new communication to the Gas Operation's SCADA system, Gas Operations Supervisory System ("GOSS").

This is a multi-year program to retrofit a number of stations across the system. Target regulator stations will be identified each year.

Justification Summary:

Despite recent changes to New York State and New York City laws to limit fossil fuel use, customers are currently allowed to choose fossil fuel, even in new buildings, under exemptions enacted by the New York State Legislature. As a result, the demand for gas has not yet fully stopped increasing.

The goal of the program is to ensure that adequately sized regulators provide the capacity to meet existing and future growth and to provide system flexibility. When more demand is added to the system, the regulator stations must be able to meet this demand. Regulator stations also get taken out of service periodically due to various reasons (e.g., contractor damage, inspections, environmental issues). Having surrounding regulators that can pick up the slack for such shutdowns is needed to ensure minimal impact to our customers.

This program will also improve the safety to our gas customers by preventing the loss of gas service that is essential for heating in the wintertime and for potential life sustaining equipment.

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

This program improves the safety and reliability of the gas system by ensuring that gas customers receive adequate pressures for their gas equipment at the end of the service line. The system reinforcement

performed under this program helps to ensure reliable service and reduce the potential of customer outages that can affect many customers at once. Having a safe and reliable gas system is a major goal of the Con Edison Integrated Long-Range Plan.

Adequately sized regulator stations play a significant role in ensuring that gas customers get sufficient gas pressure at their service take off during the coldest of days and mitigate customer outages when an adjacent regulator station fails. Work under this program will improve the resiliency of the gas system during a gas distribution event and would mitigate customer outages from this risk.

Climate change has global impact that can potentially cause sea-level rise, expansion of floodplains, and extreme weather events that can result in increased rainfall amounts. Flooding may adversely impact a gas distribution system because of potential water migrating into the inside of the gas pipe causing blockage of the gas flow and subsequent customer outages.

Increasing the number of adequately sized regulator stations across the system will help to mitigate customer loss when regulator stations are lost due to flooding.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
An alternative option would be to install new regulator stations. This would require additional real estate for a new vault, installation of more distribution main operating above 125 psig for high pressure regulators and comes at a significantly higher cost.

Risk of No Action

Risk 1
The system has experienced capacity issues during previous winters, with inadequate pressure observed at several regulator stations. While no poor pressure complaints were directly linked to this, taking no action can potentially lead to large scale outages due to inability to supply the system. Inability to supply customers can also lead to legal issues.

Risk 2

Risk 3

Non-Financial Benefits

Maintaining supply to our gas system is essential to maintain good relations with stakeholders. The Public Service Commission ("PSC") requires that customers receive 4 inches water column of natural gas at the end of the service line. Meeting this requirement will allow the company to remain in compliance with PSC regulations, while avoiding customer outages. Reliable services will improve our relations with customers.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits
Reinforcing gas regulators to address capacity and equipment issues will mitigate downstream customer loss and avoid O&M costs associated with service restoration.

3. Basis for estimate
Based on similar historical work.

Project Risks and Mitigation Plan
N/A

Technical Evaluation / Analysis

The Synergi Gas Model is used to identify capacity needs for specific regulator stations. The models are validated annually after each winter to reflect actual system performance on the coldest days of the winter. The validated model then becomes the design model until the next validation. An ideal gas capacity for regulator stations is determined utilizing the design model, which reflects both actual system load and new load from pending customer requests.

Project Relationships (if applicable)
N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital	$2,832	$621	$394	$1,641		

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$3,902	$4,762	$3,762	$3,877	$3,994
Labor	$195	$238	$188	$194	$200
M&S	$780	$952	$752	$775	$799
Contract Svcs.	$2,341	$2,857	$2,257	$2,326	$2,396
Other					
Overheads	$585	$714	$564	$582	$599

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

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 Reliability Improvement Program	
Project/Program Manager: Stephen Sweeney	**Project/Program Number (Level 1): 21680782**
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: $45,763** **O&M:**	

Work Description:

Con Edison Gas Operations provides an essential commodity to 1.1 million customers year round. If loss of service occurs, the safety of customers can be placed at risk. It is important that integrity be maintained throughout the Con Edison natural gas system. Given the current infrastructure of the gas system, a number of vulnerabilities exist. If issues were to arise at these points, the Company could see large scale outages. To address these concerns, system reinforcement must be performed in order to increase system reliability.

Bronx - Westchester Creek

1. Install approximately 200 feet of new 12 inch Medium Pressure ("MP") main under Westchester creek. Main to be installed using Horizontal Directional Drilling ("HDD") technology.
2. Tie-in Gas Regulator ("GR")-104/GR-106 high pressure looped system to GR102 high pressure system with 2,300 feet of new 12" High Pressure Poly Ethylene ("HPPE") main.

Bronx - Loss of GR-182 and GR-192

1. Install 4,400 feet of 8 inch HPPE tie from existing HP radial main on Bronx Blvd & E 220 St to Holland Ave & Tilden St.
2. Install 1,020 feet of 8 inch HPPE tie on White Plains Rd from E 231 St to E 233 St.

Manhattan - Loss of GR-58

1. Install 2,700 feet of 20 inch Low Pressure Steel ("LPST") main tie on W 145th St between 30 inch on Broadway & 20 inch on 7th Ave.
2. Install 190 feet of 8 inch Low Pressure Poly Ethylene ("LPPE") tie on W 147th St and 7th Av.
3. Install 110 feet of 12 inch LPPE on Lenox Av between W 134th St & W 135th St.
4. Install 60 feet of 8 inch LPPE on St Nicholas Av between W 128th St & W 129th St.
5. Replace 60 feet of 6 inch with 12 inch LPPE on W 133 St from 7th Ave to 8th Av.

Justification Summary:

Bronx - Westchester Creek

This project is a continuation of efforts to improve the reliability of the Throgs Neck medium pressure system and minimizes potential loss of customers. This program will also improve the safety to our gas

customers because it will prevent the loss of gas service that may become essential for heating in the winter time and for potential life sustaining equipment.

The Throgs Neck medium pressure system is supplied by two regulator stations feeding into a single large diameter supply main. Prior to recent work, one of the two regulators was a smaller station that was unable to back up the larger station, GR-101, in the event of its loss. This Throgs Neck medium pressure reliability concern can result in the loss of 17,000 customer.

Recent work includes the upgrade of approximately 9,000 feet of medium pressure main to high pressure, the replacement of the smaller medium pressure regulator station with a new high pressure regulator station feeding the upgraded main (GR-102) and the installation of a new medium pressure regulator station at Hollywood Ave. and Waterbury St. that is sized to fully back up GR-101 and work in tandem with GR-101 to supply gas to the remaining medium pressure system.

The remaining work is required because the 1926 24-inch cast iron medium pressure outlet piping for GR-101 that sits beneath the Westchester Creek is a point of concern. Its location makes it difficult to repair. A new cathodically protected steel main is needed in order to retire the old 24-inch cast iron main.

Additionally, the main tie from the HP system supplied by GR-104/GR-106 to the newly upgraded HP system supplied by GR-102 is needed in order to eliminate this newly created HP radial system and provide additional supply regulators for these two systems.

Bronx - Loss of GR-182 and GR-192

The HP system that provides gas to the Wakefield area of Bronx is supplied by 3 regulator stations. However, only one station, GR-182, directly feeds the Wakefield area while the other two stations are connected to the area by a small diameter HP main. This small main targeted for replacement prevents the other two stations to fully back up GR-182. Additionally, a nearby fourth regulator station, GR-192 is the only supply to a HP radial system.

Westchester - Loss of GR-484

The Northern Westchester high pressure system supports the entire gas system that spans from Hawthorne to Cortlandt. It consists of two separate pressure rated systems: Cortlandt and Yorktown are 60 pound-force per square inch gauge ("psig") maximum allowable operating systems ("MAOP"), the rest of the system is 91 psig MAOP. The Northern Westchester 91 psig MAOP system is supplied by ten high-pressure regulator stations. While each regulator supplies the system from various points, GR-484 (Brighton Ave. & Newman Ave.), has the potential of causing large scale outages if lost. The loss will cause a cascading effect that could potentially cause over 20,000 firm customer outages over the high-pressure system and the low and medium pressure systems that are fed from it.

The catastrophic loss of Northern Westchester would require extensive main reinforcement. However, a proposed high-pressure regulator station supplied by the future Millennium Pipeline can reduce this system vulnerability. In addition, main reinforcement on the Yorktown-Katonah line will also be required to bring gas flow from the Yorktown Gate Station. This program will also improve safety to our gas customers because it will prevent the loss of gas service that may become essential for heating in the winter and for potential life sustaining equipment.

Manhattan - Loss of GR-58

Regulator station GR-58 is a major supply station feeding the low pressure system in the Harlem area of Manhattan. The loss of this single station will result in the loss of approximately 11,000 customers. The

main reinforcement work will mitigate this customer loss.

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

The Gas Reliability Improvement program improves the safety and reliability of the gas system by ensuring that gas customers receive adequate pressures for their gas equipment at the end of the service line. The system reinforcement performed under this program helps to ensure reliable service and reduce the potential of customer outages that can affect many customers at once. Having a safe and reliable gas system is a major goal of the Con Edison Integrated Long-Range Plan.

Additionally, the system reinforcement work under the Gas Reliability Improvement program also mitigates the risk of a Gas Distribution Event. Reinforcement of the gas system is performed to ensure that single point failures that can cause large scale customer outages are eliminated. Both improve the resiliency of the gas system during a Gas Distribution Event and would mitigate the risk of customer outages.

Climate change has global impact that can potentially cause sea-level rise, expansion of floodplains, and extreme weather events that can result in increased rainfall amounts. Flooding may adversely impact a gas distribution system because of potential water migrating into the inside of the gas pipe causing blockage of the gas flow and subsequent customer outages.

As such, gas facilities replaced under the Gas Reliability Improvement program will also help to mitigate the potential water intrusion issue due to flooding. PE pipe is the predominant replacement piping and its ability to withstand water intrusion will greatly reduce the chance of water getting into the gas system. Additionally, the design philosophy of converting low pressure system to high pressure will also help to minimize water intrusion because the higher gas pressure will make it less likely for water to infiltrate the gas system.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
The loss of supply requires other connected supply stations to pick up the deficiency. In most cases, there are no alternatives. Any possible alternatives would require substantial main reinforcement to increase flow from adjacent regulator stations that can be miles away.

Risk of No Action

Risk 1
If no action is taken, Con Edison will place itself in considerable risk. Not only will the Company violate the existing tariff of being unable to provide 4 inches of water column at the head of service, but it can also cause customers to lose heating during the winter months. Loss of gas to services will require financial and resource exhaustive efforts to re-light buildings and potential harm to customers.

Non-Financial Benefits

Public relations could become strained if gas supply is interrupted and buildings are left without gas. This is likely to occur on the coldest days of the year resulting in potentially unsafe conditions for the

oldest and youngest of residents. This program will support reducing the risk of a distribution event. It will also support the continued reliability and availability of the gas system.

Furthermore, the mains replaced under the Gas Reliability Improvement program will also help to mitigate the potential water intrusion issue due to flooding. PE pipe is the predominant replacement piping and its ability to withstand water intrusion will greatly reduce the chance of water getting into the gas system. Additionally, the design philosophy of converting low pressure system to high pressure will also help to minimize water intrusion because the higher gas pressure will make it less likely for water to infiltrate the gas system

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

2. Major financial benefits
Reinforcing the system to address these vulnerabilities will mitigate customer loss and avoid the O&M cost of service restoration.

3. Basis for estimate
Historical costs of similar projects

Project Risks and Mitigation Plan

N/A

Technical Evaluation / Analysis

The Synergi Gas software was used to model the impact of the various weaknesses throughout the Con Edison natural gas system. The model was able to simulate the losses at the weak point and display the areas of concern. Area Profile System and Cuflink were used to determine outage numbers as a result of poor pressure locations.

Project Relationships (if applicable)

N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital	$1,217	$5,936	$5,684	$7,107		$4,776

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$18,700	$9,021	$5,863	$6,039	$6,139
Labor					
M&S	$2,805	$1,353	$879	$906	$921
Contract Svcs.	$11,220	$5,413	$3,518	$3,623	$3,683
Other					
Overheads	$4,675	$2,255	$1,466	$1,510	$1,535

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

2. TRANSMISSION PROGRAMS AND PROJECTS

TRANSMISSION RISK REDUCTION AND RELIABILITY PROJECTS:

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: Westchester Bronx Border to White Plains	
Project/Program Manager: Omar Nokaly	**Project/Program Number (Level 1): 10039582**
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: Ongoing	**Estimated Date In Service: 2027**
2025-2029 Funding Request ($000) **Capital: $172,092** **O&M:**	

Work Description:

This is a multi-year project to install approximately ten (10) miles of 36-inch distribution main operating above 125 pounds per square inch gauge ("psig") that will replace the existing 1948, 24-inch, 245 psig transmission main from the Westchester/Bronx Border to White Plains (section W-8). The 36-inch will connect to the already in progress Bronx River Tunnel to Bronx Border 36-inch, 350 psig main (section X-3) in the south and the planned replacement of the 24-inch main located in the Bronx River Tunnel in the south, thereby connecting directly to the Hunts Point 350 psig system. The scope of work will require the installation of valves as required by the NYCRR Part 255. A number of the valves installed would be remotely operated valves ("ROVs") as required to meet the Con Edison Design Criteria. The installation will also require the replacement or reconnection of supply to eighteen (18) existing regulators, which would utilize straddle connections.

Justification Summary:

The installation of the 36-inch, 350 psig Maximum Allowable Operating Pressure ("MAOP") pipe is required to comply with PHMSA's Pipeline Safety rule, effective July 1, 2020. Pipeline and Hazardous Materials Safety Administration ("PHMSA") revised the Federal Pipeline Safety Regulations to improve the safety of onshore gas transmission pipelines. The rule requires an Operator to have traceable, verifiable, and complete records necessary to establish the MAOP, per 192.619(a) including records for a hydrostatic pressure test in accordance with 192.517(a). If records are not available to comply with the rule, PHMSA provided six (6) methods to reconfirm the MAOP of a main. Method 4, Pipe Replacement is the only feasible method that will provide for continual safe delivery of natural gas to the firm gas customers.

In addition, the reinforcement of the gas distribution system in the north-eastern section of the Bronx will facilitate the downgrade of the 24-inch and 20-inch transmission mains to distribution pressure; operating below 20% SMYS. The new 36-inch distribution main will supply natural gas to the distribution system in this area of the Bronx.

This replacement will provide many significant enhancements:

- The Hunts Point Compressor will be retired/eliminated.
- Regulator GR-199 will be downgraded/retired/eliminated.
- Regulator ER-199 will be retired/eliminated.
- The 245 psig Super Monitor overpressure protection will be retired/eliminated at Hunts Point
- A new/modernized 36-inch, 350 psig system from White Plains to Hunts Point will enhance operation of the system allowing for flexibility of economic dispatch of various sources of gas as well as facilitate the addition of another gate station along the Bronx-Westchester main.
- A new/modernized 36-inch, 350 psig system from White Plains to Hunts Point will provide for enhancement of loss of a gate station should the supply of gas from a pipeline be interrupted. The larger diameter main is crucial to withstanding the loss of the White Plains Gate Station and to withstand the isolation of the system along the southern route of this line.
- The new/modernized 36-inch will operate at less than 20 percent SMYS. The replacement will therefore retire vintage federally defined transmission pipelines and install new distribution main.
- The construction practices in 1948 were not as robust as current methods. The butt welds, approximately 780, used to join the 24-inch main being retired were not subject to the nondestructive examination standards.
- The construction of the 24-inch main being retired also used approximately 170 Dresser couplings that are subject to leakage.
- The 24-inch main being retired was constructed with approximately 26 drip pots that have leak prone appurtenances.

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

PHMSA finalized the Safety of Gas Transmission and Gathering Pipelines rulemaking. A final rule was recently published, indicating pending changes to integrity management requirements, verification of MAOP, records for material verification, repair criteria and the expansion of integrity management beyond high consequence areas. These changes impact CECONY's Gas assets. Replacement of approximately 35 miles of existing transmission pipelines will be required to meet this standard and reduce system risk and is a major goal in the Con Edison's Long-Range Plan.

Replacing high risk transmission pipe mitigates the risk of a transmission event. All new replacement piping will be made of material that permits the pipe to have an MAOP below 20 percent SMYS. This reduces the risk associated with these pipes and provides long- term savings of the costs associated with maintaining older infrastructure. The new pipes do not meet regulatory definition of transmission pipe and will therefore be identified as distribution piping operating above 125 psig.

Con Edison recognizes that climate is changing and considers that the floodplain will extend over time due to sea-level rise, and that temperature and rainfall amounts will also rise. As such facilities will be designed in accordance with standards for climate adaptation. Engineering will design systems in accordance with Climate Change Planning and Design Guideline Document & Corporate Instruction CI-610-4. The specific project will determine which climate change pathways ("the Pathways") and design elements to incorporate into the project for increased precipitation, temperature rise, and sea level rise; the design work scope will apply the "Pathway" for the decadal time horizon associated the specific project. Note that each project and application will need to be reviewed and analyzed.

2. Supplemental Information

Alternatives

The PHMSA rules provides six (6) methods that can be utilized for MAOP reconfirmation. They are:

- Method 1 - Pressure test: The pressure test method also requires the verification of material property records. This method requires the section of main to be removed from service and regulator stations isolated so that a hydrostatic pressure test can be performed. If successful, the section then needs to be dewatered and reconnected to the system. All water removed from the gas main must be treated as hazardous waste contaminated with benzene. If the pressure test is unsuccessful, extensive investigation would need to be conducted to identify the source of the anomaly. Any liquid that is leaked into the environment will be required to be remediated. This entire process is time consuming and can only be conducted during warmer temperatures which would prevent the series of projects to be completed in the required timeframe. If the anomaly cannot be identified and/or repaired, the section of main will need to be replaced.

- Method 2 – Pressure Reduction: This method requires derating the pipeline so that the new MAOP is less than the historical actual sustained operating pressure by using a pressure test safety factor of 0.67 times the sustained operating pressure. This method is not feasible due to the fact that Con Edison's 350 psig system supplies National Grid's 350 psig system. In addition, the decreased MAOP would be insufficient to maintain adequate gas pressure to safely supply natural gas to the firm gas customer.

- Method 3 – Engineering Critical Assessment: This method requires the use of a smart pig and an engineering critical assessment to establish a safety margin equivalent to that provided by a pressure test. It is an analytical process utilizing fracture mechanics principles to determine if a pipeline is structurally sound enough to meet the service requirements for a specific period of time. Con Edison's existing transmission mains are not piggable and would need to be retrofitted to be able to accommodate a smart pig. In addition, the level of specific data and conservative assumptions required to perform a rigorous engineering assessment that assesses the criticality of the anomaly and adjusts the projected growth rates based on site specific parameters cannot be obtained.

- Method 4 – Pipe Replacement: Replacement of the existing transmission main which would require a new hydrostatic pressure test and all pertinent material and testing records. This method has been selected.

- Method 5 – Pressure reduction for pipeline segments with small potential impact radii. Con Edison's existing gas transmission system does not have a potential impact radius of less than 150 feet and therefore this method cannot be used employed.

- Method 6 – Alternative Technology: An alternative technology that provides an equivalent or greater level of safety cannot be identified at this time.

Risk of No Action

No action will result in the Company not meeting the requirements of the PHMSA rule.

Non-Financial Benefits

The gas main replacement project is required to meet the PHMSA rule.

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

Project Risks and Mitigation Plan
N/A

Technical Evaluation / Analysis

Synergi Gas software was utilized to perform hydraulic analysis to evaluate the feasibility of utilizing the other MAOP reconfirmation methods. The analysis concludes that continuous gas delivery can only be achieved by gas main replacement and subsequent downgrading of the existing main.

Project Relationships (if applicable)

This project is necessary in conjunction with a series of projects that total approximately 35 miles. The series of projects must be completed in accordance with PHMSA's schedule where 50 percent of the pipeline milage is completed by July 3, 2028 and 100 percent of the pipeline milage is completed by July 2, 2035 or as soon as practical.

