BEFORE THE
STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

In the Matter of

Niagara Mohawk Power Corporation d/b/a National Grid

Cases 24-E-0322 & 24-G-0323

September 26, 2024

Prepared REDACTED Exhibits of:

Staff Net Plant and Gas
Infrastructure and Operations
Panel (SNPGIOP)

Andrew Timbrook
Utility Engineering Specialist 3

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Cases 24-E-0322 & 24-G-0323

Staff Net Plant and Gas Infrastructure and Operations Panel
(SNPGIOP)

Exhibits Table of Contents

[1] For the response to DPS-284, the attachments referenced in testimony have been included. The full response to DPS-284 is voluminous and cannot be efficiently converted to PDF format. Upon request, the full response will be provided.

*Denotes a confidential IR response

Date of Request: January 1, 2024 Request No. DPS-122
Due Date: _____, 2024 NG Request No. NG-122

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-XXXX & 24-G-XXXX
Pre-Filing Data Response

Request for Information

FROM: NYPSC - New York Public Service Commission

TO: National Grid

SUBJECT: Gas Issues - Rate Base and Capital Expenditures- Net Plant

Request:

122. Provide both actual and budgeted capital expenditure amounts for the last five historic years (either calendar or fiscal as appropriate), including the test year, in aggregate and by blanket project grouping (for mass activities) or specific project. Historic budgeted expenditure levels should be the levels approved by the company's Board of Directors for each historic period. Forecasted expenditure levels should be the levels approved by the company's Board of Directors for each historic period, but if they are not, fully explain why they are not.

Response:

122. Please see Attachment 1, which presents Niagara Mohawk's actual and budgeted capital expenditure amounts for fiscal years 2019-2023. Please see Attachment 2 for Niagara Mohawk's actual and budgeted capital expenditure amounts for the Historic Test Year.

Name of Respondent: Date of Reply:
Patricia McVeigh _____, 2024

NIAGARA MOHAWK POWER CORP

CAPITAL BY CATEGORY - MAR FY2019

Classification	Category		YTD Actual	YTD Budget
Growth	Base Growth	Base Growth - Customer Contributions	($2,588)	($1,494)
		Base Growth - Fitting	$4,103	$3,350
		Base Growth - Install Meter / Regulator	$2,159	$3,065
		Base Growth - Meter Purchase / Operations	$0	$1,746
		Install Main	$4,654	$7,028
		Install Service	$9,685	$12,703
		Install Services Bare Main Replacement Program	$0	$0
		NEP - Install Main	$50	$499
		NEP - Install Service	$107	$309
	Base Growth - Special Projects	Global Foundries	$32	$0
		Global Foundries CIAC	$0	$0
		Marcy Nanotech Center (MV EDGE)	$530	$500
		Marcy Nanotech Center (MV EDGE) CIAC	($1,095)	($500)
	Gas System Reinforcement	Gas Reinforcement - LTUN12247_Rexford_Rt 146_New Main a	$1	$0
		Reinforcement	$6,520	$6,116
	Special Projects	Other	$8	$0
		White Pine Project/Onondaga Cty IDA	($200)	$0
Growth			**$23,965**	**$33,321**
Mandated	City State Construction - Non-Reimbursable	CSC-Non-Reimbursables	$4,074	$5,908
	City State Construction - Reimbursable	CSC-Reimbursable	($1)	$0
	City State Construction - Reimbursements	CSC-Reimbursements	$66	$0
	Integrity	Corrosion	$1,242	$2,367
		Cross Bore Remediation	$620	$612
		High Pressure Service	$0	$3,294
		IMP PL-39 Hall Rd to Watertown ILI-	$56	$0
		IMP PL-43 Watertown Feed ILI-able	$22	$0
		IMP PL-48 Watertown Feed ILI-able	$10	$0
		IMP PL-49 Watertown Feed ILI-able	$29	$0
		IMP PL-65 Carr St Co-Gen ILI-able	$32	$0
		Low Pressure Pockets	$164	$0
		Pipeline Integrity IMP - TVC Project Close outs	$0	$445
		Pipeline Integrity-UNY	($53)	$1,845
		PL 15 Drip and Corrosion Coupon Rem	($217)	$1,495
		PL 15 V1504 (Morgan Road) Replaceme	$1,007	$995
		PL-15 V1506 (Greenway-Lowell Rd) Re	$983	$995
		PL-16 ILI Engineering (Year 2 of 3)	$1	$0

NIAGARA MOHAWK POWER CORP

CAPITAL BY CATEGORY - MAR FY2019

Classification	Category		YTD Actual	YTD Budget
		PL-16 IMP Replace Valve 1601	$118	$395
		PL-16 IMP V1602 (Seneca Tpk) Repl	$36	$0
		PL 31: 31-2 Ravine HDD	$147	$20
		PL 31: Highway 481 HDD	$298	$170
		PL 31: Highway 81 HDD	$117	$20
		PL 31: Onondaga Creek HDD	$1,361	$1,570
		PL 31: Replacement / Relocation Jam	$146	$20
		PL-32 IMP Expansion Joint Replace	$10	$0
		PL-34-IVP-Replacement	$5	$0
		PL34-Replace 3 miles of 8 inch st	$3,057	$2,901
		PL 35 Civil Repair	$0	$0
		PL-35 Drip Pots and Relo Wash Out	$193	$395
		PL-51 IMP Enable ILI Kingdom Rd Sta	$493	$395
		PL-51 IMP Enable ILI Walnut-Burkle	$283	$395
		PL-52 IMP ILI Enablement	$106	$395
		PL-55 IMP ILI Enablement	$1,137	$645
		PL-58 IMP Enable ILI Mitchell Stree	$103	$395
		PL-58 IMP ILI Enable Hall Road Sta	$90	$395
		PL-64 Modify for ILI (Year 2 of 3)	$0	$0
		PL-E13-IVP-Stream Replacement	$1,800	$1,370
		PL-E18 Cleaning for ILI	$0	$0
		PL E18 ILI Emergent pipe cut out	($5)	$0
		PL-E18 Modify for ILI (Year 2 of 3)	$4	$0
		PL-E20 Replacement	$451	$995
		PL E21 Civil Washout Repair	$51	$0
		PL E36 Launcher and Receiver	$1,736	$2,245
		PL E8 Partial Replacement / Relocat	$163	$170
		Replace Pipe on Bridges	$0	$820
		Transmission Pipeline Reactive	$4,132	$495
		Transmission Pipeline Washout's	$2,201	$0
		Transmission Pipeline Washouts	$0	$0
		"UPNY pipeline washouts, low cover	$0	$0
		UPNY pipeline washouts, low cover i	$0	$495
	Main Replacements - Proactive Programs	Main Repl Leak Prone Pipe	$59,886	$43,827
	Main Replacements - Reactive Programs	Maintenance	$483	$960
	Meter Work	Meter Changes	$4,463	$4,471
		Other Meter Work	($103)	$0

NIAGARA MOHAWK POWER CORP

CAPITAL BY CATEGORY - MAR FY2019

Classification	Category		YTD Actual	YTD Budget
	Purchase Meters (Replacements)	Meter Purchases	$4,964	$4,116
	Service Replacements - Proactive Programs	Svc Repl-BS HP Leak Prone Services	$17	$0
	Service Replacements - Reactive Programs	Atmospheric Corrosion/Inside Inspections	$47	$172
		Farm Taps	$995	$0
		Latent Damages	$0	$0
		Leaks	$2,062	$4,128
		Non-Leak / Other	$6,298	$2,133
		Valve Installation/Replacement	$59	$240
	Special Projects	Elevated Pressure Meters Correctors	$590	$906
		Gas Infrastructure Replacement on Structures	$33	$0
Mandated			**$106,067**	**$93,605**
Reliability	Gas System Reliability	E NY-Gas-Gas Reg Sta Repl-NM Blnkt	$0	$0
		Gas Planning/RCV Program	$1,423	$1,896
		GRS Heater Program-UNY	$601	$987
		I&R CNG Construct 3 Portable Gas Regulator Stations	$0	$222
		LTUN_Gas System Reliability - Gas Planning/RCV Programs	$0	$582
		Methane Emmission Reduction	$0	$790
		Overpressure Protection Program	$0	$494
		PRE-SP-Higby Rd Take St Phase 2	$30	$0
		Pres Reg Facil - proactive-UNY	$3,052	$3,366
		Pres Reg Facil - Reactive-UNY.	$246	$329
		Pressure Regulating facilities	$0	$513
		"Rebuild Chestnut Facility (175,201	($11)	$0
		Rebuild Chestnut Facility (175,201	$0	$0
		Rebuild Chestnut Facility (175,201)	$0	$0
		Rebuild GRS 336 Brookview	$446	$197
		Rebuild GRS 824-043 Elton & Salina	$1,164	$1,194
		Security At Critical Infrastructure	$1,910	$1,530
		System Automation	$740	$740
		Trailers	$169	$0
		Water Intrusion	$626	$427
	Special Projects	Albany Loop 16" transmission	$2,620	$2,962
		Alplaus Station Rebuild	$2,721	$3,356
		CNG Facility - UNY	$2,757	$0
		Gas Control Telemetry Upgrade 3G/4G	$27	$99
		GRS-824-709 Oneida Castle Rebuild	$317	$0

NIAGARA MOHAWK POWER CORP

CAPITAL BY CATEGORY - MAR FY2019

Classification	Category		YTD Actual	YTD Budget
		GRS-924-434 Mariaville Rebuild	$456	$395
		install gas zone valves	$0	$0
		I&R Training Facility	$285	$494
		Methane Emission Reduction	$70	$0
		OPP Shellstone GRS-924-815	$25	$0
		OPP Vickerman Hill GRS-824-757	$2	$0
		PL E13 Culvert Repair	$0	$0
		Watertown Sewalls Island Project	$195	$0
Reliability			**$19,871**	**$20,575**
Non-Infrastructure	Access Remediation Protection	Access Protection Remediation-UNY	$45	$1,052
	Purchase Misc Capital Equipment & Tools	Capital Equipment/Tools	$1,007	$806
		Meter Testing Equipment	$107	$0
	Special Projects	Special Projects (Operations Support)	$0	$0
Non-Infrastructure			**$1,159**	**$1,858**
Other Actual	Other	Other	$0	$0
Other Actual			**$0**	**$0**
Direct Capex (Incl. Cost of Removal)			**$151,062**	**$149,359**
Facilities			$29	$2,532
Other Capital Charges			$1,069	$0
"YJ" Doc Types			$3,466	$0
Capital Overheads			$302	$0
IS Projects			$888	$0
Topside Adjustments			($525)	$0
Unassigned (FI/CO Differences)			($5,306)	$0
Indirect Capex (Incl. Cost of Removal)			**($71)**	**$2,532**
Total Capital (Incl. Cost of Removal)			**$150,985**	**$151,891**
Exclude Cost of Removal:				
Cost of Removal (Direct)			($5,606)	($9,427)
Cost of Removal (Indirect)			($619)	$0
"YJ" Doc Types			($697)	$0
Topside Adjustments			$3	$0
Unassigned (FI/CO Differences)			$488	$0
Total Cost of Removal			**($6,431)**	**($9,427)**
Total Capital (Excl. Cost of Removal)			**$144,554**	**$142,464**

NIAGARA MOHAWK POWER CORP

CAPITAL BY CATEGORY - MAR FY2020 ($000's)

Classification	Category		YTD Actual	YTD Budget
Growth	Base Growth	Base Growth - Customer Contributions	($1,149)	($1,525)
		Base Growth - Fitting	$5,325	$3,589
		Base Growth - Install Meter / Regulator	$2,673	$2,890
		Base Growth - Meter Purchase / Operations	$0	$1,573
		Install Main	$5,140	$6,048
		Install Service	$9,036	$10,736
		NEP - Install Main	$1,164	$334
		NEP - Install Service	$521	$284
	Base Growth - Special Projects	Global Foundries	$40	$0
		Marcy Nanotech Center (MV EDGE)	$11	$0
		Marcy Nanotech Center (MV EDGE) CIAC	($123)	$0
		RI Meter Lab Testing Equipment	$0	$0
		White Pine Project/Onondaga Cty IDA	$59	$0
	Gas System Reinforcement	Gas Reinforcement - Gas Reinforcement - LTUN12350_Altamont_St Rt146_New Mai	$0	$0
		Gas Reinforcement - LTUN12247_Rexford_Rt 146_New Main a	$247	$407
		Gas Reinforcement - LTUN12350_Altamont_St Rt146_New Mai	$772	$0
		Gas Reinforcement - LTUN12375_Schenectady_Uprate PL E36	$0	$78
		Gas Reinforcement - PL E36 - Increase MOP	$27	$0
		Reinforcement	$4,316	$7,355
	Special Projects	Cottrell Paper Plant	$0	$0
		E NY-Gas-Main New Grwth-Contr Blnkt	$0	$0
		MVHS Hospital Utica	($171)	$0
Growth			**$27,888**	**$31,768**
Mandated	City State Construction - Non-Reimbursable	CSC-Non-Reimbursables	$5,621	$6,153
	City State Construction - Reimbursable	CSC-Reimbursable	$0	$0
	City State Construction - Reimbursements	CSC-Reimbursements	($1)	$0
	Integrity	Corrosion	$989	$2,322
		Cross Bore Remediation	$1,030	$622
		High Pressure Service	$0	$3,127
		IMP PL-39 Besaw Rd ILI Enable	$33	$0
		IMP PL-39 Hall Rd ILI Enable	$92	$0
		IMP PL-39 Hall Rd to Watertown ILI-	$115	$650
		IMP PL-43 Watertown Feed ILI-able	$73	$347
		IMP PL-48 Watertown Feed ILI-able	$233	$497
		IMP PL-49;43;39 Rices Rd Vlv Site	$118	$0
		IMP PL-49 Intcnct Watertown Feed IL	$3	$0
		IMP PL-49 vlv 4901 rplc	$6	$0
		IMP PL-49 Watertown Feed ILI-able	$165	$497
		IMP PL-65 Carr St Co-Gen ILI-able	$115	$747
		IMP PL E17 Emergent Repair/Replace	$61	$0
		IMP V3903 - Replace vlv and fitting	$56	$0
		IMP V3904 - Replace vlv ILI Enable	$37	$0
		IMP V3905 - Replace vlv for ILI Ena	$35	$0

NIAGARA MOHAWK POWER CORP

CAPITAL BY CATEGORY - MAR FY2020 ($000's)