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital	$1,197	$14,562	$21,283	$50,596		$33,717

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$33,000	$36,985	$36,985	$38,122	$27,000
Labor	$1,650	$1,849	$1,849	$1,906	$1,350
M&S	$3,300	$3,699	$3,699	$3,812	$2,700
Contract Svcs.	$17,490	$19,602	$19,602	$20,205	$14,310
Other	$1,650	$1,849	$1,849	$1,906	$1,350
Overheads	$8,910	$9,986	$9,986	$10,293	$7,290

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

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: Bronx River Tunnel to Bronx Westchester Border	
Project/Program Manager: Omar Nokaly	**Project/Program Number (Level 1): 21002824**
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2017	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: $106,000** **O&M:**	

Work Description:

This is a multi-year project to install approximately seven miles of 36-inch distribution main operating above 125 pounds per square inch gauge ("psig"), to replace the existing 1948, 24-inch, transmission main from the Bronx River Tunnel to the Bronx Westchester Border (section X-3). The 36-inch main will connect to the already in progress Bronx Border to White Plains 36-inch main (section W-8) in the north and the planned replacement of the 24-inch main located in the Bronx River Tunnel in the south, thereby connecting directly to the Hunts Point 350 psig system. Additionally, the existing 24-inch and 20-inch gas transmission mains will be downgraded to distribution pressure. This project will utilize gas supplied from the new 36-inch main and integrate the downgraded 24-inch and 20-inch mains into the distribution system. The following are the reinforcement projects that are required for this initiative:

<u>Upper Downgrade</u>

- Install 100 feet of 12-inch, high pressure gas main to bypass regulator station GR-182
- Install 125 feet of 12-inch, high pressure gas main to bypass regulator station GR-117
- Install 75 feet of 12-inch, high pressure gas main to bypass regulator station GR-148
- Install 25 feet of 12-inch, high pressure gas main to bypass regulator station GR-192
- Install 25 feet of 12-inch, high pressure gas main to bypass existing regulator station GR-110
- Install 1,000 feet of 20-inch, high pressure gas main to connect the existing 24-inch transmission gas main at South 11th Ave. and West 5th St. to the existing 20-inch transmission gas main at South 7th Ave. and West 5th St. Tie into the existing 20-inch, high pressure gas main at South 7th Ave. and West 5th St.
- Install new high pressure regulator station GR-707 and straddle. Install 3,750 feet of 20-inch, high pressure gas main to connect new regulator station GR-707 to the downgraded 24-inch transmission gas main. Tie into the downgraded 24-inch transmission gas main must be at the intersection of Bronxwood Ave and Bussing Ave.
- Install new high pressure regulator station GR-711 and straddle. Install 1,500 feet of 16-inch, high pressure gas main to connect new regulator station GR-711 to downgraded 24-inch transmission gas main at East 222nd St. and Bronxwood Ave, and also to existing 16-inch, high pressure gas main at East 222nd St. and Paulding Ave.
- Install 25 feet of 16-inch, high pressure gas main at Boston Rd. and East 222nd St. to tie downgraded 20-inch transmission gas main to existing 16-inch, high pressure gas main.

- Install 1,500 feet of 16-inch, high pressure gas main on Burke Ave. to connect the downgraded 24-inch transmission gas main on Bronxwood Ave. to the downgraded 20-inch transmission gas main on Boston Rd.
- Install 3,750 feet of 16-inch gas main between the new 36-inch gas main at Tilden St. and Bronxwood Ave. and the regulator station GR-110 at Webster Ave. and East Gunhill Rd. Install a ROV straddle at the intersection of Tilden St and Bronxwood Ave.
- Install 100 feet of 24-inch gas main between the new 36-inch gas main and the existing 24-inch transmission gas main at the intersection of Bronxwood Ave and Adee Ave. This tie will be removed when the Lower Loop is downgraded.
- Install 900 feet of High Pressure ("HP") Polyethlyene ("PE") gas main, 12-inch, to connect 8-inch HP PE gas main on Provost Ave N/O East 223 St in the Bronx and the 4-inch HP PE gas main on Dock St E/O South 3rd Ave in Westchester.
- Install 25 feet of 12-inch, HP PE gas main on East 222nd St to tie existing 16-inch HP ST gas main to existing 12-inch gas main.
- Install 75 feet of 12-inch, HP PE gas main to tie existing 12-inch HP PE gas main at East 234th Street and Bussing Ave and existing 24-inch gas main at Bronxwood Ave and Bussing Ave.
- Cut and cap the 24-inch transmission gas main north of Bronxwood Ave. and Adee Ave. This connection will be restored when the Lower Loop is downgraded.
- Cut and cap the 20-inch transmission gas main north of Boston Rd. and Adee Ave. This connection will be restored when the Lower Loop is downgraded.
- Cut and cap the existing 24-inch transmission gas main that ties section W-8 to section X-3 at West 5th St. and South 11th Ave. Perform a full cut-out of the 36-inch transmission main tee and replace with straight pipe.
- Cut and cap the existing 20-inch transmission gas main that ties section W-8 to section W-1 at South 7th Ave. and West 4th St. Perform a full cut-out of the 36-inch transmission main tee and replace with straight pipe.
- Cut and cap the existing 20-inch transmission gas main at West 5th St. and South 7th Ave. Abandon the 20-inch transmission gas main between West 5th St and West 4th St.
- Bypass L1 Stage of regulator station GR-149 with 160 feet of 12-inch high pressure
- Abandon L1 manhole of regulator station GR-703 and replace regulator piping with 12-inch high pressure gas main
- Bypass L1 Stage of regulator station GR-153 with 75 feet of 12-inch high pressure
- Bypass L1 Stage of regulator station GR-141 with 25 feet of 12-inch high pressure
- Bypass L1 Stage of regulator station GR-108 with 75 feet of 12-inch high pressure

<u>Lower Downgrade</u>

- Install 25 feet of 12-inch, high pressure gas main to bypass regulator station GR-126
- Install 25 feet of 12-inch, high pressure gas main to bypass regulator station GR-106
- Install 25 feet of 16-inch, high pressure gas main to bypass regulator station GR-124
- Install 75 feet of 12-inch, high pressure gas main to bypass regulator station GR-104
- Install 150 feet of 12-inch, high pressure gas main to bypass regulator station GR-195
- Install 25 feet of 12-inch, high pressure gas main to bypass regulator station GR-197
- Install 25 feet of 12-inch, high pressure gas main to bypass regulator station GR-114
- Install 150 feet of 12-inch, high pressure gas main to bypass regulator station GR-112
- Install 25 feet of 12-inch, high pressure gas main to bypass regulator station GR-102, if regulator station GR-102 has been upgraded to high pressure
- Install 150 feet of 12-inch, high pressure gas main to bypass regulator station GR-101, if regulator station GR-101 has been upgraded to high pressure

- Install new regulator station GR-712 and ROV straddle at Mulner Ave and Bronxdale Ave. Install 1,250 feet of 16-inch, HP gas main to connect new regulator station GR-712 to existing 24-inch transmission gas main at Bronxdale Ave and Niell Ave.
- Install HP regulator station GR-713 and ROV straddle at Pierce Ave and Bronxdale Ave. Install 100 feet of 16-inch, HP gas main to connect new regulator station GR-713 to existing 20-inch transmission gas main at Pierce Ave and Bronxdale Ave.
- Install 500 feet of 12-inch, HP gas main from the existing 12-inch HP PE gas main on Morris Park Ave and East 180th St to GR-185. Transfer GR-185 from existing 6-inch gas main to new 12-inch HP gas main.
- Install 600 feet of 12-inch gas main to transfer existing regulator GR-709 from existing 24-inch transmission gas main to new 36-inch gas main. Install 500 feet of gas main to transfer existing 6-inch gas main
- Re-connect previously cut and capped 24-inch transmission gas main with a new 24-inch, HP tie
- Re-connect previously cut and capped 20-inch transmission gas main with a new 20-inch, HP tie
- Install 25 feet of 12-inch HP gas main to bypass GR-109
- Install new 36-inch ROV East of the eastern Bronx River Tunnel head house
- Cut and cap temporary tie that connects new 36-inch gas main to existing 24-inch transmission gas main
- Cut and cap existing 6-inch gas main to complete swing over to new 36-inch gas main
- Convert GR-199 to a HP regulator station
- Bypass L1 Stage of GR-122 with 75 feet of 12-inch HP
- Bypass L1 Stage of GR-131 with 125 feet of 12-inch HP
- Bypass L1 Stage of GR-107 with 50 feet of 12-inch HP
- Bypass L1 Stage of GR-191 with 50 feet of 12-inch HP
- Bypass L1 Stage of GR-100 with 50 feet of 12-inch HP

The scope of work will require the installation of valves as required by the NYCRR Part 255. A number of the valves installed would be remotely operated valves ("ROVs") as required to meet the Con Edison Design Criteria.

Justification Summary:

The replacement of the 24-inch, 245 psig Maximum Allowable Operating Pressure ("MAOP") pipe is required to comply with Pipeline and Hazardous Materials Safety Administration's ("PHMSA") Pipeline Safety rule, effective July 1, 2020. PHMSA revised the Federal Pipeline Safety Regulations to improve the safety of onshore gas transmission pipelines. Recently, the NY State Public Service Commission ("PSC") also adopted these rules. The rule requires an Operator to have traceable, verifiable, and complete records necessary to establish the MAOP, per 192.619(a) including records for a hydrostatic pressure test in accordance with 192.517(a). If records are not available to comply with the rule, PHMSA provided six methods to reconfirm the MAOP of a main. Method 4, Pipe Replacement is the only feasible method that will provide for continual safe delivery of natural gas to firm gas customers.

In addition, the reinforcement of the gas distribution system in the north-eastern section of the Bronx will facilitate the downgrade of the 24-inch and 20-inch transmission mains to distribution pressure operating below 20 percent SMYS. The new 36-inch main will supply natural gas to the distribution system in this area of the Bronx.

This replacement will provide many significant enhancements:

- The Hunts Point Compressor will be retired/eliminated.
- Regulator GR-199 will be retired/eliminated.
- Regulator ER-199 will be retired/eliminated.
- The 245 psig Super Monitor overpressure protection will be retired/eliminated at Hunts Point
- A new/modernized 36-inch, 350 psig system from White Plains to Hunts Point will enhance operation of the system allowing for flexibility of economic dispatch of various sources of gas as well as facilitate the addition of another gate station along the Bronx-Westchester main.
- A new/modernized 36-inch, 350 psig system from White Plains to Hunts Point will provide for enhancement of loss of a gate station should the supply of gas from a pipeline be interrupted. The larger diameter main is crucial to withstanding the loss of the White Plains Gate Station and to withstand the isolation of a section of main along the southern route of this line.
- The new/modernized 36-inch will have an MAOP of less than 20 percent SMYS. The replacement will therefore retire vintage federally defined transmission pipelines and install new distribution main.
- The construction practices in 1948 were not as robust as current methods. The butt welds, approximately 780, used to join the 24-inch main being retired were not subject to the nondestructive examination standards.
- The construction of the 24-inch main being retired also used approximately 170 Dresser couplings that are subject to leakage.
- The 24-inch main being retired was constructed with approximately 26 drip pots that have leak prone appurtenances.

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

PHMSA finalized the Safety of Gas Transmission and Gathering Pipelines rulemaking. A final rule was recently published, indicating pending changes to integrity management requirements, verification of MAOP, records for material verification, repair criteria and the expansion of integrity management beyond high consequence areas. These changes impact CECONY's Gas assets. Replacement of approximately 35 miles of existing transmission pipelines will be required to meet this standard and reduce system risk and is a major goal in the Con Edison's Long-Range Plan.

Replacing high risk transmission pipe mitigates the risk of a transmission event. All new replacement piping will be made of material that permits the pipe to have an MAOP below 20 percent SMYS. This reduces the risk associated with these pipes and provides long- term savings of the costs associated with maintaining older infrastructure. The new pipes do not meet regulatory definition of transmission pipe and will therefore be identified as distribution piping operating above 125 psig.

Con Edison recognizes that climate is changing and considers that the floodplain will extend over time due to sea-level rise, and that temperature and rainfall amounts will also rise. As such facilities will be designed in accordance with standards for climate adaptation. Engineering will design systems in accordance with Climate Change Planning and Design Guideline Document & Corporate Instruction CI-610-4. The specific project will determine which climate change pathways ("the Pathways") and design elements to incorporate into the project for increased precipitation, temperature rise, and sea level rise; the design work scope will apply the "Pathway" for the decadal time horizon associated the specific project. Note that each project and application will need to be reviewed and analyzed.

2. Supplemental Information

Alternatives

The PHMSA rules provides six (6) methods that can be utilized for MAOP reconfirmation. They are:

- Method 1 - Pressure test: The pressure test method also requires the verification of material property records. This method requires the section of main to be removed from service and regulator stations isolated so that a hydrostatic pressure test can be performed. If successful, the section then needs to be dewatered and reconnected to the system. All water removed from the gas main must be treated as hazardous waste contaminated with benzene. If the pressure test is unsuccessful, extensive investigation would need to be conducted to identify the source of the anomaly. Any liquid that is leaked into the environment will be required to be remediated. This entire process is time consuming and can only be conducted during warmer temperatures which would prevent the series of projects to be completed in the required timeframe. If the anomaly cannot be identified and/or repaired, the section of main will need to be replaced.

- Method 2 – Pressure Reduction: This method requires derating the pipeline so that the new MAOP is less than the historical actual sustained operating pressure by using a pressure test safety factor of 0.67 times the sustained operating pressure. This method is not feasible due to the fact that Con Edison's 350 psig gas system supplies National Grid's 350 psig gas system. In addition, the decreased MAOP would be insufficient to maintain adequate gas pressure to safely supply natural gas to the firm gas customer.

- Method 3 – Engineering Critical Assessment: This method requires the use of a smart pig and an engineering critical assessment to establish a safety margin equivalent to that provided by a pressure test. It is an analytical process utilizing fracture mechanics principles to determine if a pipeline is structurally sound enough to meet the service requirements for a specific period of time. Con Edison's existing transmission mains are not piggable and would need to be retrofitted to be able to accommodate a smart pig. In addition, the level of specific data and conservative assumptions required to perform a rigorous engineering assessment that assesses the criticality of the anomaly and adjusts the projected growth rates based on site specific parameters cannot be obtained.

- Method 4 – Pipe Replacement: Replacement of the existing transmission main which would require a new hydrostatic pressure test and all pertinent material and testing records. This method has been selected.

- Method 5 – Pressure reduction for pipeline segments with small potential impact radii. Con Edison's existing gas transmission system does not have a potential impact radius of less than 150 feet and therefore this method cannot be used employed.

- Method 6 – Alternative Technology: An alternative technology that provides an equivalent or greater level of safety cannot be identified at this time.

Risk of No Action

No action will result in the Company not meeting the requirements of the PHMSA rule.

Non-Financial Benefits

The gas main replacement project is required to meet the PHMSA rule.

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

Project Risks and Mitigation Plan
N/A

Technical Evaluation / Analysis

Synergi Gas software was utilized to perform hydraulic analysis to evaluate the feasibility of utilizing the other MAOP reconfirmation methods. The analysis concludes that continuous gas delivery can only be achieved by gas main replacement and subsequent downgrading of the existing main.

Project Relationships (if applicable)

This project is necessary in conjunction with a series of projects that total approximately 35 miles. The series of projects must be completed in accordance with PHMSA's schedule where 50 percent of the pipeline milage is completed by July 3, 2028 and 100 percent of the pipeline milage is completed by July 2, 2035 or as soon as practical.

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital	$39,197	$33,528	$34,732	$25,596		$38,162

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$21,000	$21,000	$20,000	$21,000	$23,000
Labor	$1,050	$1,050	$1,000	$1,050	$1,150
M&S	$2,100	$2,100	$2,000	$2,100	$2,300
Contract Svcs.	$13,650	$13,650	$13,000	$13,650	$14,950
Other					
Overheads	$4,200	$4,200	$4,000	$4,200	$4,600

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

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: Queens Transmission Upgrade	
Project/Program Manager: Russell Grogan	**Project/Program Number (Level 1): 23864900**
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: Ongoing	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: $160,000** **O&M:**	

Work Description:

The scope of work is the installation of approximately four miles of 36-inch distribution main operating above 125 pounds per square inch gauge ("psig") that will replace the existing 24-inch, transmission main, in Astoria and Long Island City, Queens (section Q-2). The scope of work will require the installation of valves as required by the NYCRR Part 255. A number of the valves installed would be remotely operated valves ("ROVs") as required to meet the Con Edison Design Criteria. The installation will also require the reconnection of supply to the existing National Grid interconnect at Newtown Creek in the first Ward of Queens (as per the New York Facilities agreement) and four existing regulators, which would utilize straddle connections.

Justification Summary:

The replacement of the 24-inch, 350 psig Maximum Allowable Operating Pressure ("MAOP") transmission pipe is required to comply with Pipeline and Hazardous Materials Safety Administration's ("PHMSA") Pipeline Safety rule, effective July 1, 2020. PHMSA revised the Federal Pipeline Safety Regulations to improve the safety of onshore gas transmission pipelines. Recently, the NY State Public Service Commission "(PSC") incorporated these requirements in to 16 NYCRR 255. The rules require an Operator to have traceable, verifiable, and complete records necessary to establish the MAOP, per 192.619(a) including records for a hydrostatic pressure test in accordance with 192.517(a). If records are not available to comply with the rule, PHMSA provided six methods to reconfirm the MAOP of a main. Method 4, Pipe Replacement is the only feasible method for Con Edison that will provide for continual safe delivery of natural gas to firm gas customers.

The existing 24-inch main will be replaced with a 36-inch steel main that will operate at less than 20 percent Specified Minimum Yield Strength ("SMYS") and use materials and be installed in compliance with all rules and regulations.

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

PHMSA finalized the Safety of Gas Transmission and Gathering Pipelines rulemaking. A final rule was recently published, indicating pending changes to integrity management requirements, verification of MAOP, records for material verification, repair criteria and the expansion of integrity management beyond high consequence areas. These changes impact CECONY's Gas assets. Replacement of approximately 35 miles of existing transmission pipelines will be required to meet this standard and reduce system risk and is a major goal in the Con Edison's Integrated Long-Range Plan.

All new replacement piping will be made of material that permits the pipe to have an MAOP below 20 percent SMYS. This reduces the risk associated with these pipes and provides long- term savings of the costs associated with maintaining older infrastructure. The new pipes do not meet regulatory definition of transmission pipe and will therefore be identified as distribution piping operating above 125 psig.

Con Edison recognizes that climate is changing and considers that the floodplain will extend over time due to sea-level rise, and that temperature and rainfall amounts will also rise. As such facilities will be designed in accordance with standards for climate adaptation. Engineering will design systems in accordance with Climate Change Planning and Design Guideline Document & Corporate Instruction CI-610-4. The specific project will determine which climate change pathways ("the Pathways") and design elements to incorporate into the project for increased precipitation, temperature rise, and sea level rise; the design work scope will apply the "Pathway" for the decadal time horizon associated the specific project. Note that each project and application will need to be reviewed and analyzed.

2. Supplemental Information

Alternatives

The PHMSA rules provides six (6) methods that can be utilized for MAOP reconfirmation. They are:

- Method 1 - Pressure test: The pressure test method also requires the verification of material property records. This method requires the section of main to be removed from service and regulator stations isolated so that a hydrostatic pressure test can be performed. If successful, the section then needs to be dewatered and reconnected to the system. All water removed from the gas main must be treated as hazardous waste contaminated with benzene. If the pressure test is unsuccessful, extensive investigation would need to be conducted to identify the source of the anomaly. Any liquid that is leaked into the environment will be required to be remediated. This entire process is time consuming and can only be conducted during warmer temperatures which would prevent the series of projects to be completed in the required timeframe. If the anomaly cannot be identified and/or repaired, the section of main will need to be replaced.

- Method 2 – Pressure Reduction: This method requires derating the pipeline so that the new MAOP is less than the historical actual sustained operating pressure by using a pressure test safety factor of 0.67 times the sustained operating pressure. This method is not feasible due to the fact that Con Edison's 350 psig system supplies National Grid's 350 psig system. In addition, the decreased MAOP would be insufficient to maintain adequate gas pressure to safely supply natural gas to the firm gas customer.