Classification	Category		YTD Actual	YTD Budget
		IMP V3908 - Replace vlv ILI Enable	$32	$0
		IMP V3911 - Replace vlv ILI Enable	$11	$0
		IMP V3912 and V3913 - Replace vlvs	$19	$0
		IMP V3914 - Replace vlv ILI Enable	$40	$0
		Low Pressure Pockets	$1,000	$926
		Pipeline Integrity IMP - E8 Replacement Burdeck St GRS to Seneca St GRS	$0	$97
		Pipeline Integrity IMP - TVC Project Close outs	$0	$0
		Pipeline Integrity IVP-UNY.	$0	$600
		Pipeline Integrity-UNY	$30	$989
		PL 15 Drip and Corrosion Coupon Rem	($21)	$0
		PL 15 V1504 (Morgan Road) Replaceme	$11	$0
		PL-15 V1506 (Greenway-Lowell Rd) Re	$10	$0
		PL-16 ILI Engineering (Year 2 of 3)	$0	$0
		PL-16 IMP Replace Valve 1601	$228	$0
		PL-16 IMP V1602 (Seneca Tpk) Repl	$1,146	$1,200
		PL 31: 31-2 Ravine HDD	$34	$4,764
		PL 31: Highway 481 HDD	$1,850	$0
		PL 31: Highway 81 HDD	$75	$197
		PL 31: Onondaga Creek HDD	$282	$0
		PL 31: Replacement / Relocation Jam	$16	$0
		PL-32 IMP Expansion Joint Replace	$21	$0
		PL-34-IVP-Replacement	$0	$0
		PL34-Replace 3 miles of 8 inch st	$13,245	$13,014
		PL-35 Drip Pots and Relo Wash Out	$3,703	$3,544
		PL-51 IMP Enable ILI Kingdom Rd Sta	$544	$0
		PL-51 IMP Enable ILI Walnut-Burkle	$165	$0
		PL-52 IMP ILI Enablement	$22	$0
		PL-55 IMP ILI Enable 55/51 Intercon	$144	$0
		PL-55 IMP ILI Enablement	$2,564	$2,326
		PL-55 IMP Oswego River HDD	$788	$0
		PL-58 IMP Enable ILI Mitchell Stree	$447	$0
		PL-58 IMP ILI Enable Hall Road Sta	$500	$0
		PL-E13-IVP-Stream Replacement	$21	$0
		PL E18 ILI Emergent pipe cut out	$0	$0
		PL-E18 Modify for ILI (Year 2 of 3)	$0	$0
		PL-E20 Replacement	$2,116	$2,500
		PL E21 Civil Washout Repair	$24	$0
		PL E36 Launcher and Receiver	$40	$0
		PL E8 Partial Replacement / Relocat	$47	$0
		Transmission Pipeline Reactive	$1,042	$508
		Transmission Pipeline Washout's	$2,493	$0
		Transmission Station Integrity	$0	$177
		UPNY pipeline washouts, low cover i	$0	$508
	Main Replacements - Proactive Programs	Main Repl Leak Prone Pipe	$52,007	$50,857
	Main Replacements - Reactive Programs	Maintenance	$1,003	$1,046
	Meter Work	Meter Changes	$4,387	$4,960

NIAGARA MOHAWK POWER CORP

CAPITAL BY CATEGORY - MAR FY2020 ($000's)

Classification	Category		YTD Actual	YTD Budget
		Other Meter Work	$59	$0
	Purchase Meters (Replacements)	Meter Purchases	$6,857	$4,942
	Service Replacements - Proactive Programs	Svc Repl-BS HP Leak Prone Services	$107	$0
	Service Replacements - Reactive Programs	Atmospheric Corrosion/Inside Inspections	$128	$132
		Farm Taps	$2,037	$0
		Latent Damages	$0	$0
		Leaks	$2,430	$2,429
		Non-Leak / Other	$4,804	$4,332
		Valve Installation/Replacement	$9	$247
	Special Projects	Access Protection Remediation	$285	$371
		Elevated Pressure Meters Correctors	$1,016	$927
		ERT Replacement	$0	$2,405
		Gas Infrastructure Replacement on Structures	$349	$1,575
Mandated			**$116,949**	**$120,529**
Reliability	Gas System Reliability	E NY-Gas-Gas Reg Sta Repl-NM Blnkt	($7)	$0
		Gas Planning/RCV Program	$2,836	$2,564
		Gas System Control - Gas Control (Training Simulator)	$0	$59
		GRS-824-643, Washington Mills	$628	$0
		GRS Heater Program-UNY	$916	$1,000
		PRE-SP-Higby Rd Take St Phase 2	$0	$0
		Pres Reg Facil - proactive-UNY	$1,859	$3,029
		Pres Reg Facil - Reactive-UNY.	$188	$0
		"Rebuild Chestnut Facility (175,201	$0	$0
		Rebuild GRS 336 Brookview	$1,683	$3,597
		Rebuild GRS 824-043 Elton & Salina	($9)	$0
		Security At Critical Infrastructure	$407	$1,583
		System Automation	$385	$996
		Trailers	$134	$0
		Water Intrusion	$200	$435
	Special Projects	Albany Loop 16" transmission	$1,170	$15,536
		Alplaus Station Rebuild	$43	$77
		CNG Facility - UNY	$564	$333
		Cold Springs Rd Station Replacement	$32	$0
		Gas Control Telemetry Upgrade 3G/4G	$17	$99
		GRS-824-709 Oneida Castle Rebuild	$493	$297
		GRS-924-434 Mariaville Rebuild	$2,237	$2,697
		Install 8000' of 8" pl main Amazon	$536	$0
		install gas zone valves	$10	$0
		I&R Training Facility	$99	$0
		Methane Emission Reduction	($35)	$817
		Methane Emission Reduction REVISED	$760	$0
		Old Campion Rd Station Replacement	$0	$0
		OPP Shellstone GRS-924-815	$83	$747

NIAGARA MOHAWK POWER CORP

CAPITAL BY CATEGORY - MAR FY2020 ($000's)

Classification	Category		YTD Actual	YTD Budget
		OPP Vickerman Hill GRS-824-757	$13	$0
		Project Glass - Green Empire Farms	$2	$0
		Sandy Creek Station Replacement	$0	$0
		Washington & Fuller Station Rebuild	$42	$0
		Watertown Sewalls Island Project	$0	$0
Reliability			**$15,288**	**$33,867**
Non-Infrastructure	Purchase Misc Capital Equipment & Tools	Capital Equipment/Tools	$891	$823
		Meter Testing Equipment	$612	$202
	Special Projects	Special Projects (Operations Support)	$1	$0
Non-Infrastructure			**$1,504**	**$1,025**
Other Actual	Other	Other	$0	($13,227)
Other Actual			**$0**	**($13,227)**
Direct Capex (Incl. Cost of Removal)			**$161,630**	**$173,962**
Facilities, Fleet, IMWM			$9	$1,930
Other Capital Charges			$1,129	$0
YJ Doc Type Adjustments			$1,203	$0
Capital Overhead Clearing			($241)	$0
IS Projects			$272	$0
Topside Adjustments			$365	$0
Unassigned (FI/CO Di			($957)	$0
Indirect Capex (Incl. Cost of Removal)			**$1,781**	**$1,930**
Total Capital (Incl. Cost of Removal)			**$163,411**	**$175,891**
Direct Cost of Removal			($6,638)	($7,009)
Indirect Cost of Removal			($990)	$0
Unassigned (FI/CO Di			($1,376)	$0
Total Cost of Removal			**($9,003)**	**($7,009)**
Total Capital (Excl. Cost of Removal)			**$154,408**	**$168,883**

NIAGARA MOHAWK POWER CORP

CAPITAL BY CATEGORY - MAR FY2021 ($000's)

Classification	Category		YTD Actual	YTD Budget
Growth	Base Growth	Base Growth - Customer Contributions	($4,547)	($1,588)
		Base Growth - Fitting	$6,069	$3,665
		Base Growth - Install Meter / Regulator	$3,007	$3,339
		Base Growth - Meter Purchase / Operations	$0	$2,103
		Install Main	$5,072	$8,362
		Install Service	$9,096	$11,519
		NEP - Install Main	$145	$341
		NEP - Install Service	$125	$298
	Base Growth - Special Projects	Amazon-Kirkville Road East Syracuse	($289)	$0
		Amazon-Kirkville Road East Syracuse (CIAC)	$0	$0
		Global Foundries	$3	$0
		Marcy Nanotech Center (MV EDGE)	($2)	$0
		Marcy Nanotech Center (MV EDGE) CIAC	$0	$0
		RI Meter Lab Testing Equipment	$0	$280
		White Pine Project/Onondaga Cty IDA	$162	$0
		White Pine Project/Onondaga Cty IDA - CIAC	$0	($200)
	Gas System Reinforcement	Gas Reinforcement - LTUN12247_Rexford_Rt 146_New Main a	$2,256	$2,500
		Gas Reinforcement - LTUN12350_Altamont_St Rt146_New Mai	$531	$570
		Gas Reinforcement - Pennelville_County Hwy 12_New Main	$78	$0
		Gas Reinforcement - PL E36 - Increase MOP	$120	$1,135
		Reinforcement	$3,938	$3,953
	Special Projects	MVHS Hospital Utica	($611)	$3,172
		MVHS Hospital Utica - CIAC	$0	($3,030)
Growth			**$25,151**	**$36,419**
Mandated	City State Construction - Non-Reimbursable	CSC-Non-Reimbursables	$5,842	$6,283
	City State Construction - Reimbursements	CSC-Reimbursements	$0	$0
	Integrity	Corrosion	$1,554	$2,365
		Cross Bore Remediation	$18	$97
		High Pressure Service	$0	$2,600
		IMP PL-16 Vlv 1604 (Flyer Settleme	$48	$0
		IMP PL-39 Besaw Rd ILI Enable	$236	$240
		IMP PL-39 Hall Rd ILI Enable	$352	$75
		IMP PL-39 Hall Rd to Watertown ILI-	$178	$650
		IMP PL-43 Watertown Feed ILI-able	$590	$1,078
		IMP PL-48 Watertown Feed ILI-able	$388	$250
		IMP PL-49;43;39 Rices Rd Vlv Site	$1,123	$450
		IMP PL-49 Intcnct Watertown Feed IL	$8	$50
		IMP PL-49 vlv 4901 rplc	$70	$0
		IMP PL-49 Watertown Feed ILI-able	$476	$750
		IMP PL-65 Carr St Co-Gen ILI-able	$678	$455

Classification	Category		YTD Actual	YTD Budget
		IMP PL E17 Emergent Repair/Replace	$0	$0
		IMP-PL E20 Part Repl	$193	$0
		IMP V3903 - Replace vlv and fitting	$92	$64
		IMP V3904 - Replace vlv ILI Enable	$29	$70
		IMP V3905 - Replace vlv for ILI Ena	$424	$63
		IMP V3908 - Replace vlv ILI Enable	$37	$33
		IMP V3911 - Replace vlv ILI Enable	$61	$31
		IMP V3912 and V3913 - Replace vlvs	$22	$64
		IMP V3914 - Replace vlv ILI Enable	$30	$100
		Low Pressure Pockets	$1,053	$946
		Pipeline 11 Sauquoit Creek NY Mills Washout	$0	$800
		Pipeline Integrity IMP - PL16 Imergent Replacement under Route 481	$0	$16
		Pipeline Integrity IMP - PL16 Valve 1602 Replacement	$0	$22
		Pipeline Integrity IMP - PL16 Valve 1603 Replacement	$0	$80
		Pipeline Integrity IMP - PL16 Valve 1607 Replacement	$0	$402
		Pipeline Integrity IMP - PL39 ILI Hall Rd to Watertown	$0	$750
		Pipeline Integrity IMP - PL 49, valve at I-81 ILI C082652	$0	$100
		Pipeline Integrity IMP - PL52 ILI Velasko RD GRS to Mcbride St GRS	$0	$428
		Pipeline Integrity IVP - Replacement of PL 31 at Jamesville Road by HDD	$0	$24
		Pipeline Integrity-UNY	$4	$48
		PL 15 Drip and Corrosion Coupon Rem	($0)	$0
		PL 15 V1504 (Morgan Road) Replaceme	$0	$0
		PL-15 V1506 (Greenway-Lowell Rd) Re	$0	$0
		PL-16 IMP Replace Valve 1601	$1,808	$2,160
		PL-16 IMP V1602 (Seneca Tpk) Repl	$14	$26
		PL 31: 31-2 Ravine HDD	$10	$0
		PL 31: Highway 481 HDD	$4,739	$5,770
		PL 31: Highway 81 HDD	$137	$125
		PL 31: Onondaga Creek HDD	$52	$36
		PL 31: Replacement / Relocation Jam	$12	$0
		PL-32 IMP Expansion Joint Replace	$48	$0
		PL34-Replace 3 miles of 8 inch st	$696	$1,075
		PL-35 Drip Pots and Relo Wash Out	$342	$425
		PL-51 IMP Enable ILI Kingdom Rd Sta	$3,508	$3,700
		PL-51 IMP Enable ILI Walnut-Burkle	$1,255	$1,583
		PL-52 IMP ILI Enablement	$776	$360
		PL-55 IMP ILI Enable 55/51 Intercon	$679	$495
		PL-55 IMP ILI Enablement	$906	$878
		PL-55 IMP Oswego River HDD	$485	$750
		PL-58 IMP Enable ILI Mitchell Stree	$2,487	$2,748
		PL-58 IMP ILI Enable Hall Road Sta	$2,240	$2,732
		PL-E13-IVP-Stream Replacement	$0	$0
		PL-E18 Modify for ILI (Year 2 of 3)	$1	$0
		PL-E20 Replacement	$58	$36
		PL E21 Civil Washout Repair	$224	$0
		PL E36 Launcher and Receiver	$0	$0
		PL E8 Partial Replacement / Relocat	$0	$0
		Transmission Pipeline Reactive	$4,382	$680

Classification	Category		YTD Actual	YTD Budget
		Transmission Pipeline Washout's	$6,111	$0
		UPNY pipeline washouts, low cover i	$0	$628
	Large Diameter CI Rehab	CISBOT	$114	$0
	Main Replacements - Proactive Programs	Main Replacement Proactive- Dolgeville Main Replacement	$0	$1,511
		Main Repl Leak Prone Pipe	$55,226	$61,176
	Main Replacements - Reactive Programs	Maintenance	$1,224	$1,160
	Meter Work	Meter Changes	$2,311	$5,063
		Other Meter Work	($85)	$0
	Purchase Meters (Replacements)	Meter Purchases	$7,239	$6,428
	Service Replacements - Proactive Programs	Svc Repl-BS HP Leak Prone Services	$19	$0
	Service Replacements - Reactive Programs	Atmospheric Corrosion/Inside Inspections	$22	$134
		Farm Taps	$1,830	$0
		Latent Damages	$0	$0
		Leaks	$2,545	$2,482
		Non-Leak / Other	$3,481	$4,425
		Valve Installation/Replacement	$133	$500
	Special Projects	Access Protection Remediation	$161	$1,094
		Elevated Pressure Meters Correctors	($4)	$947
		ERT Replacement	$0	$3,379
		Gas Infrastructure Replacement on Structures	$1,562	$792
		Sectionalizing District Implementation	$0	$1,000
		Transmission Station Integrity	$467	$912
Mandated			**$120,718**	**$134,593**
Reliability	Gas System Reliability	Distribution Station Over Pressure Protection	$0	$1,025
		E NY-Gas-Gas Reg Sta Repl-NM Blnkt	$0	$0
		Gas Planning/RCV Program	$1,732	$6,660
		GRS-824-643, Washington Mills	$3,267	$2,625
		GRS Heater Program-UNY	$1,124	$1,997
		Holcomb Heaters Replacement	$859	$0
		LTUN12345 Glenmont to Kenwood Rd Lose of GRS 340	$0	$100
		LTUN20620 Pennelville County Hwy 12 New Main	$0	$0
		LTUNRCV Burdeck Gate Station	$0	$100
		Pres Reg Facil - proactive-UNY	$2,064	$4,117
		Pres Reg Facil - Reactive-UNY.	$351	$339
		"Rebuild Chestnut Facility (175,201	$1	$0
		Rebuild Chestnut Facility (175,201	$0	$0
		Rebuild GRS 336 Brookview	$1,314	$1,350
		Rebuild GRS 824-043 Elton & Salina	$22	$40
		Renewable Natural Gas (RNG) Interconnections	$0	$459
		Security At Critical Infrastructure	$436	$1,613
		Stranded Low Pressure Pockets	$0	$0
		System Automation	$983	$995
		Trailers	$130	$0