- Method 3 – Engineering Critical Assessment: This method requires the use of a smart pig and an engineering critical assessment to establish a safety margin equivalent to that provided by a pressure test. It is an analytical process utilizing fracture mechanics principles to determine if a pipeline is structurally sound enough to meet the service requirements for a specific period of

time. Con Edison's existing transmission mains are not piggable and would need to be retrofitted to be able to accommodate a smart pig. In addition, the level of specific data and conservative assumptions required to perform a rigorous engineering assessment that assesses the criticality of the anomaly and adjusts the projected growth rates based on site specific parameters cannot be obtained.

- Method 4 – Pipe Replacement: Replacement of the existing transmission main which would require a new hydrostatic pressure test and all pertinent material and testing records. This method has been selected.

- Method 5 – Pressure reduction for pipeline segments with small potential impact radii. Con Edison's existing gas transmission system does not have a potential impact radius of less than 150 feet and therefore this method cannot be used employed.

- Method 6 – Alternative Technology: An alternative technology that provides an equivalent or greater level of safety cannot be identified at this time.

Risk of No Action

No action will result in the Company not meeting the requirements of the PHMSA rule.

Non-Financial Benefits

The gas main replacement project is required to meet the PHMSA rule.

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

N/A

Project Risks and Mitigation Plan

N/A

Technical Evaluation / Analysis

Synergi Gas software was utilized to perform hydraulic analysis to evaluate the feasibility of utilizing the other MAOP reconfirmation methods. The analysis concludes that continuous gas delivery can only be achieved by gas main replacement and subsequent downgrading of the existing main.

Project Relationships (if applicable)

This project is necessary in conjunction with a series of projects that total approximately 35 miles. The series of projects must be completed in accordance with PHMSA's schedule where 50 percent of the pipeline milage is completed by July 3, 2028 and 100 percent of the pipeline milage is completed by July 2, 2035 or as soon as practical.

3. Funding Detail ($000)

Historic Spend

	Actual 2020	**Actual 2021**	**Actual 2022**	**Actual 2023**	**Test Year* (O&M Only)**	**Forecast 2024**
O&M						
Regulatory Asset						
Capital	$25,409	$26,700	$28,852	$40,233		$40,171

2025-2029 Request:
Total Request by Year:

	2025	**2026 (RY1)**	**2027 (RY2)**	**2028 (RY3)**	**2029**
O&M					
Regulatory Asset					
Capital (Total)	$30,000	$31,000	$32,000	$33,000	$34,000
Labor					
M&S	$5,400	$5,580	$5,760	$5,940	$6,120
Contract Svcs.	$15,600	$16,120	$16,640	$17,160	$17,680
Other					
Overheads	$9,000	$9,300	$9,600	$9,900	$10,200

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

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: Remotely Operating Valves (ROVs)	
Project/Program Manager: Omar Nokaly	**Project/Program Number (Level 1): 10039586**
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 2025	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: $13,422** **O&M:**	

Work Description:

The Remotely Operated Valves ("ROVs") program consists of converting existing transmission valves or installing new ROVs, to meet the future ROV design criteria as specified in G-8051. Once the program is complete, the closure of any two consecutive ROVs will not negatively impact supply mains or the distribution system on an average winter day (20°F).

Justification Summary:

ROVs are installed in order to:

- Rapidly isolate a compromised section of the transmission system to minimize affected areas
- Rapidly isolate the transmission system at river and tunnel crossings and at the outlet of gate stations
- Rapidly separate intersecting transmission or supply mains at tee or branch locations thereby minimizing affected areas

In addition, the future Gas System Design Criteria requires that ROVs be installed for the following reasons:

- To limit the loss of regulator stations to no more than one high pressure and one low pressure regulator station
- Closure of any two (2) ROVs will not negatively impact supply mains or the distribution system on an average winter day (20°F).

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

As per Con Edison's Long-Range Plan, in order to minimize potential impacts to the gas transmission and distribution systems, maintain supply to firm gas customers, and protect the public at large, ROVs are installed at strategic locations on the gas transmission system. The ROV Program involves

installing new ROVs, or converting existing transmission valves to operate as ROVs. ROVs are installed to achieve rapid isolation of:

- a compromised section of the transmission system to minimize affected areas;
- the transmission system at river and tunnel crossings and at the outlet of gate stations;
- intersecting transmission or supply mains at tee or branch locations, thereby minimizing affected areas; and
- mains feeding electric and steam generating facilities from our gas transmission system.

ROV locations are designed so that:

- loss of regulator stations will impact no more than one high-pressure and one low-pressure regulator station; and
- closure of any two ROVs will not negatively impact supply mains or the distribution system on an average winter day (20°F).

Con Edison recognizes that climate is changing and considers that the floodplain will extend over time due to sea-level rise, and that temperature and rainfall amounts will also rise. As such facilities will be designed in accordance with standards for climate adaptation. Engineering will design systems in accordance with Climate Change Planning and Design Guideline Document & Corporate Instruction CI-610-4. The specific project will determine which climate change pathways ("the Pathways") and design elements to incorporate into the project for increased precipitation, temperature rise, and sea level rise; the design work scope will apply the "Pathway" for the decadal time horizon associated the specific project. Note that each project and application will need to be reviewed and analyzed.

2. Supplemental Information

Alternatives

An alternative to ROVs is to utilize the existing valves and close those valves manually. This alternative would prevent the rapid isolation of affected sections of the gas transmission system and would increase the risk of a widespread customer outage due to a catastrophic event.

Risk of No Action

If this project is not completed, the ability to respond to adverse conditions on the gas transmission system is greatly reduced. The time required to isolate the transmission system would still be based on a manual effort. Multiple personnel would need to be dispatched to the appropriate valves, travel to the location, gain access and operate the valve. This program greatly increases contingency mitigation.

Non-Financial Benefits

Enhanced employee and public safety and reliability. Stronger relationships with community or with regulators.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

The total capital cost of this project is approximately $10 million. This estimate is based upon three (3) ROVs being installed at an average cost of $3.3 million each.

Project Risks and Mitigation Plan

N/A

Technical Evaluation / Analysis

An evaluation of this project was conducted using the Synergi Gas network model, both steady state and unsteady state analysis was performed. The studies clearly indicate that isolating the affected section of the gas transmission system would significantly reduce the possibility of a widespread customer outage and would minimize collateral damage associated with a catastrophic event. Major assumptions relating to this program are:

- Contractor price for the installation of a new valve, ROV components and associated piping or the price associated with retrofitting existing valves.

Various locations have been clearly identified as not being able to be modified due to subsurface interference preventing the installation of a vault, communication, and telemetric equipment. These cases would require a new valve installation and offsetting transmission main.

Project Relationships (if applicable)

- N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital	-	-	$38	$206		$2,000

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$3,257	$3,354	$3,354	$3,457	-
Labor					-
M&S	$651	$671	$671	$691	-
Contract Svcs.	$1,954	$2,012	$2,012	$2,074	-
Other					-
Overheads	$651	$671	$671	$691	-

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

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: Newtown Creek Metering Station	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 21002826**
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: $30,000** **O&M:**	

Work Description:

The Newtown Creek metering station is a bidirectional metering station that consists of multiple runs of orifice metering that is sequentially controlled based on the flow rate. This station is the custody transfer point between Con Edison and National Grid. This project will consist of major capital upgrades at the station including replacement of the orifice metering with ultrasonic metering and low flow metering along with the associated piping, valves and auxiliary equipment in the meter room, replacement of obsolete electrical, instrumentation, and communication systems, as well as facility updates for storm hardening, security, and other code compliance requirements. To support the metering, a remote terminal unit ("RTU") with multiple paths of communication, generally a multiprotocol label switching ("MPLS)", and secure wireless are required. The infrastructure of the station will have to be modified for the installation, which includes removal of sections of the roof and reinstallation as well as any supporting infrastructure. A flow control valve or valves will also be installed to regulate station flow. To support the installation of the control valve, piping modifications and electrical and instrumentation modifications will be necessary. The control valve will require an independent RTU with supporting MPLS and secure wireless communication.

Justification Summary:

The facility was constructed in 1951 and the metering in the station is obsolete and maintenance intensive. A single ultrasonic meter could be used to duplicate the range of the orifice metering. The ultrasonic meter will require less maintenance and be inherently more reliable than the orifice metering. Orifice metering contains multiple fittings; valves and packing that may result in leaks. Due to the difference in infrastructure required for proper operation of the new ultrasonic meter, and concerns with the integrity of existing piping and equipment in the station due to age, most of the 12-inch and 24-inch piping, valves and associated equipment will be replaced.
The addition of a control valve would allow Con Edison to control the flow rate to National Grid. The ability to control flow to National Grid would allow Con Edison to protect the Con Edison portion of the gas transmission system from poor pressure conditions.

In addition to the obsolete meters, critical electrical systems as well as associated instrumentation and communication infrastructure is also outdated. Due to the presence of natural gas in the station, the

basement of the station, where both metering and electrical equipment is located, is now classified as a Class I, Division 2 hazardous location by the National Fire Protection Association Publication 70 and the National Electric Code. The existing electrical equipment is not properly rated for this environment and needs to be replaced. The station also falls within the flood risk area as defined by Con Edison's Design Flood Elevation ("DFE") and flood design basis. To address this, new electrical, control and communication equipment will be installed in a new location on the roof of the station that is above the DFE.

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

Con Edison recognizes that climate is changing and considers that the floodplain will extend over time due to sea-level rise, and that temperature and rainfall amounts will also rise. As such facilities will be designed in accordance with standards for climate adaptation. Engineering will design systems in accordance with Climate Change Planning and Design Guideline Document & Corporate Instruction CI-610-4. The specific project will determine which climate change pathways ("the Pathways") and design elements to incorporate into the project for increased precipitation, temperature rise, and sea level rise; the design work scope will apply the "Pathway" for the decadal time horizon associated the specific project. Note that each project and application will need to be reviewed and analyzed.

The station falls within the flood risk area as defined by Con Edison's DFE and flood design basis. To address this, new electrical, control and communication equipment will be installed in a new location on the roof of the station that is above the DFE.

2. Supplemental Information

Alternatives

There are no alternatives. The equipment is obsolete and is required to be replaced to provide proper metering and satisfy current code requirements and Con Edison standards. Flow control enhancements will improve reliability since none currently exists.

Risk of No Action

Incorrect gas metering can lead to an increase in the Lost and Unaccounted for gas in Gas Supply.

Non-Financial Benefits

The installation of flow control that currently does not exist would allow Gas Control to maintain adequate gas pressure within Con Edison's Gas Transmission System. Currently, the interconnection is a free-flowing system that cannot be controlled.

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

Project Risks and Mitigation Plan
N/A

Technical Evaluation / Analysis The Synergi Gas network model was used to evaluate the modification the flow control system would have on the Gas Transmission System.
Project Relationships (if applicable) N/A

3. Funding Detail ($000)

Historic Spend

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

2025-2029 Request:
Total Request by Year:

	2025	**2026 (RY1)**	**2027 (RY2)**	**2028 (RY3)**	**2029**
O&M					
Regulatory Asset					
Capital (Total)			$15,600	$14,400	
Labor			$780	$720	
M&S			$1,560	$1,440	
Contract Svcs.			$10,140	$9,360	
Other					
Overheads			$3,120	$2,880	

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

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: Cortlandt Gate Station Refurbishment	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 21554941**
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2025	**Estimated Date In Service: 2026**
2025-2029 Funding Request ($000) **Capital: $15,000** **O&M:**	

Work Description:

The Cortlandt Gate Station is located in a residential neighborhood and was constructed in 1955. The facility is in need of upgrades to replace regulating and metering equipment that is obsolete. This project during a contingency situation will support the loss of the Yorktown Gate Station.

The current maximum capacity of the station is 232 Dekatherm ("dt/h"). Upgrades to this station will extend the maximum capacity of the station to 500 dt/hr. The following upgrades are required for station improvement:

- Replacement and upsizing of regulators
- Upgrade to the metering
- Replacement of the heater with a high-capacity heater
- Replacement of existing station outlet piping with larger diameter pipe
- A replacement station monitor valve on the increased diameter station outlet piping
- A new Remote Terminal Unit (RTU)
- New communication, MultiProtocol Label Switching ("MPLS") and Secure Wireless
- New instrumentation to support metering
- Overpressure protection

Justification Summary:

During the heating season the station at times exceeds the current maximum design capacity. The refurbishment will allow the station to operate within the design capabilities. The refurbished station will also provide the ability to back up the Yorktown Gate Station. The capacity will be increased 232 dt/h to 500 dt/h. The increased station capacity provides for reliability in the event of the loss of the Yorktown Gate Station would provide back up for the High-Pressure System.

As mentioned above the station was built in 1955 and most of the equipment is obsolete.

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

Analysis using Synergi Gas modeling software indicates that on a design basis day the demand on the Con Edison system exceeds our delivery rights.

Con Edison recognizes that climate is changing and considers that the floodplain will extend over time due to sea-level rise, and that temperature and rainfall amounts will also rise. As such facilities will be designed in accordance with standards for climate adaptation. Engineering will design systems in accordance with Climate Change Planning and Design Guideline Document & Corporate Instruction CI-610-4. The specific project will determine which climate change pathways ("the Pathways") and design elements to incorporate into the project for increased precipitation, temperature rise, and sea level rise; the design work scope will apply the "Pathway" for the decadal time horizon associated the specific project. Note that each project and application will need to be reviewed and analyzed.

Examples

Building structures are anticipated to have a 75-year useful life span: buildings systems will therefore be designed to accommodate rising temperatures by making HVAC systems modular/expandable and/or providing additional surface area space; increased rainfall amounts (drains and gutters to account for approximately 4 extra inches of rain in a 24-hour period by year 2099); and depending on location, and rising sea levels (FEMA +5).

Roofs have a 25-year life and will apply the increased precipitation pathway to design larger gutters and drains to handle the greater anticipated rainfall values in the future years.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

An alternative would be to build a new building and gate station on another piece of property. The building would need to be on the Algonquin Right of Way and at a suitable point on the High Pressure System that could achieve the criteria of supplying the area growth and meet the criteria of backing up Yorktown Gate Station. This has been explored and no suitable property that would satisfy the local municipality could be located.

Alternative 2 description and reason for rejection

Depending on the selected climate pathway, the structure and associated facilities will be designed accordingly. Structures that are not in the existing FEMA 100-year floodplain could be built to a lower Design Flood Elevation ("DFE"). Within the useful life of these assets, however, the flood plain is expected to extend to this location. If this alternative is selected, this facility would be vulnerable to damage from future flooding. That would result in an inability to use the facility and disruptions to operations. The incremental cost of planning to a higher DFE is outweighed by the risk of disrupting operations during future storm events and the cost of repairing water damage to the facility.

Risk of No Action

If no actions are taken, the station capacity would continue to operate outside the current design basis on high load days. The equipment in the station is obsolete. The station would also not be able to provide back up to High Pressure System in the event of the loss of the Yorktown Gate Station.

The age and obsolescence of the equipment has to potential of impacting station reliability and could impact our customers.

Non-Financial Benefits

The DFE of the facility helps maintain continuous operations during emergency storm events.

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

N/A

Project Risks and Mitigation Plan
N/A

Technical Evaluation / Analysis

Detailed engineering and architectural analysis have identified the least-cost and best fit design to meet the required DFE.

Analysis using Synergi Gas modeling software was used to evaluate the High Pressure System and evaluate the loss of the Yorktown Gate Station.

Project Relationships (if applicable)

This project is in support of the Tennessee Compression Project which increased the capacity to Con Edison and ended the moratorium.

3. Funding Detail ($000)

Historic Spend

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

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$5,000	$10,000			
Labor	$250	$500			
M&S	$500	$1,000			
Contract Svcs.	$3,250	$6,500			
Other					
Overheads	$1,000	$2,000			

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

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: Transmission Main Relocation for Blind Brook	
Project/Program Manager: Matthew DeVoti	**Project/Program Number (Level 1): 27840708**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/1/2026	**Estimated Date In Service: 12/31/2026**
2025-2029 Funding Request ($000) **Capital: $5,000** **O&M:**	

Work Description:

The current 12" transmission gas main in Rye currently crosses both I95 and the metro north railroad within a tunnel that the Blind Brook flows through. The 12" transmission main is installed in a 16" steel sleeve that is installed on a ledge within this tunnel. This sleeve and main are required to be inspected every three years by the Con Edison's Corrosion Department. To perform this inspection it is a very elaborate process where scaffolding must be installed along the Brook bed within the tunnel. This main was last inspected in 2017 and several problems were identified.

The scope of the project is to relocate this main and install approximately 1600 feet of 16" gas transmission main. The new route would be from the east side of the tunnel, heading northeast along Theodore Fremd Ave to Purchase St, then north along Purchase St to Highland Rd and then west on Highland Rd to Mendota Ave. The main along this route will all be direct buried except for approximately 150 feet where Highland Rd crosses Blind Brook. At this location either a Horizontal Directional Drill, Jack and Bore or direct attachment to the bridge at this location will be done. The existing main from the intersection of Highland Rd & Mendota Ave to the south east side of the tunnel will then be capped and abandoned.

The schedule of the work would be starting in 2026 to relocate this main. The duration of the construction work would be completed by the end of 2026.

Justification Summary:

A portion of the sleeve within the tunnel, close to the east side had been compromised due to corrosion. There were large holes along the length of the sleeve that allowed water to infiltrate the sleeve when the water within the brook would overflow. A camera inspection of the main verified that the coating on the 12" main was intact and had no corrosion issues. Further inspection of the existing supports along the wall showed extreme corrosion and they were in risk of failing completely. On the outside of the tunnel on the west side there is also a portion of main that is supported above ground. Although this main looks to be in good shape there are many large trees within the area where the ground tends to be water soaked or saturated. There is a risk of a large tree potentially falling on this main causing a rupture.

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

Con Edison recognizes that climate is changing and considers that the floodplain will extend over time due to sea-level rise, and that temperature and rainfall amounts will also rise. As such facilities will be designed in accordance with standards for climate adaptation. Engineering will design systems in accordance with Climate Change Planning and Design Guideline Document & Corporate Instruction CI-610-4. The specific project will determine which climate change pathways ("the Pathways") and design elements to incorporate into the project for increased precipitation, temperature rise, and sea level rise; the design work scope will apply the "Pathway" for the decadal time horizon associated the specific project. Note that each project and application will need to be reviewed and analyzed.

2. Supplemental Information

Alternatives

Alternative 1 is to start on the northwest side of the brook, I95 & the Metro North Railroad and perform an HDD under all three of these items. This will require a setup up of a significant size within a residential area with extremely high real estate values and little room. It will also require special permitting to cross the interstate highway, the railroad and the brook. This solution is not recommended.

Alternative 2 is to install approximately 2100 feet of 12" gas transmission main. Reroute the 12" transmission main from the east side of the tunnel, heading southwest along Theodore Fremd Ave to Locust Ave, then west along Locust Ave to Ridgewood Drive, then north east along Ridgewood Dr. to the northwest side of the tunnel. This route would require an HDD where Theodore Fremd Ave crosses the Blind Brook and an easement of approximately 100 feet along a private road that connects Locust Ave to Ridgewood Dr. This solution is also not recommended.

Risk of No Action

The 12" Transmission Gas main in its current location is susceptible to damage from ground movement due to extreme weather event as well as washout conditions due to the flooding of the brook itself. Damage can range from leak on this very high pressure gas main to a rupture of the main itself. Both situations pose significant risk to the public in the vicinity as well as customers who get gas from this main. Furthermore, outage of this main will greatly impact the reliability of the gas system in this area.

Non-Financial Benefits

Relocation of this main outside of the Blind Brook tunnel would safeguard the 12" gas transmission main against any possible damage due to ground subsidence or washout due to high water flow of the brook itself. It increases the safety for the public and increases the reliability of gas system. This 12" transmission main is a radial feed from the Rye Gate Station and any outage of this main will impact the customers downstream of the isolation.

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

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

2025-2029 Request:
Total Request by Year:

	2025	**2026 (RY1)**	**2027 (RY2)**	**2028 (RY3)**	**2029**
O&M					
Regulatory Asset					
Capital (Total)		$5,000			
Labor		$250			
M&S		$500			
Contract Svcs.		$3,250			
Other					
Overheads		$1,000			

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

PRESSURE CONTROL:
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: PC – Regulator Automation	
Project/Program Manager: Matthew DeVoti	**Project/Program Number (Level 1): 23317820**
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: $100,874** **O&M:**	

Work Description:

The purpose of this project is to install automated control equipment at all 337 gas system regulator stations to include conduits, power and communication. This project will provide precise and instantaneous remote operation of the system pressure regulating stations while providing real time system telemetry for visibility and system disturbance response. This project will also include the installation of Over Pressure Protection ("OPP") equipment on the gas system or the rehabilitation of existing system to prevent pressure exceedances over Maximum Allowable Operating Pressure ("MAOP"). The OPP portion of the project involves the installation of additional regulator station sensing lines and regulator pilots inside of the manhole vaults which provide redundancy to the existing control and monitor lines. It may include the replacement of regulator station piping that contains bypasses which connect different MAOP systems, and/or the replacement of distribution mains that connect to pressure division valves.
Also included, where applicable, will be the relocation of regulator station sensing, control, and overpressure protection monitoring lines within the boundaries of regulator stations to improve station operation and overpressure protection to meet current standards.

Justification Summary:

This project will enhance and improve the operation of Con Edison's natural gas system, as well as increase system reliability and safety.

The installation of new automated control equipment at existing manual regulator stations offers many benefits. System visibility will be expanded with live data not currently available allowing Gas Control the ability to monitor every part of the system. Remote control capabilities improve system operation and reliability. For instance, immediate adjustments can be made remotely without the delay of personnel mobilization (as is the current operating model). This is extremely beneficial during contingency situations and peak demand days. For normal operating conditions, regulators can be adjusted to build up pressure in anticipation of customer demand to utilize the full potential of system capacity. In this, automation of the gas system provides both reliability and increased safety. The new equipment follows cyber security protocols that are in line with corporate IT requirements and

programming protocols. This improvement strengthens system safety by providing the visibility needed to make system adjustments and improve response time. The installation of the new control system also provides clear and accurate data to remote users.

The installation of OPP devices and the elimination of existing bypasses and pressure division valves will mitigate the risk of over pressurization downstream, thus improving system safety and reliability. Our current regulator station design incorporates OPP in the means of a working monitor design. The regulator station with the working monitor relies on sensing lines that are connected downstream of the station. If the sensing lines are severed or if the gas main that the sensing lines are connected to is eliminated, the regulator will start to output higher pressure because it will no longer sense the downstream pressure. This would then lead to over pressurization of the downstream gas distribution system. Installing an additional sensing line and pilot regulator that are internal to the manhole vault will provide redundancy to the existing overpressure protection of the regulator station as well provide protection from external damage of the line. Alternatively, automatic and remote slam-shut devices may be used to isolate the regulator station to prevent a pressure exceedance from occurring if the sensing lines/pilots are damaged or fail.

Bypass lines and pressure division valves were installed on the gas distribution system in the past to manually regulate pressure from a higher MAOP system to a lower one. Typically, this was done in emergency situations where the regulator stations are not able to adequately supply sufficient gas to maintain system pressures. These bypass lines and pressure division valves are no longer used because of the inherent risk of over pressurization that comes with manually regulating a higher pressure to a lower one. The valves associated with these bypass lines and pressure division valves have either already been paved over or locked closed to minimize accidental operation. However, since the connection still exists, the risk of over pressurization due to accidental operation or valve failure also still exists. Therefore, these bypasses are undergoing evaluation to for removal.
Due to the location of sensing lines, many existing regulator station installations can experience operating issues. When the control line (station demand setting) is not located within the same proximity as the overpressure protection sensing line, the station can be susceptible to oscillating pressure excursions. These excursions can make the station output unstable creating a potential operating issue for the area gas system and should be relocated to current standard designs. Therefore, where applicable, this program will also include the relocation of regulator station sensing, control, and overpressure protection monitoring lines, to within the boundaries of regulator stations.

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

This program improves the safety and reliability of the gas system by ensuring that regulator stations operate properly. The ability to control and monitor the regulators will provide system visibility to have quick response to pressure fluctuations with automated responses. This program helps to ensure reliable service and reduce the potential for customer outages or an overpressure event that can affect many customers at once. Having a safe and reliable gas system is a major goal of the Con Edison Integrated Long-Range Plan.

Reinforcement of the gas system is performed to ensure that over pressurization of the system, that can cause large scale customer outages and other incidents, are eliminated.

Included in this new design is a new automation control device that utilizes a motor driven device to adjust regulator station setpoints. The existing automation control device vents natural gas to the

atmosphere to adjust regulator station setpoints. With the new design, the need for the release of natural gas is eliminated.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection Continue manual station adjustments, which increase O&M charges and manpower demands, with no added system visibility, and no ability to act instantly to system demands or disturbances.
Continue to remove the bypass lines and pressure division valves as opportunistic work when other work is being done in the vicinity. This will delay the elimination of these ties.
Continue to operate regulator stations with less than ideal sensing points of control and overpressure protection monitor lines.
Without the enhanced overpressure protection systems, we will not be in keeping with the new federal Pipes Act of 2020 and Public Service Commission rule changes.
Also, we would continue to release natural gas during normal station operation without the use of motor driven pilots for control.

Risk of No Action

Risk 1 Continue manual station adjustments, which will increase O&M charges and manpower demands without increasing system visibility or reaction time to system demands or disturbances. With the current system configuration and operating model, there is a risk of over pressurization and not realizing pressure excursions in a timely manner thereby delaying a mitigating response.
Risk 2 Without the enhanced overpressure protection systems, we will not be in keeping with the new federal Pipes Act of 2020 and Public Service Commission rule changes.
Risk 3 We would continue to release natural gas during normal station operation without the use of motor driven pilots for control.

Non-Financial Benefits

System visibility will be expanded with live data not currently available. Remote control capabilities will grow, which improves system operation and reliability. For instance, immediate adjustments can be made remotely without the delay of personnel mobilization. This is beneficial during contingency situations. For normal operating conditions, regulators can be adjusted to line pack in anticipation of customer demand to utilize the full potential of system capacity. Automation of the gas system as well as the OPP equipment work provide both reliability and increased safety.

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
Cost per location will vary based on lengths of conduit installation for control, communication, and electrical service lines. Full automation and overpressure protection will be approximately $780,000 per

regulator station on average.

Project Risks and Mitigation Plan

Risk 1 Resource availability for both inside and outside forces for excavation, installation of conduit (including vault penetrations), installation of OPP and RTU equipment, all wiring and various new sensing equipment install, as well as station support.
Mitigation plan – Schedule long term plan with outside sources to ensure contractor availability and continue to increase company forces to appropriate staffing levels.

Technical Evaluation / Analysis

All existing manually controlled regulator stations will be upgraded with remote controlled / monitored systems.

Project Relationships (if applicable)
N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital	19,924	17,192	18,944	27,830		19,100

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	19,000	19,570	20,157	20,762	21,385
Labor	1,520	1,566	1,613	1,661	1,711
M&S	7,600	7,828	8,063	8,305	8,554
Contract Svcs.	5,130	5,284	5,442	5,606	5,774
Other					
Overheads	4,750	4,893	5,039	5,191	5,346

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

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: PC – Regulator Station Improvements	
Project/Program Manager: Matthew DeVoti	**Project/Program Number (Level 1): 21477218, 21477211, 21477237, 21477231**
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: $5,563** **O&M:**	

Work Description:

This program addresses regulator related improvements as follows:

- Complete replacement of piping, regulators, regulator components, strainers and valves at existing stations where the equipment is corroded beyond repair, where designs are obsolete, or equipment upsizing is required.
- Replacement of valves, regulators, and/or strainers of sizes 2 inch and larger at regulator stations. Work scopes are primarily associated with select component replacement mostly due to corrosion or if repair is deemed not to be cost effective.
- Replacement of corroded steel buried piping outside of regulator vaults (within the bounds of the regulator station) when leaks are discovered, or severe corrosion is identified. This uncoated piping is the buried pipe located between two stages of a regulator station and located between two different manholes. This piping is often referred to as inter-stage piping.
- Replacement of corroded steel gauge lines between regulator vaults and gauge posts at regulator stations.

Justification Summary:

This is an ongoing annual capital program. Regulator stations that fall within this program are important links in the overall reliability of our gas distribution system and must be maintained to provide a safe and reliable operating system and to meet 16 NYCRR Sections 255.739 and 255.619 through 255.623. Activities that fall under this budget line item involve major equipment change outs within the regulator manhole. This may be required because the components are obsolete, they no longer fulfill the system demands and require upsizing, and/or the equipment is no longer able to be serviced and maintained because of corrosion. Also included in this program is the replacement of leaking, corroded, and unprotected buried steel station piping (inside plant) and gauge piping. Maintaining sound equipment is essential to proper station operation, system reliability, and safety.

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

This program improves the safety and reliability of the gas system by ensuring that regulator stations operate properly. This program helps to ensure reliable service and reduce the potential for customer outages that can affect many customers at once. Having a safe and reliable gas system is a major goal of the Con Edison Integrated Long-Range Plan.

Reinforcement of the gas system is performed to ensure that single point failures that can cause large scale customer outages are eliminated. This will improve the resiliency of the gas system during a Gas Distribution Event and would mitigate the risk of customer outages.

As this program focuses on replacement of corroded equipment and/or uncoated items, this program also reduces the risk of leaks on the gas system, which in turn, prevents releases of methane in the environment.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection This program is required, with no alternatives. Without replacement, regulator station operation, safety, reliability, and service to customers are at risk.

Risk of No Action

Risk 1 The required replacements must be completed to comply with specifications and PSC code, as well as to maintain the safe, reliable, and effective operation of the natural gas system.

Non-Financial Benefits

This program is required to be compliant with 16 NYCRR Section 255.739, and to maintain a safe and reliable operating 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

The estimates for this program are based on historical levels of work performed. Each year the specific regulator stations requiring replacement of unserviceable equipment are assessed and replaced as needed. Other work listed under this project, such as uncoated steel, is emergent with costs determined based on replacement requirements.

Project Risks and Mitigation Plan

Risk 1 Outside resource availability for excavation and piping installation, as well as internal resources for internal vault work.
Mitigation plan – Schedule work requiring outside resources as early as possible and continue to increase company forces to appropriate staffing levels.

Technical Evaluation / Analysis

See work description and justification summary. Due to corrosion and aging equipment, equipment/piping replacement is required to support a safe and reliable system.

Project Relationships (if applicable)
N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital	$736	$128	$43	$137		$1,087

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$1,087	$1,119	$1,119	$1,119	$1,119
Labor	$544	$560	$560	$560	$560
M&S	$109	$112	$112	$112	$112
Contract Svcs.	$217	$224	$224	$224	$224
Other					
Overheads	$217	$224	$224	$224	$224

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

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: GR-450 A & B Relocation	
Project/Program Manager: Matthew DeVoti	**Project/Program Number (Level 1): 27174475**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: 14,000** **O&M:**	

Work Description:

- Currently GR-450 is an obsolete regulator that contains a low pressure and a medium pressure regulator in the same manhole. The manhole also contains a watermain. This project will construct two new regulators in place of the GR-45- A&B.
- This will be a three-year project. With the existing regulators in service two new regulators will be constructed in consecutive years with the original regulator being retired in the third year.
- The replacement eliminates a vulnerability of watermain break impacting two regulator stations. It will also replace obsolete equipment.
- The medium pressure regulator will be constructed in 202X and the low pressure regulator will be replaced in 202X+1 and retirement of GR-450 A&B taking place in 202X+2

Justification Summary:

The current configuration with watermain in the manholes subjects the equipment to the potential of damage in the event of a watermain break. The impact could result in customer outages as well the release of natural gas.

Presently access to the manhole is inhibited by having two regulators plus a watermain in the same space. This is a potential safety issue.

The regulators contain obsolete components and equivalent replacements would not fit in the same location. If one of these components were to be replaced it would require an entirely new regulator be constructed.

Reliability would be increased as a result of this project because the impact from one regulator would not affect the other if they were in separate vaults. An incident in a vault would not impact two regulators. This would enhance system reliability.

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

- Greenhouse gas emission would not increase as a result of this project. There will be no increase in emissions.
- The goals of this project are to enhance safety, address equipment obsolescence, and eliminate potential adverse impacts our customers.
- The project will have no positive or negative impact on climate change resilience other than replacing obsolete equipment.
- Risk of customer impact and safety impact is significantly reduced by moving the regulators away from the watermain and separating them from each other.

2. Supplemental Information

Alternatives

There are no alternatives.

Risk of No Action

These regulators are an old design with obsolete equipment. Should any of that equipment fail the replacement equipment designed to present-day standards will not fit in the same vault requiring new regulators.

The present condition of the vaults creates overcrowding and potential personnel safety issues.

Having the water main in the same vaults as the regulator poses a potential loss of customers and public safety concern.

Non-Financial Benefits

- Personal and public safety will be enhanced
- Reliability will be enhanced
- Servicing the equipment will be improved by having a workable space and having replacement parts available.

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

2. Major financial benefits

Replacement of the regulator stations under this program will improve the reliability of the gas system and provide additional supply points in the system. This will improve resiliency of the system and mitigate customer outages on the system.

3. Basis for estimate

The request is based on recent average costs for installing one new Regulator Station and the applicable inlet and outlet piping.

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	Mitigation plan
Risk 2	Mitigation plan

Technical Evaluation / Analysis
N/A

Project Relationships (if applicable)
N/A

3. Funding Detail ($000)

Historic Spend

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

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)		$6,000	$6,000	$2,000	
Labor		$600	$600	$200	
M&S		$2,400	$2,400	$800	
Contract Svcs.		$1,800	$1,800	$600	
Other					
Overheads		$1,200	$1,200	$400	

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

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: Pressure Control – RTU & Communications Upgrade – 1st Avenue Tunnel	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 27174472**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: January 2025	**Estimated Date In Service: December 2026**
2025-2029 Funding Request ($000) **Capital: 1,000** **O&M:**	

Work Description:

Replace obsolete and unsupported equipment with current design standard Remote Terminal Unit (RTU) communication systems. The 1st Avenue tunnel utilizes the RTUs to communicate critical system information to Gas Control including interconnecting conduit between 20th and 36th Street head houses.

Justification Summary:

This RTU provide advanced warning of abnormal operating conditions of steam distribution system to Gas Control. The current equipment is difficult to maintain with spare parts unavailable from the manufacturer or third-party suppliers. Currently Gas Engineering has a very limited supply of some spare parts to maintain the existing RTU communication. Once this supply is exhausted extended equipment outages will be inevitable while the equipment is being replaced.

Alternatives: Operate existing equipment to a failure forcing the tunnel to be staffed 24/7.

Risk of No Action: Extended periods of equipment down time resulting in loss of critical real time information to Gas Control for system operations. Risk of inability to detect critical equipment failures or significant environmental conditions within the tunnel.

Technical Evaluation/Analysis: The 1st Avenue RTU communications is obsolete and operating with unsupported RTU in which spare parts are limited or unavailable. Original manufacturer for significant portions of the systems is no longer in business, which contributes to a lack of support and spare part availability.

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
Historical installations of similar equipment. (Analogous estimating method).

3. Funding Detail ($000)

Historic Spend

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

2025-2029 Request:
Total Request by Year:

	2025	**2026 (RY1)**	**2027 (RY2)**	**2028 (RY3)**	**2029**
O&M					
Regulatory Asset					
Capital (Total)		$1,000			
Labor		$100			
M&S		$400			
Contract Svcs.		$300			
Other					
Overheads		$200			

3. NATURAL GAS DETECORS

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: AMI Enabled Natural Gas Detector Program	
Project/Program Manager: Barna Gupta	**Project/Program Number (Level 1): 23320180**
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: 171,362** **O&M:**	

Work Description:

Natural gas detectors ("NGDs") are safety devices that are installed where the gas service enters a customers' building, near the head of service. The device provides continuous monitoring of the area for methane that results in an alarm at a preset level. When an NGD alarms, also known as a gas leak alarm ("GLA"), the alarm information is transmitted through the advanced metering infrastructure ("AMI") network to the Gas Emergency Response Center ("GERC"). The GERC then dispatches emergency responders from Gas Distribution Services ("GDS") to respond to the potential gas leak using leak response protocols.

The accumulation of natural gas in a building can occur from a leak on the buried gas distribution infrastructure located on the outside of the building. Gas can migrate through the soil or through a utility service point of entry ("POE") and into the building. Buildings are typically constructed where the majority of utility POEs (water service, sewer pipe, and buried electric service) are in close proximity to the gas POE. Therefore, installing an NGD near the head of service provides detection capability for this type of occurrence.

The development of methane sensor technology in combination with the roll out of the Company's AMI communication network is the first-of-a-kind and unique opportunity to pair remote methane detection with the AMI communication infrastructure. This enables a direct alarm to the Company's GERC that allows for early detection, preventing future incidents, thus improving public and employee safety.

The funding will support three main parts of the NGD program: Installations at locations that currently do not have an NGD, the replacement of NGDs due to end of life, and the network expansion initiatives related to the NGD communication. Since the inception of the program, over 250,000 NGDs have been installed in the Company's gas service territory, with a goal to complete initial deployment by the end of 2025. The installation breakdown is as follows:

	2018	2019	2020	2021	2022	2023	2024*
Installations	724	8,500	10,795	68,173	86,256	57,879	38,122

*YTD July installations represented.

As new business customers connect to the gas system, those services will require a new NGD installation. There is also a population of customers that have opted out of the program. As customer turnover takes place, some of the buildings on the opt-out list will choose to have an NGD installed. Additionally, the number of available locations for installation was abundant at the beginning of the program and yielded a high volume of opportunistic installations results. Currently, the program is over 65% saturation, and the remaining services are becoming more challenging to gain access. The number of no-access attempts has increased, making it harder to complete installations. As a result, a small portion of the initial deployment will continue in future years.

In addition to the installation of new devices at locations that currently do not have an NGD, the program will replace devices that have exhausted their useful battery life. The Company began the program with installing devices with a 5-year battery life. In 2020, the Company installed 6-year devices, followed by 7-year devices in 2021 and 2022. Beginning mid-year of 2023 and going forward, the Company began installing 10-year devices. Along with replacing the device due to its battery life expiration, the NGD is also replaced after it alarms. When a device alarms, the device is removed, and the location is scheduled for a replacement. NGDs are also replaced if the device has a sensor failure or communication issue. Approximately 2,000 devices will be replaced annually due to GLAs and device issues.

The majority of the NGDs installed are within existing AMI network coverage. However, there is a small percentage of NGDs which require expansion of mesh coverage via installation of new network devices to enable communication. Approximately 3% of NGDs are not able to communicate through the existing AMI network. The capability of the NGDs communication is directly dependent on the robustness and resiliency of the AMI mesh network. NGDs that are not communicating will be investigated with remote and field surveys to identify which solution is most appropriate and cost effective to expand coverage. We expect that approximately 50% of the investigated NGDs will require installation of additional AMI network infrastructure to expand coverage and enable the NGD to communicate. The installation of this equipment will need to be coordinated with field forces and the customer. Validation is conducted after the network expansion to ensure that the NGD communicates consistently.

Justification Summary:

Utilizing NGD technology improves public and employee safety with the early detection of gas leaks, much quicker than current methods. This allows GDS crews to quickly make the location safe and evacuate the public, if necessary. Events on the gas distribution system stemming from damage or leaks present a significant risk to Con Edison customers. The use of the NGD technology will significantly reduce this risk.

Natural Gas Detectors generate over 1000 leak investigations every year and will increase more as deployment is fully saturated. The communication of these leaks by the NGDs create a reliable source of detection that can be addressed immediately upon detection. Design and installation of new communication nodes are essential to the communication performance of the NGDs. The earlier we are informed of a gas leak, the earlier we can respond. The public's trust in these devices can be negatively impacted when we are not able to respond proactively to the detected leaks.