Classification	Category		YTD Actual	YTD Budget
		Water Intrusion	$58	$443
	Special Projects	Albany Loop 16" transmission	$451	$775
		Alplaus Station Rebuild	$9	$10
		CNG Facility - UNY	$31	$150
		Cold Springs Rd Station Replacement	$914	$447
		Distribution Station OPP-UNY	$42	$0
		Ellisburg Station Replacement	$3	$0
		Gas Control Telemetry Upgrade 3G/4G	$4	$0
		GRS-824-709 Oneida Castle Rebuild	$2,499	$2,242
		GRS-924-434 Mariaville Rebuild	$2	$48
		Install 8000' of 8" pl main Amazon	$1,457	$2,750
		install gas zone valves	$0	$0
		I&R Training Facility	$26	$339
		Methane Emission Reduction	$2	$0
		Methane Emission Reduction REVISED	$1,511	$831
		Moreau CNG Site Hardening	$35	$0
		Old Campion Rd Station Replacement	$75	$47
		OPP Shellstone GRS-924-815	$4	$720
		OPP Vickerman Hill GRS-824-757	$58	$0
		Project Glass - Green Empire Farms	$0	$0
		Sandy Creek Station Replacement	$172	$75
		Temple St. - Gas Main Relocation	$18	$0
		Washington & Fuller Station Rebuild	$1,143	$447
Reliability			**$20,794**	**$30,744**
Non-Infrastructure	AMR Replacement	AMI	$0	$1,779
	Purchase Misc Capital Equipment & Tools	Capital Equipment/Tools	$1,021	$840
		Meter Testing Equipment	($0)	$204
	Special Projects	Special Projects (Operations Support)	$7	$0
Non-Infrastructure			**$1,028**	**$2,823**
Other Actual	Other	Other	$0	$3,343
Other Actual			**$0**	**$3,343**
Direct Capex (Incl. Cost of Removal)			**$167,691**	**$207,922**
Facilities, Fleet, IMWM			$216	$2,786
Other Capital Charges			$1,685	$0
YJ Doc Type Adjustments			$0	$0
Capital Overhead Clearing			($433)	$0
IS Projects			$82	$0
Topside Adjustments			$758	$0
Unassigned (FI/CO Differe			$68	$0
Indirect Capex (Incl. Cost of Removal)			**$2,375**	**$2,786**
Total Capital (Incl. Cost of Removal)			**$170,066**	**$210,708**
Direct Cost of Removal			($5,931)	($8,415)

Classification	Category		YTD Actual	YTD Budget
Indirect Cost of Removal			($873)	$0
Unassigned (FI/CO Differe			$3,275	$0
Total Cost of Removal			**($3,529)**	**($8,415)**
Total Capital (Excl. Cost of Removal)			**$166,538**	**$202,293**

NIAGARA MOHAWK POWER CORP
CAPITAL BY CATEGORY - MAR FY2022 ($000's)

Classification	Category		YTD Actual	YTD Budget
Growth	Base Growth	Base Growth - Customer Contributions	($996)	($1,969)
		Base Growth - Fitting	$6,850	$5,697
		Base Growth - Install Meter / Regulator	$2,834	$2,534
		Install Main	$5,942	$5,396
		Install Service	$10,649	$10,323
		NEP - Install Main	$75	$0
		NEP - Install Service	$180	$0
	Base Growth - Special Projects	Amazon-Kirkville Road East Syracuse	$1,170	$0
		Global Foundries	($0)	$0
		Marcy Nanotech Center (MV EDGE)	$15	$0
		RI Meter Lab Testing Equipment	$0	$190
		White Pine Project/Onondaga Cty IDA	$145	$0
		White Pine Project/Onondaga Cty IDA - CIAC	$0	($10,300)
	Gas System Reinforcement	Gas Reinforcement - LTUN12247_Rexford_Rt 146_New Main a	$14,157	$16,190
		Gas Reinforcement - LTUN12350_Altamont_St Rt146_New Mai	$384	$200
		Gas Reinforcement - Pennelville_County Hwy 12_New Main	$166	$500
		Gas Reinforcement - PL E36 - Increase MOP	$12	$140
		Reinforcement	$1,309	$2,904
	Special Projects	Amazon Schodack Dist Warehouse	$48	$0
		MVHS Hospital Utica	$1,087	$0
		MVHS Hospital Utica - CIAC	$0	$60
Growth			**$44,028**	**$31,865**
Mandated	City State Construction - Non-Reimbursable	CSC-Non-Reimbursables	$8,149	$6,529
	City State Construction - Reimbursable	CSC-Reimbursable	($0)	$0
	City State Construction - Reimbursements	CSC-Reimbursements	($1)	$0
	Integrity	Corrosion	$1,243	$1,173
		Cross Bore Remediation	$30	$500
		IMP PL-16 Vlv 1604 (Flyer Settleme	$358	$287
		IMP PL-39 Besaw Rd ILI Enable	$1,879	$1,110
		IMP PL-39 Hall Rd ILI Enable	$186	$75
		IMP PL-39 Hall Rd to Watertown ILI-	$64	$150
		IMP PL-43 Watertown Feed ILI-able	$3,291	$3,366
		IMP PL-48 Watertown Feed ILI-able	$827	$973
		IMP PL-49;43;39 Rices Rd Vlv Site	$3,240	$4,170
		IMP PL-49 Intcnct Watertown Feed IL	$6	$32
		IMP PL-49 vlv 4901 rplc	$436	$300
		IMP PL-49 Watertown Feed ILI-able	$308	$690
		IMP PL-65 Carr St Co-Gen ILI-able	$2,054	$2,774
		IMP-PL E20 Part Repl	$1,882	$750
		IMP V3903 - Replace vlv and fitting	$93	$100
		IMP V3904 - Replace vlv ILI Enable	$81	$75
		IMP V3905 - Replace vlv for ILI Ena	$1,502	$1,966
		IMP V3908 - Replace vlv ILI Enable	$91	$100
		IMP V3911 - Replace vlv ILI Enable	$89	$100
		IMP V3912 and V3913 - Replace vlvs	$120	$150
		IMP V3914 - Replace vlv ILI Enable	$202	$75
		Large Diameter Pipe Rehabilitation	$0	$500
		Low Pressure Pockets	$1,637	$2,000
		Operator Qualifications Testing	$0	$668
		Pipeline 11 Sauquoit Creek NY Mills Washout	$0	$95
		Pipeline Integrity - IMP - (Integrity Management Program)	$0	$50
		Pipeline Integrity IMP - PL16 Valve 1603 Replacement	$0	$420
		Pipeline Integrity IMP - PL16 Valve 1607 Replacement	$0	$100
		Pipeline Integrity - IVP - PL 16 HCA Sections - Orange Commons	$0	$1,000
		Pipeline Integrity - IVP - PL 16 HCA Sections - Valve 1603 to Lakeport Road	$0	$500
		Pipeline Integrity - IVP - PL 16 HCA Sections - Valve 1607 to Northern Blvd	$0	$1,000
		Pipeline Integrity IVP - Replacement of PL 31 at Jamesville Road by HDD	$0	$24
		Pipeline Integrity-UNY	$0	$0