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

NGDs reduce the amount of greenhouse gases released because they provide early detection of natural gas leaks directly to emergency response forces to make safe and mitigate.

Customers throughout the Company's service territory, including those in disadvantaged communities, will benefit from this program.

2. Supplemental Information

Alternatives

Rely on our customers to call in leaks. Do not install remote methane sensors.

This alternative is not recommended. NGDs are much more reliable at detecting a potential release of natural gas.

Risk of No Action

The risk of not installing remote methane sensors is missing the opportunity to significantly improve public safety and materially reduce the risk of an incident involving natural gas. This alternative is not recommended.

In cases where the lack of communication hampers the ability for the NGD to send the alarm signal remotely to Con Edison systems, the NGD will still alarm locally with an audible message saying "Evacuate, gas leak explosion risk. Evacuate, then call 911." Which means the Company will respond to the leak when reported by the customer. The risk is delayed leak response and potential safety implications.

Non-Financial Benefits

The Company is the first to deploy these devices systemwide and is at the forefront of detecting leaks and improving employee and public safety.

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

Customers currently have the right to opt-out of the NGD program. The goal of the program is to install NGDs at all the gas services in our service territory.

One project risk is the inability to complete full deployment due to access issues. To mitigate these challenges, the Company has implemented several initiatives to help increase access. All Gas Operations GDS employees have been trained to installed NGDs. NGDs are installed at every opportunity there is access to the customer's premise and there is approval from the customer to install the device. Proactive phone calls are being made to customers to schedule appointments for the installation and we have developing various marketing tools to increase awareness of the program to educate customers and

remind them of the benefits of the program.

Technical Evaluation / Analysis

The NGD provides a level of risk mitigation such that GLAs are a true indication that the program is a success. The chart below summarizes the alarms received since the inception of the program categorized by the alarm findings:

Alarm Cause	2018	2019	2020	2021	2022	2023	2024	Grand Total
Inside Leaks	2	69	98	246	475	620	436	1,946
Outside Leaks		45	27	117	139	163	116	607
Residual Gas		12	20	77	162	205	118	594
Unconfirmed			2	70	96	248	141	557
Environmental Impairment		5	7	54	64	128	68	326
Other		4	8	27	47	63	32	181
Unauthorized Operation		7	2	19	32	40	26	126
Grand Total	**2**	**142**	**164**	**610**	**1,015**	**1,467**	**937**	**4,337**

Project Relationships (if applicable)

The Service Line Inspection Program ("SLI") will be bundled where applicable with NGD installations/replacements.

To minimize the number of visits to enter a customer's premise, where feasible, the Company will attempt to complete service line inspections while installing and replacing the NGD. Con Edison recognizes the significant costs associated with complying with the mandated gas safety inspection program. Bundling the SLI and NGD work helps to increase compliance, reduce repeat visits, and minimize the costs associated with the SLI program. Additionally, this aligns the inspection cycles with the NGD install/replacement schedules.

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital	10,915	22,959	22,949	29,223		47,778

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	45,356	34,165	31,513	29,681	30,647
Labor	12,404	10,472	7,093	7,537	7,775
M&S	18,919	13,749	14,482	12,928	14,220
Contract Svcs.	13,981	9,892	9,886	9,164	8,600
Other	52	52	52	52	52
Overheads					

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

4. CUSTOMER CONNECTIONS

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: Customer Connections	
Project/Program Manager: **Thomas Riviello/ Maria Ximena Pantoja**	**Project/Program Number (Level 1):** 23320194/ 23320204/ 23320207/ 23320208
Status: ☐ Initiation ☐ Planning ☐ Execution ☒ On-going ☐ ☐ Other: _____	
Estimated Start Date: on-going	**Estimated Date In Service: on-going**
2025-2029 Funding Request ($000) **Capital: $323M** **O&M:**	

Work Description:

The Customer Connection program, regulated by Public Service Law, PSC Regulations and Con Edison's gas tariff, is required under the obligation to serve provision. This program funds the installation of mains and services necessary to provide an adequate gas supply to customers who request new or additional gas loads.

It provides recovery of the costs associated with the gas main extensions and/or reinforcements needed to provide gas service.

Below are the total units under this budget for the rate years 2025-2029:

	2025		2026		2027		2028		2029	
Program	**($000)**	**Units**	**($000)**	**Units**	**($000)**	**Units**	**($000)**	**Units**	**($000)**	**Units**
Services	50,041	1,523	49,954	1,513	47,788	1,440	40,028	1,200	40,228	1,200
Mains	21,959	21,319	21,921	21,176	20,970	20,157	17,565	16,800	17,653	1,051
Total	72,000		71,875		67,758		57,593		57,880	

Justification Summary:

The Company remains committed to providing clean energy alternatives to all customers.

- The Company established workgroups, programs, and rebates to support the reduction in natural gas use.
- In July 2023, the Company implemented a required step in the customer connections process. This step in the process attempts to educate the requesting gas customer and requires the customer to acknowledge the Climate Leadership and Community Protection Act (CLCPA), Con Edison's Clean Energy Commitment and highlights rebates available for non-pipeline

alternatives. This initiative educates customers about alternative energy sources aimed at reducing greenhouse gas emissions.

- In New York City, Local Laws 154 and 97 were enacted. These laws set strict CO2 limits on the construction of new buildings, effectively requiring new buildings to be completely electric and free from fossil fuels, starting with lower-rise buildings in 2024 and taller buildings in mid-2027. Also, LL97 sets carbon caps for buildings over 25,000 square feet. Together, these laws represent a comprehensive approach to reducing the city's carbon footprint, promoting the use of renewable energy, and paving the way for a sustainable future.
- As part of New York State's clean energy and climate agenda, a new law has been enacted to limit the use of fossil-fuel equipment in new building constructions. Effective from December 31, 2025, the installation of fossil-fuel equipment and building systems is prohibited in any new building not more than seven stories in height. This prohibition extends to all new buildings after December 31, 2028. Exceptions to this law include buildings used for emergency power generation, certain manufacturing facilities, commercial food establishments, laboratories, hospitals, and other critical infrastructure. Where exemptions apply, the law mandates minimizing emissions and ensuring areas are electrification ready.

While these laws encourage a shift towards renewable energy sources, it is important to note that not all buildings will be able to make this transition immediately. Some existing buildings, particularly older ones, may still rely on natural gas for heating and other purposes. These buildings may face significant challenges in retrofitting to accommodate electric or other low-emission heating systems, due to factors such as cost, building structure, and the availability of renewable energy sources.

In December 2023, the gas moratorium in Westchester was lifted, allowing customers to once again request natural gas for use in homes/businesses.

We expect continued requests for gas service, though we recognize that there will be decreases in the number over time as new buildings are built and others convert to non-fossil heating and cooking.

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

Con Edison supports the needs for alternative energy choices. However, the Company still has an obligation to provide gas service to existing and potential future customers under the gas rate tariff, PSC regulations and Public Service Law. When the existing system is unable to support new gas demand or a customer requires significant gas extension and reinforcement at a cost to the customer, customers are provided alternative options to satisfy their energy needs while supporting alternative energy choices. Con Edison will continue to support and promote alternative energy choices at every opportunity.

2. Supplemental Information

Alternatives

In the absence of State Legislation to modify Public Service Law, the Company does not have any alternatives other than to encourage customers to use non-fossil energy and reduce consumption through energy efficiency. The Company has advocated for and supported DPS Staff's efforts to reduce additional entitlements under Commission regulation. Eliminating these additional benefits will increase customer cost to connect new gas demand. This increased upfront customer cost should result in more favorable economics for non-fossil options.

Risk of No Action

The Company will be in violation of Public Service Law, PSC regulations and the Con Edison gas tariff if we do not comply with the requirements to serve and provide entitlements under the existing Public Service Law and gas rate tariff.

Non-Financial Benefits

Natural gas presents a reliable alternative to oil and propane and is the preferred fuel for emergency generators. This program supports the customer's expectations that we will provide a safe, reliable, and low-cost fuel choice.

Summary of Financial Benefits and Cost

See revenue forecasting for any new gas growth revenue.

Project Risks and Mitigation Plan

This is a program that has thousands of existing and new gas requests and usually results in over 100 gas main projects. The program is customer dependent and associated with varying customer projects, both scheduled and demand.

Technical Evaluation / Analysis

The projected service connections and main installations are based on the three-year historical average of actual service connections. However, with the lifting of the moratorium in Westchester, we anticipate an increase in the number of services over the next three years offset by a projected marginal reduction in new construction where natural gas is no longer an option.

Project Relationships (if applicable)

N/A

3. Funding Detail

Historic Spend

	Actual 2020	**Actual 2021**	**Actual 2022**	**Actual 2023**	**Historic Year** (O&M only)	**Forecast 2024**
Capital	**82,432**	**80,645**	**78,866**	**67,684**		**86,697**
O&M						
Regulatory Asset						

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	72,000	71,875	63,258	57,593	57,880
Labor	7,358	7,346	6,465	5,886	5,915
M&S	7,985	7,971	7,015	6,387	6,419
Contract Svcs.	43,473	43,398	38,195	34,744	34,948
Other	(8,273)	(8,258)	(7,268)	(6,617)	(6,650)
Overheads	21,456	21,419	18,851	17,163	17,248

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

5. TECHNICAL OPERATIONS

LIQUIFIED NATURAL GAS (LNG):
Gas Operations/LNG Plant
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: LNG- Electrical Distribution System Upgrade Project	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 24647432**
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: Ongoing	**Estimated Date In Service: 12/31/2026**
2025-2029 Funding Request ($000) **Capital: $7,000** **O&M:**	

Work Description:

This project is to relocate and install a new modern substation further away from the gas transmission main found inside the LNG Plant. [redacted] Loads are distributed such that upon loss of one or two busses, vaporization can still take place at a reduced capacity. All three busses are required to provide the capability of liquefaction. The switchgear, breakers, and motor control centers (MCC's) that supply power to the facilities various loads are obsolete and require replacement.

In addition, although the electrical distribution system is designed to provide the capability of automatic transfer of power in the event of a loss of a bus, due to the unreliability of the equipment the normal practice followed by operating personnel is to leave the tie breakers racked out. If a bus is lost and power must be redirected, operating personnel are required to rack breakers in/out. If a bus is to be energized using the emergency diesel generator, mechanical Kirk Key interlocks are used to prevent inadvertent energization of a bus from a live feeder and the emergency generator simultaneously. To maintain the availability of electrical power to the plant, personnel have managed the obsolescence of the equipment by maintaining a limited number of spare circuit breakers on-site. The spare breakers are periodically used to replace the installed breakers, which are sent out to a third-party for refurbishment upon removal. To reduce the risk of injury or death to personnel and increase the reliability of the plant, an upgrade of the facilities 480 VAC electrical distribution system is required. An Arc Flash Risk Assessment shall be performed to meet regulatory requirements.

The work also includes meeting the Con Edison Climate Change Planning and Design Guidelines, including meeting the upgraded FEMA 2013 plus 5 feet, higher wind loads, higher temperature ratings and precipitation design requirements.

Justification Summary:

To mitigate the risk of injury or event, a new modern substation will be relocated further away from the gas transmission main. The existing electrical distribution equipment, including the switchgear, breakers, and MCCs are obsolete and are no longer supported by the manufacturer. Plant personnel have experienced failures of equipment in service, including failure of circuit breakers to open, ground faults on MCC buckets, and internal arc-flash events. The procedure to restore power to critical loads using rack outs and keyed interlocks is not acceptable according to modern standards.

NFPA 70E: Standard for Electrical Safety in the Workplace specifies the requirements for work involving electrical hazards and electrical safety related work practices, assessments, precautions, and procedures. This standard requires that an Arc Flash Risk Assessment is performed on electrical equipment and electrical equipment to be properly labeled. No indications exist that suggest that an Arc Flash Risk Assessment has ever been performed on the electrical equipment, and the equipment is not properly labeled in accordance with the standard.

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

A transmission main event affecting the LNG feed would place the LNG plant out of service and may result in wide scale customer outage, especially during winter heating season.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
Continue to operate the LNG plant electrical distribution system as-is. This option is not recommended.

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

Risk of No Action

Risk 1
Operating the electrical distribution system as-is poses a significant risk to operating personnel and equipment. Multiple incidents have taken place where catastrophic failure of electrical equipment has released large amounts of energy that could cause serious injury or death.

Risk 2
N/A

Risk 3
N/A

Non-Financial Benefits

Increased safety, reliability, efficiency, and customer satisfaction. Non-financial benefits of the upgrades to the LNG plant electrical distribution system include increased reliability of the LNG plant increases personnel safety. This project will improve availability because the electrical redundancy to assure maximum withdrawal during the vaporization process.
REDACTED.

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

2. Major financial benefits

Reduce operating and maintenance cost due to obsolete equipment.

Total cost of this project is $25,300,000.

3. Basis for estimate

Estimate based on detailed engineering drawings.

4. Conclusion

Failure of the existing electrical equipment may cause an interruption in the LNG plants capability to liquefy and/or vaporize LNG. The LNG plant's availability as a supply asset to meet peak winter loads provides significant cost savings. If the liquefaction system cannot be operated, additional interstate pipeline capacity contracts would be required to replace the plant's capability.

Project Risks and Mitigation Plan

Risk 1	Mitigation plan
Risk 2	Mitigation plan

Technical Evaluation / Analysis

N/A

Project Relationships (if applicable)

Due to operational requirements and the limited space within the existing MCC room, a pre-manufactured Power Control Enclosure, including main service switchgear and MCC's, will be pre-manufactured and installed. Completion of this project along with the Plant Motor Control Center project will modernize the electrical supply infrastructure of the LNG plant.

3. Funding Detail ($000)

Historic Spend

	Actual 2020	**Actual 2021**	**Actual 2022**	**Actual 2023**	**Test Year* (O&M Only)**	**Forecast 2024**
O&M						
Regulatory Asset						
Capital		$260	$2,334	$325		$468

2025-2029 Request:
Total Request by Year:

	2025	**2026 (RY1)**	**2027 (RY2)**	**2028 (RY3)**	**2029**
O&M					
Regulatory Asset					
Capital (Total)		$7,000			
Labor		$1,400			
M&S		$2,100			
Contract Svcs.		$1,400			
Other					
Overheads		$2,100			

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

Gas Operations/LNG Plant
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: LNG- Nitrogen Refrigeration Cycle Replacement	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 23317802**
Status: ☐ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date:	**Estimated Date In Service:**
2025-2029 Funding Request ($000) **Capital: $25,000** **O&M:**	

Work Description:

Replace the Nitrogen Refrigeration Cycle located at the Astoria LNG Plant. REDACTED

Justification Summary:

The Astoria LNG Plant is designed to fill LNG product at 6 million standard cubic feet a day. This project is to restore the LNG Plant to its design basis to fill the LNG tank in 6 months. The existing 1973 Nitrogen Refrigeration Cycle that is original to the plant does not have sufficient refrigeration to cool natural gas to ensure an LNG fill rate of 6-million standard cubic feet a day. REDACTED New equipment will allow for more efficient filling of the tank. This new equipment will provide environmental benefits and cost savings.

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

Justification Summary:

The Astoria LNG Plant is designed to fill LNG product at 6 million standard cubic feet a day. This project is to restore the LNG Plant to its design basis to fill the LNG tank in 6 months REDACTED New equipment will allow for more efficient filling of the tank. This new equipment will provide environmental benefits and cost

savings.
The work also includes meeting the Con Edison Climate Change Planning and Design Guidelines and this includes meeting the FEMA 2013 plus 5 feet, higher wind loads, higher temperature ratings and precipitation as well.

Relationship to 5-Year and Long-Range Plans and Enterprise Risk Management Strategy

The project will comply with Con Edison Climate Change Planning and Design Guidelines. This will ensure the climate change associated risks including increased flood elevation, wind speed and ambient temperature, are all mitigated and accounted for.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
Continue to operate the existing vintage refrigeration cycle system for the next 30 years which does not produce sufficient refrigerant and as a result the LNG plant will operate at half the rate during the summer months with operational problems due to lack of Original Equipment Manufacturer ("OEM") parts. This option is not recommended.

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

Risk of No Action
Risk 1

If no action is taken, the refrigeration cycle will not meet design fill rate and product quality for the next 30 years. This will place the Company and firm Gas Customer at a disadvantage, where the plant may only be able to use for peaking, limit its contingency use and economic use. Should a severe winter-heating season occur, the LNG tank may not be replenished in time for the following winter-heating season.

Risk 2
N/A

Risk 3
N/A

Non-Financial Benefits

Increased safety, reliability, efficiency, and customer satisfaction. The LNG tank as contingency mitigates shortfall in gas supply, interstate pipeline issues (as well as other system risks), and allows the LNG tank to be used in the event there is price volatility. Another benefit is that the new equipment will meet newer emissions standards than the existing equipment.

REDACTED

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

REDACTED

This project replaces the aging equipment and infrastructure. With obsolete equipment it is difficult to find replacement parts and most replacement parts are third party or refurbished parts and legacy knowledge becomes critical to develop ways to fix issues to ensure that liquefaction can continue.

Both increases O&M cost and the need for additional labor. In addition, if the tank cannot be filled for the heating season, it will not be available for peaking and as a result gas will have to be purchased from the spot market. The spot market is volatile, and the prices can change drastically depending on supply and demand.

2. Major financial benefits

3. Basis for estimate

Conclusion
This project needs to be completed to continue the safe and reliable operation of the LNG Plant.

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

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital	$88	$5,977	$14,050	$7,133		$7,327

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)		$25,000			
Labor		$5,000			
M&S		$7,500			
Contract Svcs.		$5,000			
Other		-			
Overheads		$7,500			

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

Gas Operations/LNG Plant
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: LNG Plant Controls Instrumentation Upgrade Program	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 10040224**
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date:	**Estimated Date In Service: 12/31/2026**
2025-2029 Funding Request ($000) **Capital: $4,000** **O&M:**	

Work Description:

Install instrumentation and control system to create monitoring and control capability for the Liquefied Natural Gas ("LNG") Plant to allow additional monitoring and control capability of the process during periods when the plant receives non-traditional-gulf-gas quality natural gas and to consolidate and centralize the plant's existing islands of controls into one Supervisory Control and Data Acquisition ("SCADA") system.

REDACTED This project provides an overall control system that will be able to measure, monitor, and trend the total liquefaction process.

The work also includes meeting the Con Edison Climate Change Planning and Design Guidelines and this includes meeting the FEMA 2013 plus 5 feet, higher wind loads, higher temperature ratings and precipitation as well.

Justification Summary:

The plant Operators have insufficient instrumentation and no centralized control system is available to measure, indicate, monitor, record, analyze gas quality constituents and control the liquefaction process in the event the LNG plant receives "non-traditional-gulf gas."

REDACTED The existing liquefaction process has a limited real time integrated instrumentation and control systems that allow the process to be measured, monitored and operated during periods of changes in gas quality. REDACTED

REDACTED

The new instrumentation will meet current and anticipated future regulations for pipelines. The new instrumentation control system will also allow for a simulator to train personnel. In addition, a centralized instrumentation and control system will streamline annual calibrations and inspections.

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

The project will comply with Con Edison Climate Change Planning and Design Guidelines. This will ensure the climate change associated risks including increased flood elevation, wind speed and ambient temperature, are all mitigated and accounted for.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
Continue to operate the plant without a governing control system for the liquefaction process. This option is not recommended.

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

Risk of No Action

Risk 1

REDACTED

Operating the plant during periods of varying gas quality can create non-standard density liquid or reduce production to a point where the tank is not filled adequately for the winter. Non-standard density liquid can create stratification in the tank, which if gone unchecked can lead to a rollover event. A rollover event can create a boil-off condition that exceeds the tank's pressure control systems.

Risk 2
N/A

Risk 3
N/A

Non-Financial Benefits

Although not required by federal code CFR-193, this new system will have advanced control room monitoring that will allow the operator to manage and process alarms in a timely manner thus avoiding catastrophic events such as over-pressurization. Installing control instrumentation will also allow for optimization of equipment and serve to evaluate the liquefaction process by analyzing operating data collected in a data historian, which would be provided with the new control system.