Classification	Category		YTD Actual	YTD Budget
		PL 15 Drip and Corrosion Coupon Rem	$0	$0
		PL-16 IMP Replace Valve 1601	$16	$30
		PL 16 IMP Taft Road Spur Partial Re	$99	$100
		PL-16 IMP V1602 (Seneca Tpk) Repl	$0	$0
		PL 31: 31-2 Ravine HDD	$4	$15
		PL 31: Highway 481 HDD	($38)	$36
		PL 31: Highway 81 HDD	$738	$200
		PL 31: Onondaga Creek HDD	$20	$125
		PL 31: Replacement / Relocation Jam	$13	$0
		PL-32 IMP Expansion Joint Replace	($1)	$0
		PL34-Replace 3 miles of 8 inch st	$117	$145
		PL-35 Drip Pots and Relo Wash Out	$6	$45
		PL 35 IMP - V3505 Harris Rd Replace	$72	$100
		PL-51 IMP Enable ILI Kingdom Rd Sta	$76	$36
		PL-51 IMP Enable ILI Walnut-Burkle	$45	$36
		PL-52 IMP ILI Enablement	$1,062	$1,765
		PL-55 IMP ILI Enable 55/51 Intercon	$2,663	$5,477
		PL-55 IMP ILI Enablement	($124)	$36
		PL-55 IMP Oswego River HDD	$1,586	$480
		PL-58 IMP Enable ILI Mitchell Stree	($12)	$361
		PL-58 IMP ILI Enable Hall Road Sta	$186	$692
		PL-E18 Modify for ILI (Year 2 of 3)	$2	$0
		PL-E20 Replacement.	$2	$36
		PL E21 Civil Washout Repair	$2	$0
		PL E8 Partial Replacement / Relocat	$0	$0
		Transmission Pipeline Reactive	$935	$1,345
		Transmission Pipeline Washout's	$3,862	$4,128
		Trans Reactive PL E8 retired pipe r	$91	$0
		UPNY pipeline washouts, low cover i	$0	$521
		V1305-RCV Near GRS 924733	$137	$0
	Large Diameter CI Rehab	CISBOT	$73	$0
	Main Replacements - Proactive Programs	Main Repl Leak Prone Pipe	$51,643	$54,650
	Main Replacements - Reactive Programs	Maintenance	$1,027	$793
	Meter Work	Meter Changes	$4,138	$0
		Other Meter Work	($340)	$4,164
	Purchase Meters (Replacements)	Meter Purchases	$6,883	$9,064
	Service Replacements - Proactive Programs	Svc Repl-BS HP Leak Prone Services	$27	$0
	Service Replacements - Reactive Programs	Atmospheric Corrosion/Inside Inspections	$30	$141
		Farm Taps	$571	$4,288
		Leaks	$1,299	$2,357
		Non-Leak / Other	$6,876	$6,981
		Valve Installation/Replacement	$51	$82
	Special Projects	Access Protection Remediation	$862	$750
		Elevated Pressure Meters Correctors	$0	$0
		ERT Replacement	$0	$2,300
		Gas Infrastructure Replacement on Structures	$161	$1,078
		Mandated ? Transmission Station Integrity	$57	$0
		Sectionalizing District Implementation	$0	$3,700
		Storm Hardening Install Remote Service Shutoff Valves	$318	$0
		Transmission Station Integrity	$628	$1,200
Mandated			**$113,631**	**$139,057**
Reliability	Gas System Reliability	Critical Spares I&R-Upstate.	$673	$0
		Gas Planning/RCV Program	$3,381	$3,403
		GRS 824-641 W Linden Replacement	$20	$0
		GRS-824-643, Washington Mills	$72	$50
		GRS 924-428 Floral Ave Repalcement	$200	$0
		GRS 924-429 Hollywood Ave Rebuild	$170	$0
		GRS 924-520 111th St. Replacement	$6	$0
		GRS 924-709 Nelson Ave Replacement	$1	$0
		GRS Heater Program-UNY	$934	$1,565
		Holcomb Heaters Replacement	$1,859	$750

Classification	Category		YTD Actual	YTD Budget
		I&R - Gas Regulator Station Security	$0	$600
		I&R - Oil Seal Replacement	$0	$1,640
		Odor Vapor Managment Project.	$27	$50
		Pres Reg Facil - proactive-UNY	$2,859	$5,567
		Pres Reg Facil - Reactive-UNY.	$765	$307
		Pressure Reg CNG-Proactive-UNY	$8	$17
		"Rebuild Chestnut Facility (175,201	$0	$0
		Rebuild GRS 336 Brookview	$553	$485
		Rebuild GRS 824-043 Elton & Salina	$0	$0
		Security At Critical Infrastructure	$363	$500
		System Automation	$2,435	$861
		Trailers	$21	$0
		Water Intrusion	$337	$969
	Special Projects	Albany Loop 16" transmission	($4,501)	$0
		Alplaus Station Rebuild	$0	$0
		CNG Facility - UNY	$1	$0
		Cold Springs Rd Station Replacement	$3,775	$3,954
		Delaware Station Replacement.	$102	$75
		Distribution Station OPP-UNY	$289	$763
		Ellisburg Station Replacement	$156	$75
		Gas Control Telemetry Upgrade 3G/4G	$0	$0
		GRS 824-164 Take OPP - Tully Gate	$2	$0
		GRS-824-709 Oneida Castle Rebuild	$7	$30
		GRS 924-330 Take OPP - Troy Gate	$4	$0
		GRS-924-434 Mariaville Rebuild	$12	$0
		Install 8000' of 8" pl main Amazon	$169	$200
		I&R Training Facility	$0	$0
		Methane Emission Reduction	$2	$0
		Methane Emission Reduction REVISED	$126	$0
		Moreau CNG Injection Site Upgrade	$2	$0
		Moreau CNG Site Hardening	$3	$0
		Normanskill Heater & Take OPP.	$7	$0
		Old Campion Rd Station Replacement	$849	$460
		OPP Shellstone GRS-924-815	($114)	$51
		OPP Vickerman Hill GRS-824-757	$89	$0
		PL 32 V3203 Fence Replacement	$15	$0
		PL 36 IVP Partial Rel Onondaga Blvd	$202	$350
		Project Glass - Green Empire Farms	($2)	$0
		Sandy Creek Station Replacement	$1,304	$535
		Sect Dist Valve Installation - UNY	$322	$0
		Shellstone Station Replacement.	$251	$50
		Take OPP - E Greenbush	$7	$0
		Take OPP - Wolf Rd.	$12	$0
		Temple St. - Gas Main Relocation	$10	$0
		Transmission Station - Over Pressure Protection	$0	$500
		Washington & Fuller Station Rebuild	$3,587	$2,715
		Yorkville Station Replacement.	$63	$0
Reliability			**$21,435**	**$26,522**
Non-Infrastructure	Hydrogen Blending, Geothermal Heating and RNG	AMI	$0	$503
		Future of Heat - Clean Heat Initiative (Geo Thermal & Hydrogen Blending)	$0	$4,461
		Future of Heat - Renewable Natural Gas (RNG) Interconnections	$0	$468
	Purchase Misc Capital Equipment & Tools	Capital Equipment/Tools	$2,889	$1,406
		Meter Testing Equipment	$44	$106
		Telecomm - Radio Capital Expenditures	$308	$0
	Special Projects	Infrastructure-AMI	$149	$0
		Special Projects (Operations Support)	$0	$0
Non-Infrastructure			**$3,391**	**$6,944**
Other Actual	Other	Alignment to BPC	$0	$10,021
		Other	$0	($1,975)
Other Actual			**$0**	**$8,046**
Direct Capex (Incl. Cost of Removal)			**$182,484**	**$212,434**
Capital Overhead Clearing			$477	$0