In addition, the new instrumentation upgrade program will enhance the cyber security posture.

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 in the design stage. This is an order of magnitude estimate.

Total cost
$10,000,000

Conclusion
The plant hourly deliverability is 10,000 Dth/hr. Failure to meet this send out requirement when required exposes the Company to penalties from the interstate pipelines serving the Company. These penalties equate to approximately $50/Dth or $500,000 per hour if the plant is unavailable to meet required send out.

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

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

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)		$4,000			
Labor		$800			
M&S		$1,200			
Contract Svcs.		$800			
Other					
Overheads		$1,200			

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

Gas Operations/LNG Plant
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: LNG Resiliency Improvement Program	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 25554551**
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date:	**Estimated Date In Service:**
2025-2029 Funding Request ($000) **Capital: $3,000** **O&M:**	

Work Description:

This program will harden, relocate, replace, or install new systems within the facility to increase the facility resilience to external factors that can place the LNG Plant vaporization and or liquefaction system out of service. [redacted]

This program includes multi-projects throughout the various locations at the LNG Plant. These projects include but are not limited to the LNG tank dike area pump(s) and the foundation/slab heaters.

In this rate case, for any identified projects, we will focus on developing the best mitigating solution, concept design, scope of work, preliminary engineering, detailed engineering, procure material/equipment, and complete the associated work depending on the status. Some of the identified projects may go into the next rate case.

The on-going projects such as Nitrogen Refrigeration Cycle Replacement, LNG Plant Controls Instrumentation Upgrade Program, Electrical Distribution System Upgrade Project, Astoria LNG Meter Station Replacement projects will meet applicable CECONY Climate Change Planning and Design Guideline. More specifically, the above mentioned projects and programs, which are on-going, will meet the FEMA 2013 plus 5 feet, higher wind loads, higher temperature ratings and precipitation as well.

Justification Summary:

The Astoria LNG Plant was placed in service in 1974. The LNG plant was designed to inject LNG product at 6 million standard cubic feet a day. Further, the plant has the capability to withdraw approx. 240,000Dths per day. The plant's ability to store LNG and withdraw during peak event, contingency, intra-day supply provides the gas firm gas customer a cost avoidance.

The vulnerability assessment identifies situations the LNG Plant cannot liquefy or vaporize. This program contains projects to address CECONY Climate Change Planning and Design Guideline as well as other potential vulnerabilities.

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

This program contains projects to address CECONY Climate Change Planning and Design Guideline.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
Continue to operate the facility for the next 30 years with existing facility design and condition, and this alternative may result the LNG not being able to vaporize or liquefy, be out of service. This option is not recommended.

Alternative 2 description and reason for rejection
Alternative 3 description and reason for rejection

Risk of No Action

Risk 1
The LNG Plant will have disruption to liquefaction and vaporization. As result, the LNG Plant may not be able to vaporize when required.

Risk 2
Risk 3

Non-Financial Benefits

Increased safety, reliability, efficiency, and customer satisfaction. Increased safety, reliability, efficiency, and customer satisfaction. The project will comply with Con Edison Climate Change Planning and Design Guidelines. This will ensure the climate change associated risks including increased flood elevation, wind speed and ambient temperature, are all mitigated and accounted for

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

2. Major financial benefits
The Astoria LNG Plant provides peaking for the firm gas customer. REDACTED

3. Basis for estimate This is a budgetary estimate $1 million per year for the program. For each identified project, the scope of work and engineering must be completed to develop detailed estimates.
Project Risks and Mitigation Plan *Not applicable. Preliminary.* Risk 1 — Mitigation plan Risk 2 — Mitigation plan
Technical Evaluation / Analysis The Company performed a vulnerability assessment. The vulnerability assessment identified external factors or events that can place the liquefaction or vaporizer systems off-line. The technical evaluation is found in the vulnerability assessment report.
Project Relationships (if applicable) N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	**Actual 2021**	**Actual 2022**	**Actual 2023**	**Test Year* (O&M Only)**	**Forecast 2024**
O&M						
Regulatory Asset						
Capital						$62

2025-2029 Request:
Total Request by Year:

	2025	**2026 (RY1)**	**2027 (RY2)**	**2028 (RY3)**	**2029**
O&M					
Regulatory Asset					
Capital (Total)		$1,000	$1,000	$1,000	
Labor		$200	$200	$200	
M&S		$300	$300	$300	
Contract Svcs.		$200	$200	$200	
Other					
Overheads		$300	$300	$300	

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

Gas Operations/LNG Plant
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: LNG Tank Pressure and Vacuum Reliefs	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1):** 27640010
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/2/2027	**Estimated Date In Service: 11/1/2029**
2025-2029 Funding Request ($000) **Capital: $1,000** **O&M:**	

Work Description:

This project will provide for the replacement of the LNG Tank Pressure relief and Vacuum relief valves.

Justification Summary:

These valves have been in service for over 50 years and parts are no longer available.
To enhance reliability and ensure continued operation the valves are to be replaced.
Annual verification of the valves is a federal code compliance item.

Changes in weather conditions along with operational availability of the LNG tank boil off gas management system may require operation of the LNG Tank pressure safety relief valves.

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

Historical costs.

3. Funding Detail ($000)

Historic Spend

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

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)			$1,000		
Labor			$200		
M&S			$300		
Contract Svcs.			$200		
Other					
Overheads			$300		

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

Gas Operations/LNG Plant
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: LNG - Ground Combustor Replacement	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1):** 27640011
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 1/2/2027	**Estimated Date In Service: 11/1/29**
2025-2029 Funding Request ($000) **Capital: $5,000** **O&M:**	

Work Description:

This project provides for replacement / elevation of LNG plant Ground Combustor and controls. The Ground Combustor is to be operational at FEMA std. + five feet at the end of the project.
The Ground Combustor is utilized to flare boil off gas (methane) from LNG tank as required due to atmospheric conditions and or equipment status.
Correct operation of the Ground Combustor avoids operation of the elevated flare and LNG tank safety valve discharge of natural gas to the atmosphere.

Justification Summary:

The Ground Combustor is the original equipment to the plant (50 years in service) and is located at a low elevation in the plant.
It is equipped with air intake louvers around the base of the unit, and it could become inoperative if the louvers are blocked by flood waters. Flooding in the area has been more frequent during recent years presumably due to climate change.

Dependent on weather conditions and equipment status having the Ground Combustor out of service could cause the LNG tank safety valves to operate venting natural gas to the atmosphere. This could also require deviations from normal operating procedures.
Refractory lining the inside of the Ground Combustor, and controls are nearing end of life.

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

This project will reduce the possibility of Greenhouse Gas Emissions from the LNG Tank by hardening the Ground Combustor to the potential of flood water in the Ground Combustor area impacting Ground Combustor operation.

Local communities will benefit from reduction of possible GHG emissions.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
Continue operation as is and accept the risk of GHG emissions, and deviation from normal operating procedures.
This alternative is not recommended.

Alternative 2 description and reason for rejection
Alternative 3 description and reason for rejection

Risk of No Action

Risk 1
Risks include discharge of natural gas due to a weather event and associated impact to company reputation.

Risk 2
Risk 3

Non-Financial Benefits

This project will increase Ground Combustor resilience to flood waters.

Safety and reliability will be increased by not having to require deviations from normal operating procedures.

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
This project will require engineering estimate.

Project Risks and Mitigation Plan

Risk 1
Unforeseen problems with LNG tank vapor piping, foundation, purchase of equipment can increase cost and time to implement.
Mitigation plan:
The engineering project is to begin early in the first year to identify any of these risks to provide time to address them.

Risk 2	Mitigation plan
Technical Evaluation / Analysis N/A	
Project Relationships (if applicable) Enter text here. When complete, remove instructions below. Enter "N/A" if this section does not apply. N/A	

3. Funding Detail ($000)

Historic Spend

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

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)			$5,000		
Labor			$1,000		
M&S			$1,500		
Contract Svcs.			$1000		
Other					
Overheads			$1,500		

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

Gas Operations/LNG Plant
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: LNG Control Center Refurbishment	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 22379335**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date:	**Estimated Date In Service:**
2025-2029 Funding Request ($000) **Capital: $3,000** **O&M:**	

Work Description:

This project provides for roof, soffit, siding replacement, and structural deck. This project will restore the original wind ratings of the building and address any findings beneath the roof, soffit, siding, including saltwater piping. Recent modifications required conduit installation through the soffit and may require support enhancements and penetration sealing.

Roof, soffit and siding insulation will be replaced as well.

Justification Summary:

The building was constructed as the original equipment in the plant in 1973 and is equipped with a saltwater hydrant system located on top of the roof. FDNY requires a test of the system annually deploying saltwater over the entire building multiple times each year resulting in deterioration of the roof, structure siding and soffit. The soffit houses saltwater deluge piping which may be included in soffit replacement.

The roof has already failed and replacement is required. There is also structural damage to the deck which may be a hazard to occupants and equipment.

The building houses the critical control equipment used to operate the LNG plant vaporization process, liquefaction process, and the LNG tank.

REDACTED

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

This project incorporates CECONY Climate Change Planning and Design Guidelines.

2. Supplemental Information

Alternatives

Enter text here. When complete, remove instructions below. Enter "N/A" if this section does not apply.

Alternative 1 description and reason for rejection

REDACTED

This option is not recommended.

Alternative 2 description and reason for rejection
Alternative 3 description and reason for rejection

Risk of No Action

Risk 1
Operational failure of the LNG Plant may impact the Con Edison gas system by not being able to provide vaporization at critical times for either pressure or load causing customer outages.

Risk 2
Risk 3

Non-Financial Benefits

This project will provide for increased safety of operating personnel and reliability of the Natural Gas 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

Project Risks and Mitigation Plan

Risk 1
Discovery of additional deterioration of the structure once the siding is removed.

Mitigation plan
Inspection done prior to the start of the project did not indicate additional deterioration behind the siding.

Risk 2 Mitigation plan

Technical Evaluation / Analysis

Roof inspection report used for condition of roof and deck. The report indicates the roof must be replaced and the deck repaired.

Project Relationships (if applicable)
N/A

3. Funding Detail ($000)

Historic Spend

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

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)			$1,000	$2,000	
Labor			$200	$400	
M&S			$300	$600	
Contract Svcs.			$200	$400	
Other					
Overheads			$300	$600	

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

Gas Operations/LNG Plant
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: LNG - Shafer Emissions Controlled Actuation Technology	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1):** 27640013
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2/2/26	**Estimated Date In Service: 11/1/2028**
2025-2029 Funding Request ($000) **Capital: $500** **O&M:**	

Work Description:

Shafer Emissions Controlled Actuation Technology (ECAT) is a Valve Operating System for critical pipeline applications where the equipment is essential, and emissions control is needed.

Natural gas from the pipeline powers the actuators which control the valves and during this operation natural gas is discharged due to the venting of the excess gas. This technology captures the natural gas emitted and re-injects it back into the pipeline thus eliminating any emissions being vented.

The purpose of this project is to retrofit the main line valve actuators (4 each) at the Hunts Point compressor station with this technology to eliminate natural gas discharge during normal operation.

Justification Summary:

During normal operation, the current actuators utilize natural gas for movement of the valves at the Hunts Point compressor station. In this process, any excess natural gas is released into the atmosphere. By completing this project, the excess natural gas will be captured and reintroduced into the pipeline thus reducing emissions into the atmosphere.

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

Quote for retrofit hardware received in 2024. Installation would be separate.

3. Funding Detail ($000)

Historic Spend

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

2025-2029 Request:

Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)		$500			
Labor		$100			
M&S		$150			
Contract Svcs.		$100			
Other					
Overheads		$150			

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

Gas Operations/LNG Plant
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: Compressor Station Fire Detection Upgrade	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1):**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 3/1/25	**Estimated Date In Service: 11/1/29**
2025-2029 Funding Request ($000) **Capital: $8,000** **O&M:**	

Work Description:

This project is to replace the existing Fire Detection and Control system at the Hunt's Point Compressor Station.

REDACTED

Justification Summary:

The existing system is original installation, (over 30 years old). Spare parts and service from the original equipment manufacturer (OEM) are not available. Replacement components are from third party. The system is required for continued safe operation of the compressor station.
A fire protection system is required by the FDNY. Operations inspects it and then it is demonstrated to the FDNY annually, prior to start up. System replacement is required to ensure reliability and to continue to meet FDNY approval.

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

The new Fire Detection and Control system will provide enhanced gas detection using modern technology which would provide improved Leak Detection and Repair ("LDAR") and reduce possible Greenhouse Gas Emissions and future LDAR regulations.

This system will benefit Disadvantaged Communities ("DACs") as the location of the Hunts Point Compressor station is in a DAC and the improved LDAR and safety of the plant will benefit the community.

A modern fire protection and control system will reduce company risk and improve the safety of the compressor station.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

Continue to operate the compressor station as is with the increased possibility of malfunction forcing station outage, possible safety and LDAR concerns.
Not recommended.

Alternative 2 description and reason for rejection
Alternative 3 description and reason for rejection

Risk of No Action

Risk 1
Forced station outage impacts on the gas supply to NYC.

Risk 2
Safety concerns due to a malfunction of the system.

Risk 3

Non-Financial Benefits

As indicated above the non-financial benefits would include safety and reliability.

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

This is an order of magnitude estimate. The estimate for this project is based on costs associated with a recent similar project for fire detection upgrade at the LNG Plant.

Project Risks and Mitigation Plan

Risk 1
Compliance with FDNY requirements.
Mitigation plan.
Insure permit approval through design process with FDNY.

Risk 2 Compliance with emerging Federal and State LDAR codes. Mitigation plan
Technical Evaluation / Analysis N/A
Project Relationships (if applicable) N/A

3. Funding Detail ($000)

Historic Spend

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

2025-2029 Request:
Total Request by Year:

	2025	**2026 (RY1)**	**2027 (RY2)**	**2028 (RY3)**	**2029**
O&M					
Regulatory Asset					
Capital (Total)			$2,000	$6,000	
Labor			$400	$1,200	
M&S			$600	$1,800	
Contract Svcs.			$400	$1,200	
Other					
Overheads			$600	$1,200	

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

TUNNELS:
Gas Operations / Tunnel Maintenance
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: Concrete Restoration	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 23317900**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: $3,000** **O&M: $0**	

Work Description:

This program aims to replace structural concrete in the Astoria and Ravenswood tunnels. The structural concrete is essential to the existing design and integrity of these tunnels.

Justification Summary:

There is a significant amount of spalling concrete in both the Astoria and Ravenswood tunnels. These locations also have rusted rebar, delamination, and fragmenting of the concrete. Both tunnels are more than 100 years old and water infiltration and atmospheric corrosion have taken its toll on the concrete. The tunnels house critical infrastructure such as electric feeders, gas transmission, and steam mains. This program will enhance asset and employee safety.

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

This project will increase the structural integrity of the tunnels. It will increase safety, reliability, and efficiency. It will also ensure the safe delivery of gas transmission, electric transmissions, and steam to our customers.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
Make only essential repairs as needed and let the concrete deteriorate and rebar worsen over time. This alternative is not preferred as permanent repairs will impact the O&M budget and employee safety would be at risk.

Alternative 2 description and reason for rejection
N/A

Alternative 3 description and reason for rejection
N/A

Risk of No Action

Risk 1
If repairs are not completed it will lead to a significant safety and structural issue within the tunnels.

Risk 2
N/A

Risk 3
N/A

Non-Financial Benefits

Increased safety, reliability, and efficiency.

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 is based on previous concrete work recently completed. The estimate will be refined based on the detailed engineering design.

Project Risks and Mitigation Plan

Risk 1 - Not being able to obtain the materials and supplies required for the scope may extend the timeframe.
Mitigation plan - Order the materials upon award of contract.

Risk 2 – N/A Mitigation plan

Technical Evaluation / Analysis

Detailed engineering design will be completed by an engineering consultant.

Project Relationships (if applicable)
N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
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:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$0	$1,000	$1,000	$1,000	$0
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

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

Gas Operations / Tunnel Maintenance
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: Astoria Elevator Modernization	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 23317898**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: $10,000** **O&M: $0**	

Work Description:

This project will install a new code compliant elevator in the Queens shaft of the Astoria tunnel. It will remove and replace the existing deteriorated, non-compliant elevator within the tunnel shaft.

Justification Summary:

The elevator in the 262 feet deep Queens shaft contains key components that have been in service since 1976 and the control system has been obsoleted by the manufacturer.

An elevator consultant has recommended a complete modernization of the elevator's operational and motion control systems and all hoist way and door components within the next three years. The elevator is currently out of service due to structural concerns and is beyond economical repair. In addition, key components are well past their useful life and need to be replaced. The elevator consultant has estimated that the remaining life of key components, including the Operational Controls, Motion Controls, Governor, and Driving Machine is 0-4 years.

The modernization should also include, relocating the control system to be in the same room as the driving machine. The scope includes replacing the steel support structure.

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

Con Edison recognizes that climate is changing and considers that the floodplain will extend over time due to sea-level rise, and that temperature and rainfall amounts will also rise. As such, six vulnerable tunnel facilities have already been storm hardened to FEMA +5 to prevent flooding. A new code compliant elevator will facilitate weekly, monthly, and biennial tunnel inspections in compliance with G-11832 - General Inspection Procedure for Tunnels and Installed Facilities.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
Do not replace the elevator and use the existing ladders and landings to enter and exit the tunnel. The height of this shaft is 262 feet. This alternative is not recommended as it increases the risk of employee injury.

Alternative 2 description and reason for rejection
N/A

Alternative 3 description and reason for rejection
N/A

Risk of No Action

Risk 1
The elevator is obsolete and unreliable. Modernizing the elevator is the best option. No action will result in putting employee safety at risk by climbing the existing ladder and landings 262 feet to enter and exit the tunnel.

Risk 2
N/A

Risk 3
N/A

Non-Financial Benefits

Increased reliability, employee and asset safety.

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 is based on previous concrete work recently completed. The estimate will be refined based on the detailed engineering design.

Project Risks and Mitigation Plan

Risk 1 - Not being able to obtain the materials and supplies required for the scope may extend the timeframe.

Mitigation plan - Order the materials upon award of contract.

Risk 2 – N/A	Mitigation plan

Technical Evaluation / Analysis

The elevator scope of work was prepared by an elevator consultant and will be designed and engineered by an engineering vendor to fit the existing space.

Project Relationships (if applicable)
N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
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:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$1,250	$750	$5,000	$3,000	$0
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

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

Gas Operations / Tunnel Maintenance
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: Flushing Tunnel Bulkhead Replacement	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 25558170**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: $1,100** **O&M: $0**	

Work Description:

The Flushing Tunnel, which carries critical infrastructure that distributes energy to Con Edison customers, traverses the Flushing Creek. The bulkhead that protects the tunnel head house from water intrusion and impact from vessels navigating the waterway shows significant signs of deterioration, unstable supports and structural members, and an eroded bank. An engineering study determined that if left as is the bulkhead and the concrete deck on top will continue to degrade further and will allow continued loss of fill from behind the bulkhead.

Justification Summary:

The existing bulkhead is collapsing. Not addressing the problem will lead to continued degradation, erosion, regulatory fines, and negative Company perception.

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

Con Edison recognizes that climate is changing and considers that the floodplain will extend over time due to sea-level rise, and that temperature and rainfall amounts will also rise. As such, facilities will be designed in accordance with standards for climate adaptation. Engineering will design systems in accordance with Climate Change Planning and Design Guideline Document & Corporate Instruction CI-610-4. The specific project will determine which climate change pathways ("the Pathways") and design elements to incorporate into the project for increased precipitation, temperature rise, and sea level rise; the design work scope will apply the "Pathway" for the decadal time horizon associated the specific project. Note that each project and application will need to be reviewed and analyzed.

The detailed design for the new bulkhead will meet current guidelines.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
Take no action and continue to monitor the condition. This alternative is not recommended since the bulkheads are collapsing. While the current condition does not appear to be an immediate threat to the navigable waterway, the bulkhead is in disrepair.

Alternative 2 description and reason for rejection
N/A

Alternative 3 description and reason for rejection
N/A

Risk of No Action

Risk 1
Not addressing the problem will lead to continued degradation, erosion, regulatory fines and negative Company perception.