Classification	Category		YTD Actual	YTD Budget
Other Capital Charges			$1,026	$0
Other Indirect			$0	$0
Topside Adjustments			($1,200)	$0
Facilities			$0	$4,161
IMWM			$182	$0
IS			$0	$0
Unassigned (FI/CO Differe			$870	$0
Indirect Capex (Incl. Cost of Removal)			**$1,354**	**$4,161**
Total Capital (Incl. Cost of Removal)			**$183,838**	**$216,594**
Direct Cost of Removal			($8,007)	($8,063)
Indirect Cost of Removal			($569)	$0
Unassigned (FI/CO Differe			$609	$0
Total Cost of Removal			**($7,968)**	**($8,063)**
Total Capital (Excl. Cost of Removal)			**$175,871**	**$208,531**

NIAGARA MOHAWK POWER CORP

CAPITAL BY CATEGORY - MAR FY2023 ($000's)

Classification	Category		YTD Actual	YTD Budget
Growth	Base Growth	Base Growth - Customer Contributions	($1,913)	($2,403)
		Base Growth - Fitting	$8,967	$5,978
		Base Growth - Install Meter / Regulator	$3,481	$2,980
		Install Main	$6,680	$6,588
		Install Service	$10,777	$9,995
		NEP - Install Main	$0	$0
		NEP - Install Service	$35	$0
	Base Growth - Special Projects	Amazon - Kirkville, NY	$100	$0
		Amazon Shodack District Warehouse	$635	$0
		Global Foundries	$0	$0
		Marcy Nanotech Center (MV EDGE)	($0)	$0
		Micron	$198	$0
		Port Albany District Commission	($12)	$0
		RI Meter Lab Testing Equipment	$0	$0
		White Pine - Micron	$25	$0
		White Pine Project/Onondaga Cty IDA	($167)	$0
	Gas System Reinforcement	Gas Reinforcement - Alplaus GRS_Riverview Rd	$25	$100
		Gas Reinforcement - Central Square_State Hwy 49	$321	$100
		Gas Reinforcement - LTUN12247_Rexford_Rt 146_New Main a	($395)	$350
		Gas Reinforcement - LTUN12350_Altamont_St Rt146_New Mai	$10,194	$9,876
		Gas Reinforcement - LTUN20903 - Clifton Park_Rt 146	$172	$100
		Gas Reinforcement - Pennelville_County Hwy 12_New Main	$3,008	$3,153
		Gas Reinforcement - PL E36 - Increase MOP	$30	$80
		Reinforcement	$1,988	$6,063
	Special Projects	LTUNXXXXX - W Glens Falls - Luzerne Rd	$0	$100
		MVHS Hospital	($8)	$10
		Project Glass - Green Empire Farms	$0	$0
Growth			**$44,142**	**$43,070**
Mandated	City State Construction - Non-Reimbursable	CSC-Non-Reimbursables	$7,774	$6,663
	City State Construction - Reimbursable	CSC-Reimbursable	$1	$0
	City State Construction - Reimbursements	CSC-Reimbursements	$0	$0
	Integrity	Corrosion	$1,264	$1,335
		Cross Bore Remediation	$314	$300
		IMP - PL-16 Valve 1601 Replacement	$0	$0
		IMP - PL-16 Valve 1605 Replacement	$885	$314
		IMP-PL-16 Vlv 1604 (Flyer Settleme	$1,538	$1,315
		IMP - PL-32 - Valve 3203 Fence Repl	$0	$0
		IMP-PL 33 Pipe Repair - Mexico	$0	$0
		IMP - PL-35 Valve 3505 Replacement	$84	$200
		IMP - PL-39 - Besaw Road C082641	$3,812	$2,513
		IMP-PL-39 Hall Rd to Watertown ILI-	$131	$150
		IMP - PL-39 - Hall Road C082639	$1,309	$600
		IMP - PL-39 - Valve 3903 C082643	$1,397	$650

Classification	Category		YTD Actual	YTD Budget
		IMP - PL-39 - Valve 3904 C082642	$470	$520
		IMP - PL-39 - Valve 3905 C082640	$45	$112
		IMP - PL-39 - Valve 3908 C082644	$33	$29
		IMP - PL-39 - Valve 3911 C082647	$38	$29
		IMP - PL-39 - Valve 3914 C082650	$146	$76
		IMP-PL-43 Watertown Feed ILI-able	$33	$25
		IMP - PL-48 - I-81 to LeRay ILI	$168	$100
		IMP-PL-49 Intcnct Watertown Feed IL	$1	$18
		IMP - PL-49 - Rices Rd to I-81 ILI	$1,373	$1,509
		IMP - PL-49 - Valve 4901 Rplc	$1,795	$1,457
		IMP - PL-55 - ILI HDD	$7,775	$10,168
		IMP - PL-58 - ILI Hall Road C079791	$34	$14
		IMP - PL-58 ILI Independence Indeck	$29	$0
		IMP - PL-65 - Launcher and Receiver	$154	$392
		IMP - PL E20 Part Repl	$9,757	$12,386
		IMP - PL-E21 - Civil Washout Repair	$0	$0
		IMP - Rices Road Valve Site	$94	$40
		IMP-V3912 and V3913 - Replace vlvs	$112	$100
		IVP-PL-31 - Onondaga Creek HDD	$238	$24
		IVP-PL-34 - 8 Inch Replacement	$6	$10
		IVP - PL-36 - 16 Inch Replacement	$804	$1,263
		IVP - PL-E18 Pipeline Replacement	$5	$500
		Large Diameter Pipe Rehabilitation	$0	$100
		Low Pressure Pockets	$1,273	$2,500
		Pipeline Integrity - IMP - Pipeline valve 1606 replacement	$0	$100
		Pipeline Integrity IMP - PL16 Valve 1603 Replacement	$0	$100
		Pipeline Integrity IMP - PL16 Valve 1607 Replacement	$0	$100
		Pipeline Integrity - IVP - PL-16 HCA Sections - Orange Commons	$0	$500
		Pipeline Integrity - IVP - PL 16 HCA Sections - Valve 1607 to Northern Blvd	$0	$500
		Pipeline Intergrity IVP E18	$0	$0
		PL 11 Washout-Sauquoit Creek-Ne	$1	$0
		PL 16 IMP Taft Road Spur Partial Re	$359	$525
		PL-16 PI Integrity IVP HCA v1603 t	$92	$0
		PL-16 - Replacement under Route 481	$0	$0
		PL 31: 31-2 Ravine HDD	$0	$0
		PL 31: Highway 481 HDD	$28	$36
		PL 31: Highway 81 HDD	$3,620	$4,710
		PL 31: Replacement / Relocation Jam	$0	$0
		PL-32 IMP Expansion Joint Replace	$0	$0
		PL-33 valve bypass coupling replace	$0	$500
		PL-35 Drip Pots and Relo Wash Out	$94	$24
		PL-35 Pipeline Integrity IMP Taft	$123	$460
		PL-41A - ILI Taft Rd to Colimer Rd	$188	$122
		PL-51 IMP Enable ILI Kingdom Rd Sta	($51)	$10
		PL-51 IMP Enable ILI Walnut-Burkle	$24	$0
		PL-52 IMP ILI Enablement	$356	$325
		PL-55 IMP ILI Enable 55/51 Intercon	$70	$400
		PL-55 IMP ILI Enablement	($8)	$0
		PL-56 Modify for ILI (Year 2 of 3)	$1	$265
		PL-E16 Relo Latham Ridge Rd	$16	$10
		PL-E20 Replacement.	$0	$0
		PL E8 Partial Replacement / Relocat	$21	$0