Risk 2
N/A

Risk 3
N/A

Non-Financial Benefits

Reliability of the facilities within this tunnel.

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

This is an order of magnitude estimate that will be refined as additional waterfront and bulkhead engineering inspections are performed.

Project Risks and Mitigation Plan

Risk 1 - Not being able to obtain the materials and supplies required for the scope may extend the timeframe.

Mitigation plan - Order the materials upon award of contract.

Risk 2 – N/A	Mitigation plan
Technical Evaluation / Analysis A structural inspection performed by an engineering firm, along with a topographic survey and diving inspection, determined that the existing structure has deteriorated beyond repair and cannot be salvaged.	
Project Relationships (if applicable) N/A	

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
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:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$0	$1,100	$0	$0	$0
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

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

Gas Operations / Tunnel Maintenance
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: Steel Replacement Program	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 10106038**
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: $4,000** **O&M: $0**	

Work Description:

This is the continuation of an existing program to rehabilitate/replace deteriorated structural steel members throughout the eight tunnels and tunnel head houses that Con Edison owns and operates. The structural members throughout are utilized to protect and/or support critical infrastructure such as gas mains, electric feeders, and steam mains. Visual inspections are completed to monitor the structures and replacements are prioritized and regularly completed based on severity of corrosion.

Justification Summary:

Structural steel is continually exposed to salt and water infiltration causing corrosion. Based on regular inspections, it has been determined that there are multiple pieces of structural steel members that require total replacement. These members were identified for replacement due to deteriorating webs and flanges amongst other issues. Existing carbon steel members are prioritized and will be replaced with new corrosion resistant steel.

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

This project will increase safety and reliability. It will also ensure the safe delivery of gas, electric, and steam to our customers.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
One alternative for this program is to aggressively scrape the members, and clean and paint them with an epoxy paint system. This is not a viable alternative since this work will not address the loss of strength due to corrosion, which has left holes in the flanges and webs.

Alternative 2 description and reason for rejection
N/A

Alternative 3 description and reason for rejection
N/A

Risk of No Action

Risk 1
If repairs are not made in a timely manner, there is a risk that a failure of a single structural component may cause a cascading effect that may impact all the facilities located within the tunnel.

Risk 2
N/A

Risk 3
N/A

Non-Financial Benefits

Increased safety and reliability. The benefit of this program is largely to reduce risk and promote reliability of critical infrastructure in the tunnels.

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 order of magnitude estimates are based on similar work completed in various tunnels.

Project Risks and Mitigation Plan

Risk 1 - Emergent issues ever evolving in the tunnels cause for many delays and work stoppages, i.e.: feeder oil leaks and falling debris from spalling corroded steel. Remediating these issues may cause for delays in project completion.

Mitigation plan - Feeders will be recoated with non-corrosive protective coating. Protective measures such as scaffolding will be erected.

Risk 2 – N/A Mitigation plan

Technical Evaluation / Analysis

When corrosion compromises integrity, the steel members are replaced. An engineering vendor has prepared detailed engineering designs for each replacement.

Project Relationships (if applicable)
N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
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:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$1,000	$1,000	$1,000	$1,000	$0
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

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

Gas Operations / Tunnel Maintenance
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: Annual Sump Pumps	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 21477247**
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: $600** **O&M: $0**	

Work Description:

Sump pumps are utilized to control water infiltration and protect the facilities and ancillary equipment contained within the tunnels. This is an annual program to purchase new sump pumps each year to replace those that have reached the end of their useful life.

Justification Summary:

There are 18 sump pumps that service our eight critical utility tunnels. Dewatering the tunnels to safeguard the structural integrity of the tunnel as well as the utility infrastructure inside the tunnels is critical to the safety of personnel and reliability of the steam, electric and gas transmission, and distribution systems. Stancor and Flygt brand submersible pumps are utilized for dewatering the tunnels. A reliable supply of replacement pumps for both scheduled and emergency replacement is essential to properly maintain the pumping capabilities of each tunnel. The sump pumps are essential for several reasons, including keeping water away from our steam mains in Ravenswood, Hudson Avenue and First Avenue to prevent a catastrophic water hammer from occurring. Having spare sump pumps on hand allows us to change out pumps as needed before the infiltrating water can negatively impact any tunnel.

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

Con Edison recognizes that climate is changing and considers that the floodplain will extend over time due to sea-level rise, and that temperature and rainfall amounts will also rise. As such, six vulnerable tunnel facilities have already been storm hardened to FEMA +5 to prevent flooding. Submersible pumps are kept on hand to ensure infiltration water is consistently pumped out of the tunnels.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
Ongoing maintenance - The pumps are maintained by our maintenance vendor on a regular frequency.

This option is not recommended.

A life cycle study has determined that running the pumps to failure and replacing them with new pumps is the preferred option except for the Stancor pumps used exclusively at Astoria. This option will also have the least impact on rate payers.

Alternative 2 description and reason for rejection
N/A

Alternative 3 description and reason for rejection
N/A

Risk of No Action

Risk 1
Multiple unplanned pump failures could result in a shortage of suitable replacement pumps. The sump pumps are vital to ensuring the safety and reliability of the tunnel and the facilities contained within. Should a situation arise where there are no replacement pumps available it would be extremely difficult to locate a replacement pump on short notice.

Risk 2
N/A

Risk 3
N/A

Non-Financial Benefits

Increased safety, reliability, efficiency, and customer satisfaction.

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

Quotes are requested and estimates vary by pump type.

Project Risks and Mitigation Plan

Risk 1 - These specialty pumps can be a long lead item.

Mitigation plan - Always maintain a minimum of two pumps per tunnel.

Risk 2 – N/A Mitigation plan

Technical Evaluation / Analysis

Tunnel Maintenance submitted an Engineering Service Request requesting a recommendation on the most cost-efficient way to manage our submersible pumps. This identified that running the pumps to failure in seven of eight tunnels is the most cost-effective solution. The exception, the Astoria Tunnel where it is recommended that the sump pumps remain on an annual maintenance program.

Project Relationships (if applicable)
N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
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:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$150	$150	$150	$150	$0
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

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

Gas Operations / Tunnel Maintenance
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: Carbon Fiber Wrap	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 23317899**
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: $35,000** **O&M: $0**	

Work Description:

This is an on-going annual program to wrap the dielectric fluid filled electric transmission feeders and associated oil return lines with carbon fiber within the tunnels. The carbon fiber wrap is a superior product to the wax tape and prolongs the life service of each feeder.

Justification Summary:

The assessment of the tunnels' environmental condition reveals significant challenges. Water infiltration and steam emission cause for a corrosive environment, especially in the shaft sections where water permeation and settling are most prevalent. Corrosion found through the tunnel has led to leaks in the electric transmission feeders. To mitigate these issues, it is recommended that the entire length of the feeders, along with the associated oil return lines, be reinforced with carbon fiber wrapping to enhance durability and resistance.

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

Wrapping the feeders and associated oil return lines in carbon fiber will greatly reduce the likelihood of future leaks, increase reliability, create a new pressure boundary for the feeder extending its useful life and reduce the impact to O&M.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
Remediate corrosion on the feeders as issue develops. This alternative is not preferred as permanent repairs will impact the O&M budget.

Alternative 2 description and reason for rejection
N/A

Alternative 3 description and reason for rejection
N/A

Risk of No Action

Risk 1
Risk the possibility of continued feeder leaks impacting network reliability as well as increased O&M expenses.

Risk 2
N/A

Risk 3
N/A

Non-Financial Benefits

Carbon fiber wrap will reduce the risk of environmental spills of dielectric fluid in the tunnels. This program can potentially enhance system reliability build stronger relationships with regulators.

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 is based on experience with similar projects. The estimate will be refined based on a defined scope of work.

Project Risks and Mitigation Plan

Risk 1 - Not being able to obtain the materials and supplies required for the scope may extend the timeframe.

Mitigation plan - Order the materials upon award of contract.

Risk 2 – N/A Mitigation plan

Technical Evaluation / Analysis

Apply carbon fiber wrap technology to the electric transmission feeders that will provide a new pressure boundary/additional wall thickness to the feeders, extending their life expectancy. The feeders/oil return lines will be coated with 8 layers of carbon fiber with the manufacturer's saturant and coated with 15 mils of epoxy to protect against abrasion and/or physical impact. All work will be observed by a third-party QA/QC inspector and NACE Level III inspector for the duration of the project.

Project Relationships (if applicable)
N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
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:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$5,000	$10,000	$10,000	$10,000	$0
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

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

Gas Operations / Tunnel Maintenance
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: Astoria Cast Steel Liner Replacement	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 25558171**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: $2,250** **O&M: $0**	

Work Description:

The Astoria Tunnel was completed in 1915. This tunnel traverses below water and carries critical infrastructure for distribution to Con Edison's customers.

The presence of decomposed rock extending on the direct line of the tunnel for approximately 450 feet has been identified as a challenge. Decomposed rock is rock that has weathered to the point that it readily fractures into smaller pieces of weak rock. Further weathering produces rock that easily crumbles into mixtures of gravel-sized particles, sand, and silt-sized particles with some clay. The engineering solution at the time of construction was to line the decomposed rock sections with a cast-steel liner and pump high pressure grout behind the liner. The cast-steel liner currently shows signs of heavy corrosion including rusting and spalling which includes the bolts at the flanges. The heavily corroded areas are located coincident to the locations in the tunnel that experienced excessive water infiltration during its original construction.

An Engineering Evaluation suggests that the steel lined sections of the tunnel may be structurally compromised based on the severe corrosion of the liner ribs, radial bolts, and circumferential bolts.

Justification Summary:

The first phase of this project requires additional investigation and detailed engineering design. The integrity of the cast-steel liner within these areas requires further investigation and analysis to determine its current structural capability.

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

This project will increase safety and reliability. It will also ensure the safe delivery of natural gas and electricity to our customers.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
One alternative for this project is to aggressively scrape the cast-steel liner, and clean and paint it with an epoxy paint system. This alternative is not recommended since this work will not address the potential loss of strength due to corrosion.

Alternative 2 description and reason for rejection
N/A

Alternative 3 description and reason for rejection
N/A

Risk of No Action

Risk 1
If repairs are not made in a timely manner, there is a risk of failure of a single structural component that could impact the facilities located within the tunnel.

Risk 2
N/A

Risk 3
N/A

Non-Financial Benefits

Increased safety and reliability. The benefit of this program is largely to reduce risk and promote reliability of critical infrastructure in the tunnels.

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 is an order of magnitude estimate. Additional engineering inspection and testing will be needed to develop a detailed engineering design.

Project Risks and Mitigation Plan

Risk 1 - Not being able to obtain the materials and supplies required for the scope may extend the timeframe.

Mitigation plan - Order the materials upon award of contract.

Risk 2 – N/A	Mitigation plan

Technical Evaluation / Analysis

When corrosion compromises integrity, the cast-steel liner will need to be replaced. An engineering vendor will prepare a detailed engineering design.

Project Relationships (if applicable)
N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
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:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$0	$250	$1,000	$1,000	$0
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

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

Gas Operations / Tunnel Maintenance
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: Lighting Improvement Program	
Project/Program Manager: Neela Mangray	**Project/Program Number (Level 1): 23317902**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: $750** **O&M: $0**	

Work Description:

This is the continuation of a program that will replace lighting and electrical outlets in five tunnels, including shafts and head houses. These projects involve the upgrade of the existing lighting systems with high energy efficient lighting fixtures complete with new wiring and conduit and code compliant electrical outlets. This will include the removal of the obsolete equipment.

Justification Summary:

The existing lighting systems and electrical outlets are obsolete, inefficient and need to be replaced. The new lights will be replaced with highly efficient LED lighting fixtures which use significantly less power with a longer life span. The new electrical outlets will be code compliant. This effort will reduce O&M expenses as these fixtures are expected to last longer reducing maintenance.

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

This project will increase safety and reliability. It will also ensure the safe delivery of gas, electric, and steam to our customers.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection
Leave the existing obsolete lighting in place and replace bulbs and fixtures as needed. This alternative is not recommended as new LED lighting is more efficient and is expected to last longer reducing O&M expenses.

Alternative 2 description and reason for rejection
N/A

Alternative 3 description and reason for rejection
N/A

Risk of No Action

Risk 1
The existing lighting in the tunnel is obsolete and inefficient. Poor lighting is a safety concern and puts employees and contractors at risk for injury.

Risk 2
N/A

Risk 3
N/A

Non-Financial Benefits

Increased safety, reliability, efficiency, and customer satisfaction.

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

2. Major financial benefits

New LED lighting is more efficient and is expected to last longer reducing O&M expenses.

3. Basis for estimate

The order of magnitude estimate is based on recently completed lighting replacement work at the Flushing and Ravenswood tunnels.

Project Risks and Mitigation Plan

Risk 1 - Not being able to obtain the materials and supplies required for the scope may extend the timeframe.

Mitigation plan - Order the materials upon award of contract.

Risk 2 – N/A Mitigation plan

Technical Evaluation / Analysis

The Company's lighting efficiency expert will identify the best available lighting fixtures to be used in each tunnel. Central Engineering in conjunction with an engineering vendor will spec out and design the system.

Project Relationships (if applicable)
N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
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:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$0	$250	$250	$250	$0
Labor					
M&S					
Contract Svcs.					
Other					
Overheads					

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

METERS:
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: Meter Purchases – Customer Connections and Meter Replacement Programs	
Project/Program Manager: Matthew Burr	**Project/Program Number (Level 1): 21477251**
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: $63,820** **O&M:**	

Work Description:

This capital program is for the purchase of gas meters, related devices for mandated programs and advanced metering infrastructure ("AMI") devices. Related devices include pressure regulators and instrumentation such as volume correctors, electronic indexes, meter testing equipment. These mandated programs include program replacements and meter purchases for customer connections. This is mandatory work in accordance with NYS PSC standards set forth in Title 16, Part 226, and the Gas Tariff.

Justification Summary:

Gas meters are used for customer connections, meter programs, and replacements. Approximately 90% of the meter inventory is maintained through new meter purchases and the remainder from refurbished meters.

CUSTOMER CONNECTIONS METER PURCHASES:
Meters need to be purchased for customer connections to meet NYS PSC requirements in Title 16 and the Gas Tariff.

This program includes the purchase of the following:

Large Commercial and Industrial Metering Equipment (above 1,000 cfh)
Meters required to fulfill gas customer connection meter installations:
- rotary meters
- turbine meters
- volume correctors
- electronic indexes
- large commercial/industrial regulator sets
- Gas Measurement field labor

Diaphragm Meters (1000cfh and below)
Meters required to fulfill traditional new installations:
- Class 250 residential diaphragm & ultrasonic meters
- Class 500 residential/commercial diaphragm & ultrasonic meters
- Class 1,000 commercial diaphragm meters

Pressure Regulation Devices
Pressure regulating equipment for clean heat & new connection meter installations:
- residential 1in X 1in regulators
- commercial 1in X 1.25in regulators
- commercial 2in X 2in regulators

Gas Measurement Support
Metering products and services used to improve operating efficiency including electronic correctors, electronic indexes, outsource vendor meter refurbishment, and capitalized equipment for testing and labor.
- volume correctors
- electronic indexes
- outsource vendor meter refurbishment
- equipment for meter acceptance testing
- Gas Measurement Shop capital labor
- in-directs

PROGRAM REPLACEMENT METER PURCHASES:
Gas meters and related devices shall conform to the accuracy standards set forth in NYS PSC Title 16, Part 226. Meters that fail to meet these standards are removed and either retired or refurbished.

This program replacement meter purchases include the following:

- Meter Programs
  Replacement meters for sampling programs and remediation/retirement programs:
  - Cat. A/C/O AIP sampling programs
  - Cat. A/C/O remediation/retirement programs
  - Overdue Cat A/C/O remediation programs

- Large Commercial and Industrial Metering Equipment (1,000 cfh and above)
  Large meters required for trouble removals and removals/replacements:
  - rotary meters
  - turbine meters

- Diaphragm Meters (1,000 cfh and below)
  Diaphragm meters required for trouble removals and replacements:
  - class 250 meters
  - class 500 meters
  - class 1000 meters

- Pressure Regulation Devices
  Pressure regulating equipment required for troubles removals and replacements:

- residential 1in X 1in regulators
- commercial 1in X 1.25in regulators
- commercial 2in X 2in regulators
- industrial regulators

- Measurement Support
  For metering products and services including:
  - volume correctors required for trouble removals and replacements
  - outsource vendor meter refurbishment
  - acceptance testing of meters
  - Meter Shop capital labor
  - in-directs

AMI:
Purchase of AMI modules for:
- New meter purchases where the module is installed directly to the meter at time of production.
- New commercial/industrial meters where module installation occurs in the field.
- Subsequent Itron AMI replacements after initial installation during AMI deployment.

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

Con Edison is responsible for providing gas meters to our customers in accordance with Title 16 and the Gas Tariff. Meters are essential for recording customer gas usage, which is the basis for billing the customer.

2. Supplemental Information

Alternatives

Alternative 1 description and reason for rejection

There are no alternatives. Con Edison is responsible for providing gas meters to our customers in accordance with Title 16 and the Gas Tariff. Meters are essential for recording customer gas usage, which is the basis for billing the customer.

Risk of No Action

Risk 1
We will be in violation of the Gas Tariff and we will be losing potential revenue. If gas meters were not purchased then we could only bill the customer on estimated instead of actual gas usage.

Non-Financial Benefits

Not Applicable

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

For customer connections that require a new meter, these customers will add additional revenue.
Project Risks and Mitigation Plan Not Applicable
Technical Evaluation / Analysis Includes purchase of customer meters (diaphragm, rotary, turbine, ultrasonic), service regulators (residential/commercial/industrial), and metering products/services (volume correctors, electronic indexes, testing equipment, outsourced meter shop services) for customer connections.
Project Relationships (if applicable) Not Applicable

3. Funding Detail ($000)

Historic Spend

	Actual 2020	**Actual 2021**	**Actual 2022**	**Actual 2023**	**Test Year* (O&M Only)**	**Forecast 2024**
O&M						
Regulatory Asset						
Capital	$13,260	$8,974	$9,289	$15,813		$14,398

2025-2029 Request:
Total Request by Year:

	2025	**2026 (RY1)**	**2027 (RY2)**	**2028 (RY3)**	**2029**
O&M					
Regulatory Asset					
Capital (Total)	$12,764	$12,764	$12,764	$12,764	$12,764
Labor	$1,021	$1,021	$1,021	$1,021	$1,021
M&S	$10,849	$10,849	$10,849	$10,849	$10,849
Contract Svcs.					
Other					
Overheads	$893	$893	$893	$893	$893

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

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: Meter Installations – Customer Connections and Program Replacements	
Project/Program Manager: Matthew Burr	**Project/Program Number (Level 1):** 10039518, 10039519, 10039604, 10039605
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: 110,760** **O&M:**	

Work Description:

This program is for the installation of gas meters for mandated meter programs, meter/regulator/ instrumentation for troubles and replacements, and meter installations for new and existing customer connections throughout the service territory. This is mandatory work in accordance with NYS PSC standards set forth in Title 16, Part 226 and the Con Edison Gas Tariff.

Gas meters and related devices shall conform to the accuracy standards set forth in NYS PSC Title 16, Part 226. Meters that fail to meet these standards are removed and either retired or refurbished.

Meter installations for program replacements under regulatory mandated programs include the following:

- Meter Programs
  Replacement meters for sampling programs and remediation/retirement programs:
  - Cat. A/C/O AIP sampling programs
  - Cat. A/C/O remediation/retirement programs
  - Overdue Cat A/C/O remediation programs

- Large Commercial and Industrial Metering Equipment (1,000 cfh and above)
  Large meters required for trouble removals and removals/replacements:
  - rotary meters
  - turbine meters

- Diaphragm Meters (1,000 cfh and below)
  Diaphragm meters required for trouble removals and replacements:
  - class 250 meters
  - class 500 meters
  - class 1000 meters

- Pressure Regulation Devices
  Pressure regulating equipment required for troubles removals and replacements:
  - residential 1in X 1in regulators
  - commercial 1in X 1.25in regulators
  - commercial 2in X 2in regulators
  - industrial regulators

- Measurement Support
  Volume correctors required for trouble removals and replacements

Meter installations for customer connections include all sizes of meters, regulators, and instrumentation.

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

Con Edison recognizes climate change and supports the needs for alternative energy choices. The Company still has an obligation to provide gas service to existing and potential future customers under the gas rate tariff. In addition, absent modifications to regulations preventing new construction from requesting natural gas as a fuel choice coupled with the existing obligations under the gas rate tariff, this program will continue to require funding to support existing and new customer requests. The program does not request any funding for proactive measures to market and promote the growth of natural gas connections. When the existing system is unable to support the additional gas demand or a customer requires significant gas extension and reinforcement at a cost to the customer (CIAC – contribution in aid of construction), customers are provided alternative options as a means to satisfy their energy needs while supporting alternative energy choices. The plan is to continue support and promote alternative energy choices at every opportunity that arises.

2. Supplemental Information

Alternatives

There are no alternatives. Con Edison is responsible for providing gas meters and associated equipment/devices for programs and replacements in accordance with NYS PSC Title 16, and Part 226. Gas meters must be installed when customers request service in accordance with the Gas Tariff. Meters must be installed to bill the customer.

Risk of No Action

Con Edison will be in violation of the gas tariffs and will be losing potential revenue. If meter program and replacement gas meters were not installed, then we could only bill the customer on estimated instead of actual gas usage.

Non-Financial Benefits

- **N/A**

Summary of Financial Benefits and Costs (attach backup) 1. Cost-benefit analysis (if required) For customer connections that require a new meter, these customers will add additional revenue.
Project Risks and Mitigation Plan Not Applicable
Technical Evaluation / Analysis Includes installation of customer meters (diaphragm, rotary, turbine), service regulators (residential/commercial/industrial), and metering products (interruptible monitors, volume correctors) for programs and replacements. Includes installation/turn-on of meters (diaphragm, rotary, turbine), and service regulators (residential/commercial/industrial) for customer connections.
Project Relationships (if applicable) Not Applicable

3. Funding Detail ($000)

Historic Spend

	Actual 2020	**Actual 2021**	**Actual 2022**	**Actual 2023**	**Test Year* (O&M Only)**	**Forecast 2024**
O&M						
Regulatory Asset						
Capital	$10,764	$13,055	$16,548	$23,303		$24,303

2025-2029 Request:
Total Request by Year:

	2025	**2026 (RY1)**	**2027 (RY2)**	**2028 (RY3)**	**2029**
O&M					
Regulatory Asset					
Capital (Total)	$22,152	$22,152	$22,152	$22,152	$22,152
Labor	$11,076	$11,076	$11,076	$11,076	$11,076
M&S					
Contract Svcs.	$5,538	$5,538	$5,538	$5,538	$5,538
Other					
Overheads	$5,538	$5,538	$5,538	$5,538	$5,538

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

6. GAS INFORMATION TECHNOLOGY

Gas Control / 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: GCC EOL Equipment Upgrade	
Project/Program Manager: Victor Dadario	**Project/Program Number (Level 1): 26018033**
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: $435** **O&M: $0**	

Work Description:

This program is for the continued replacement of obsolete components for the Gas Control Center, including supporting and ancillary equipment, High Value Network and Information Technology systems used by the Gas Control Center and continued investment in cyber hardening initiatives.

Gas Control currently manages the lifecycle costs for non-Gas Technology managed equipment, which includes workstations, displays, and other components on the High Value Network that are managed under IT Business System Delivery personnel, which had historically resulted in equipment failing due to lack of replacement. Additionally, specialty components for Gas Control Center Equipment, including video display walls, consoles, and other supporting components required for control center operations are included in this category.

This program continues a recurring replacement cycle of 3 years for Gas Control Center information devices, including SCADA workstations, monitors, and display devices, and 5 and 10 year lifecycles for other components including video wall displays, associated controllers, and ancillary equipment.
Additionally, this program includes continued funding for Gas Operations investment in the Company's Operational Technology ("OT") Centralized Management program and other cyber hardening initiatives.

Justification Summary:

As a 24/7/365 Control Center for the CECONY and ORU Gas Transmission and Distribution systems, reliable operation under all circumstances is of the highest priority. Previously the Gas Control Center replaced equipment on an ad hoc basis, driven by direct equipment failure before replacement. This places additional burden on Control Center personnel and can impair situational awareness until components can be replaced, which sometimes requires long lead times or involve obsolete equipment due to the equipment's duration of service.

Continued investment in the Company's OT Centralized Management program and other similar cyber network monitoring programs allows for proactive monitoring and faster response to cyber-related events in an ever-changing cybersecurity regulatory and threat environment.

Implementation of these programs reduces risks to the Gas Operations business, both by continuing a preventative maintenance/replacement program for critical assets as well as providing for active monitoring of High Value systems to identify and remediate problems before the impact to the business grows.

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
The funding for this project was determined based on expected equipment costs and 3year lifecycles for Gas Control Center equipment, as well as pro-rated carrying costs for Gas usage of OT Central Management.

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital				52		76

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$67	$69	$154	$30	$115
Labor					
M&S	$53.60	$55.20	$123.20	$24	$92
Contract Svcs.	$6.70	$6.90	$15.40	$3	$11.50
Other					
Overheads	$6.70	$6.90	$15.40	$3	$11.50

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

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: Primary Gas Control Center Furnishing	
Project/Program Manager: Julie Novalle	**Project/Program Number (Level 1): 26018036**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2029**
2025-2029 Funding Request ($000) **Capital: $2,100** **O&M: $0**	

Work Description:

This project involves furnishing a new Gas Control Center at a Westchester County location. Re-development of the Westchester site includes construction of a purpose-built facility for Gas Control, which incorporates principles from ISO 11064 "Ergonomic Design of Control Centers" and enhances security.

Gas Control Center operations require specific and unique equipment requirements to effectively monitor and control the Company's Gas Transmission and Distribution systems, meet regulatory requirements surrounding Control Room Management Fatigue Mitigation, communicate with internal company groups and external Pipeline Control Centers with complete reliability, respond effectively to Serious or Full-Scale incidents, and support personnel and processes.

This project funds ergonomic Gas System Operator consoles with sufficient display space, workstations, communication equipment, and infrastructure required for continuous Gas Transmission and Distribution System operation. This includes off-console visual display equipment for real-time operations and incident response collaboration. Additionally, funding supports console requirements that exceed Corporate Standard furnishings, IT infrastructure and a Conference Room within the secure space.

Hardware purchase is projected for 2027 with actual furnishment in 2028/29 alongside completion of the Westchester County location re-development.

Justification Summary:
Gas Control Center operations require significant information intake for proper decision making, reliable communications for system adjustments and incident response, and support staff to streamline routine tasks, allowing Gas System Operators to focus on their primary responsibility.

Control Room Management regulations require ongoing evaluation of strategies to mitigate fatigue and maximize alertness to support pipeline control operations. Construction of new facilities provides opportunities to incorporate engineering controls that have been shown to directly contribute to optimized Control Center operations that is not possible to do while an existing facility is in service.

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

Construction and furnishment of a new Primary Gas Control Center reduces security risks identified from Security Vulnerability Assessments, compliance risks by incorporating current best practices, and enhances Operational Excellence by reducing contributing factors and incorporating Human Performance tools at an engineering control level.

Climate Adaptation/mitigation for the site will be addressed as part of the site redevelopment project at the Westchester County location. Modern equipment will realize efficiency gains compared to existing equipment, indirectly reducing Greenhouse Gas Emissions. Disadvantaged Community impacts will also be handled as part of the development project.

2. Supplemental Information

Alternatives

Furnishment to be accomplished utilizing existing equipment. This option is rejected as this would require demobilization of equipment from the existing primary site while in operation, removing Control Center redundancy in case of loss of location, dramatically increasing risk to the operation of the Gas Transmission and Distribution Systems. Additionally, existing facilities are antiquated and/or obsolete, and would not incorporate current best practices and solutions.

Risk of No Action

Risk 1
Utilization of existing equipment, increasing risk due to loss of facility redundancy during breakdown/transport/and rebuild in new facility.

Risk 2
Existing equipment is obsolete, primarily driven by existing facility constraints. Opportunities to reduce risk are missed by not taking advantage of purpose-built facility designed to accept recommended practices in Control Room Design.

Non-Financial Benefits

Increased performance and reduction in potential operating errors due to increased visibility, enhanced collaboration opportunities, and modern Fatigue Mitigation strategies are passively incorporated into Gas Control Center's processes.

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 for this project was determined based on recent expected equipment costs, peer bench-

marking, past discussions around modernization, and lessons learned from construction at the Alternate Gas Control Center.
Project Risks and Mitigation Plan Risk 1 - Delay of site construction could jeopardize project timeline. Mitigation plan - Initial selection of equipment to start based upon equipment that can be stored/used in interim.
Technical Evaluation / Analysis N/A
Project Relationships (if applicable) Dependent on timeline from Westchester Country site redevelopment

3. Funding Detail ($000)

Historic Spend

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

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	$850	$1,250			
Labor					
M&S	$680	$1,000			
Contract Svcs.	$85	$125			
Other					
Overheads	$85	$125			

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

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 Emergency Response Center EOL Equipment Replacement	
Project/Program Manager: Ryan Boula	**Project/Program Number (Level 1): 27840733**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: $1,800** **O&M: $0**	

Work Description:

This program is for the continued replacement of obsolete components for the Gas Emergency Response Center and Information Technology systems utilized in the Gas Emergency Response Center and Alternate Gas Emergency Response Center to manage the life cycle of critical equipment in a planned process.

The Gas Emergency Response Center including the Alternate Gas Emergency Response Center are currently not budgeted for equipment replacement for non-Gas Technology managed equipment, which includes workstations, displays, and other components utilized to monitor and dispatch gas emergencies and safety related jobs.

This program will develop a recurring replacement cycle of 3 years for Gas Emergency Response Center information equipment, including leak monitoring workstations, monitors, video wall, overhead displays, printers, and plotters required for mapping and field support and communications devices.

Justification Summary:

As a 24 x 7 x 365 Gas Emergency Response Center for CECONY Gas Operations, reliable operations under all circumstance are of the highest priority. The Gas Emergency Response Center replaces equipment driven by equipment failures which places a heavy burden on leak response and communications, which also impedes situational awareness and strategic placement of leak responders, mapping information, and field communication protocols. Long lead times to replace these items inhibit the ability to protect life and property with the utmost importance.

Implementation of these programs greatly reduces risks to Gas Operations business, both by implementing a preventative maintenance/replacement program for critical equipment necessary to monitor and dispatch emergency work, as well as the Alternate Gas Emergency Response Center.

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
The funding for this project was determined based on expected equipment costs and 3-year lifecycles for the Gas Emergency Response Centers' leak response and monitoring equipment.

3. Funding Detail ($000)

Historic Spend

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

2025-2029 Request:
Total Request by Year:

	2025	**2026 (RY1)**	**2027 (RY2)**	**2028 (RY3)**	**2029**
O&M					
Regulatory Asset					
Capital (Total)		$600	$600	$600	
Labor					
M&S		$480	$480	$480	
Contract Svcs.		$60	$60	$60	
Other					
Overheads		$60	$60	$60	

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

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: Primary Gas Emergency Response Center Relocation Furnishing	
Project/Program Manager: Ryan Boula	**Project/Program Number (Level 1): 27840728**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2029**
2025-2029 Funding Request ($000) **Capital: 6,000** **O&M:**	

Work Description:

This project is for the Gas Emergency Response Center furnishment for the new Primary Gas Emergency Response Center at a Westchester County location. With the re-development of the Westchester County location, construction of a purpose-built facility for Gas Emergency Response Center incorporating ISO 11064 "Ergonomic Design of Control Centers" and internal Company security concerns from the existing location was selected.

Gas Emergency Response Center operations require specific and unique equipment requirements to effectively monitor and control the Company's Gas Transmission and Distribution systems, meet regulatory requirements surrounding Control Room Management Fatigue Mitigation, communicate with internal company groups and external agencies such as the FDNY, DEP, PSC ,DEP, and DOB with complete reliability, respond effectively to Serious or Full-Scale incidents, as well as all associated support personnel and processes required. The Gas Emergency Response Center is the hub for all internal/external stakeholders and requires extensive technological business continuity process and redundancies to be a best-in-class Gas Emergency Response Center.

This project funds ergonomic Gas Emergency Response Center consoles with sufficient display space required for Gas Emergency Response Center operations, associated workstations and displays, and communication equipment and infrastructure required for continuous safeguarding operations of the Gas Transmission and Distribution Systems. Off-console visual display equipment is also included both for real-time operations as well as collaboration throughout the four operating areas during incident response, investigation and mitigation or Gas Emergencies.

Hardware purchase is projected for 2027 with actual furnishment in 2028/2029 alongside completion of Westchester County site re-development.

Justification Summary:

Gas Emergency Response Center operations require the ability to handle significant amounts of information for proper decision making, reliable communications to make system adjustments or

dispatch field forces both internally and externally for incident investigation and response, and support staff to streamline information flow for routine work to allow Gas Emergency Response Dispatchers to focus on their primary responsibility, dispatch and monitor leak response for mitigation and protecting life and property.

As part of Control Room Management regulatory requirements within Gas Control and Gas Emergency Response Center, strategies to mitigate fatigue and maximize alertness while also providing Gas Troubleshooter Dispatchers, Operating General Supervisors, Operating Managers and Supervisors with enough information and support pipeline control operations are required and need to be evaluated on an ongoing basis. Construction of new facilities provides the opportunity to incorporate engineering controls that optimize Control Center/Gas Emergency Response Center operations in a way that is not possible to do while an existing facility is in service.

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

Construction and furnishment of a new Gas Emergency Response Center at the Westchester County location reduces security risks, compliance risks from Control Room Management, by incorporating current best practices and enhances Operational Excellence by reducing contributing factors and incorporating Human Performance tools at an engineering control level.

Climate Adaptation/mitigation for the site will be addressed as part of Westchester County location redevelopment. Modern equipment will realize efficiency gains compared to existing equipment, indirectly reducing Greenhouse Gas Emissions ("GHG"). Disadvantaged Communities impacts will be handled as part of the Westchester County site development project.

2. Supplemental Information

Alternatives

Furnishment to be accomplished utilizing existing equipment. This option is rejected as this would require demobilization of equipment from the existing primary site while in operation, removing redundancy in case of loss of location, dramatically increasing risk to the operation of the Gas Transmission and Distribution Systems. Additionally, existing facilities are antiquated and/or obsolete, and would not incorporate current best practices and solutions not possible under current design.

Risk of No Action

Risk 1
Utilization of existing equipment, increasing risk due to loss of facility redundancy during breakdown/transport/and rebuild in new facility.

Risk 2
Existing equipment is obsolete, primarily driven by existing facility constraints. Opportunities to reduce risk are missed by not taking advantage of purpose-built facility designed to accept recommended practices in Gas Emergency Response Center Design.

Non-Financial Benefits

Increased business continuity and redundancy as well as lessons learned thus increasing operational

efficiency at the alternate work location rather than retrofitting workstations, procuring equipment, telecommunication and radio communication equipment during an un-planned relocation resulting in increased safety to our customers, system and promoting a plus one customer experience.

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 for this project was determined based on recent expected equipment costs, peer bench-marking, and past discussions around modernization.

Project Risks and Mitigation Plan

Risk 1 - Delay of the Westchester County site construction could jeopardize project timeline.

Mitigation plan - Initial selection of equipment to start based upon equipment that can be stored/used in interim.

Technical Evaluation / Analysis
N/A

Project Relationships (if applicable)
Dependent on timeline from the Westchester County site redevelopment.

3. Funding Detail ($000)

Historic Spend

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

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)		$4,000	$1,000	$1,000	
Labor					
M&S		$3,200	$800	$800	
Contract Svcs.		$400	$100	$100	
Other					
Overheads		$400	$100	$100	

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

Gas Operations / Gas Emergency Response Center
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: Alternate Gas Emergency Response Center Relocation	
Project/Program Manager: Ryan Boula	**Project/Program Number (Level 1): 27840766**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2028**
2025-2029 Funding Request ($000) **Capital: $13,000** **O&M:**	

Work Description:

This project is for the relocation and modernization of the Alternate Gas Emergency Response in Westchester County to an alternative location within close proximity to the primary Gas Emergency Response Center.

This project consists of the renovation and re-purposing of an existing space for a new Alternate Gas Emergency Response Center while the current Alternate Gas Emergency Response Center remains operational. This facility would be constructed to current ISO 11064 "Ergonomic Design of Control Centers," ISO 9241 "Ergonomics of Human Machine Interaction," and Industry Best Practices for Control Center design, while incorporating post-pandemic Business requirements and revised security guidelines that are required.

This project includes funding for Control Center design and demolition in 2026 with construction and furnishment continuing into 2027.

Justification Summary:

The existing Alternate Gas Emergency Response Center is currently inadequate for Business User needs and presents an operational risk due to inadequate equipment to staff a normal business operation within its parameters. This poses a risk to the Company during an unplanned relocation from a site emergency at the Primary Gas Emergency Response Center with not having the workspace and stations to effectively monitor and dispatch Gas Emergencies. Additionally, the existing facility has inadequate space to properly incorporate COVID-19 lessons learned and EP Exercises for Planned Relocation and ventilation issues lead to room over-heating from equipment over-heating during functional operations.

By relocating the facility to an under-utilized space, operational concerns are addressed due to the proximity to the existing Alternate location with a bigger footprint to run operations in a normal setting, thus promoting operational readiness, increased resilience, business continuity and public safety.

As part of Control Room Management regulatory requirements, strategies to mitigate fatigue and maximize alertness while also providing Gas Trouble Shooter Dispatchers with enough information and support operations are required and need to be evaluated on an ongoing basis; purpose-built facilities provide the opportunity to incorporate engineering controls that have been shown to directly contribute to optimized Gas Emergency Response Center operations.

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

Construction and furnishment of a new Alternate Gas Emergency Response Center addresses operational concerns and readiness during routine training exercises while incorporating security controls in line with the planned future Gas Emergency Response Center, compliance risks from Control Room Management by incorporating current best practices and enhances Operational Excellence and readiness by reducing contributing factors and incorporating Human Performance tools at an engineering control level.

Climate Adaptation/mitigation for the project includes the modernization and retirement of antiquated and less energy efficient equipment at the existing facility.

2. Supplemental Information

Alternatives

Furnishment to be accomplished utilizing existing equipment. This option is rejected as this would require increasing the footprint of the existing Alternate Site which cannot accommodate the spacing for additional workstations. Additionally, existing facilities are antiquated, and/or have an obsolete design, and would not incorporate current best practices and solutions not possible under current design.

Risk of No Action

Risk 1
Utilization of existing equipment, increasing risk due to loss of facility redundancy during breakdown/transport/and rebuild in new facility.

Risk 2
Existing equipment is obsolete, primarily driven by existing facility constraints. Opportunities to reduce risk are missed by not taking advantage of purpose-built facility designed to accept recommended practices in Gas Emergency Response Center design.

Non-Financial Benefits

Increased business continuity and redundancy as well as lessons learned thus increasing operational efficiency at the alternate work location rather than retrofitting workstations, procuring equipment, telecommunication and radio communication equipment during an un-planned relocation resulting in increased safety to our customers and our system.

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

2. Major financial benefits
The total capital cost is $13,000,000 over the two-year construction period. Climate change mitigation and/or adaptation is not anticipated to impact project cost.

3. Basis for estimate
The funding for this project was determined based on expected equipment costs, peer bench-marking, and past discussions around modernization and lessons learned from construction of the Alternate Gas Control Center.

Project Risks and Mitigation Plan

Risk 1 - As constructed interferences found during site renovation could jeopardize project timeline and cost.

Mitigation plan - Design work to include evaluation and incorporation of conditions prior to construction to begin.

Technical Evaluation / Analysis
N/A

Project Relationships (if applicable)
N/A

3. Funding Detail ($000)

Historic Spend

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

2025-2029 Request:
Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)		8,500	4,500		
Labor					
M&S		6,800	3,600		
Contract Svcs.		850	450		
Other					
Overheads		850	450		

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