Classification	Category		YTD Actual	YTD Budget
		Transmission Pipeline Reactive	$342	$0
		Transmission Pipeline Washout's	$224	$98
		Transmission Station Integrity - PHMSA - Loughberry Lake GRS 924-736A/B	$0	$125
		Transmission Station Integrity - PHMSA - Route 3 / West Carthage GRS 824-352	$0	$125
		Transmission Station Integrity - PHMSA - Wheeler Rd (Chittenago) GRS 824-166	$0	$125
		Transm Wsh PL 35 Golf Crs Civil Fix	$2	$0
		UPNY pipeline washouts, low cover i	$0	$500
	Large Diameter CI Rehab	CISBOT	$0	$0
		Large Diameter Pipe Rehabilitation - Robin St, Albany	$0	$2,250
	Main Replacements - Proactive Programs	Main Repl Leak Prone Pipe	$67,460	$61,165
	Main Replacements - Reactive Programs	Maintenance	$616	$1,168
	Meter Work	Meter Changes	$3,480	$0
		Other Meter Work	($128)	$4,227
	Purchase Meters (Replacements)	Meter Purchases	$6,132	$8,979
	Service Replacements - Proactive Programs	Svc Repl-BS HP Leak Prone Services	$0	$0
	Service Replacements - Reactive Programs	Atmospheric Corrosion/Inside Inspections	$0	$150
		Farm Taps	$2,699	$4,365
		Leaks	$1,774	$2,402
		Non-Leak / Other	$4,974	$7,877
		Valve Installation/Replacement	($73)	$84
	Special Projects	Access Protection Remediation	$963	$765
		Gas Infrastructure Replacement on Structures	$559	$1,050
		Low Pressure System Elimination	$1,398	$4,120
		Storm Hardening Install Remote Service Shutoff Valves	($318)	$0
		Transmission Station Integrity	$2,124	$2,033
Mandated			**$140,053**	**$155,705**
Reliability	CNG Programs - Special Projects	UNY CNG Site#2	$6	$0
	Gas System Reliability	111th St. GRS 924-520	$12	$100
		Brookview GRS 924-336	$49	$45
		Critical Spares	$184	$139
		Elton Ave & Salina St GRS 824-043	($0)	$0
		Floral Ave GRS 924-428	$2,565	$1,611
		Gas Planning/RCV Program	$733	$340
		Gas Regulator Station Security	$274	$600
		Glenmont - Kenwood Av - Reliability	$139	$400
		GRS Heater Program-UNY	$247	$300
		Holcomb Heater Replacement	$38	$25
		Hollywood Ave GRS 924-429	$965	$1,921
		I&R - Trailers	$0	$0
		LTUN10918-Rotterdam- Duanesburg Rd	($34)	$0
		Nelson Ave GRS 924-709	$1,042	$145
		Odor Vapor Managment Project.	$172	$200
		Pres Reg Facil - proactive-UNY	$1,857	$1,265
		Pres Reg Facil - Reactive-UNY.	$1,223	$314
		Pressure Reg CNG-Proactive-UNY	$3	$204

Classification	Category		YTD Actual	YTD Budget
		Rowland Heater Replacement.	$79	$332
		System Automation	$2,042	$879
		Taft Rd GRS 824-173	$904	$210
		Vley Rd Heater Replacement	$79	$104
		Washington Mills - GRS 824-643	$0	$0
		Water Intrusion	$195	$444
		W Linden St. GRS 824-641	$357	$145
	Special Projects	CNG - CNG Facility UNY	$0	$0
		CNG-Moreau Injection Site Upgrade	$3,247	$280
		CNG-Moreau Site Hardening	($38)	$0
		Delaware Ave GRS 924-402	$1,072	$700
		Distribution Station OPP-UNY	$949	$778
		E Greenbush GRS 924-335	$286	$300
		Ellisburg GRS 824-308	$319	$204
		GRS 824-004 Therm City Take OPP	$13	$0
		GRS 824-096 Skaneateles Take OPP	$58	$0
		GRS 824-164 Tully-Oak Hill	$147	$0
		GRS 824-181 Cazenovia Take OPP	$9	$0
		GRS 824-224 Hi-Lo valve removal	$0	$0
		GRS 824-230 Biddlecum Take OPP	$421	$300
		GRS 824-354 Croghan Take OPP	$8	$0
		GRS 824-711 Patrick Rd Inlet Repair	$120	$0
		GRS 824-757 Vickerman Hill	$875	$500
		GRS 924-330 Troy	$98	$75
		GRS 924-334 Wolf Rd	$152	$225
		GRS 924-340 Normanskill	$103	$0
		GRS 924-351 Riverside Take OPP	$2	$0
		GRS-924-434 Mariaville Rebuild	$0	$0
		GRS 924-450 Take OPP - Putnam Gate	$196	$500
		GRS 924-815 Shellstone	$0	$0
		Heater Installation Program - Brownville Heater Replacement GRS 824-339	$0	$15
		Heater Installation Program - Croghan Take Station Heater Replacement - GRS 824-354	$0	$1,040
		Heater Installation Program - Normanskill Heater Replacement GRS 924-340	$0	$338
		Hydrogen Developer Albany,NY	$5	$0
		Hydrogen Developer - Solvay, NY	$7	$0
		Install 8000' of 8" pl main Amazon	$10	$0
		LTUN12251 - Albany Loop Closure	$0	$0
		Methane Emission Reduction REVISED	$0	$0
		Multi-Use Hydrogen Facilkity-Gas Po	$2	$0
		Oil Seal Replacement	$963	$913
		Old Campion Road GRS 824-688	$4,171	$2,775
		Oneida Supply - GRS 824-709	$1	$0
		Sandy Creek GRS 824-216A, 216B	$5,618	$3,790
		Sect Dist Valve Installation - UNY	$1,747	$3,793
		Shellstone GRS 924-815	$727	$463
		Temple St. - Gas Main Relocation	$56	$0
		Transmission Station Integrity - Harbor Point GRS 824-637	$0	$51
		Transmission Station - Over Pressure Protection	$0	$500
		TSI (PHMSA) - GRS 924-401, Burdeck	$1	$0
		Washington & Fuller - GRS 924-313	$167	$38
		Yorkville GRS 824-644	$164	$381

Classification	Category		YTD Actual	YTD Budget
Reliability			**$34,807**	**$27,682**
Non-Infrastructure	Hydrogen Blending, Geothermal Heating and RNG	Future of Heat - Clean Heat Initiative (Geo Thermal & Hydrogen Blending)	$0	$1,000
		Future of Heat - Renewable Natural Gas (RNG) Interconnections	$0	$478
	Purchase Misc Capital Equipment & Tools	Capital Equipment/Tools	$1,438	$2,075
		Meter Testing Equipment	$185	$108
		Telecomm - Radio Capital Expenditures	$93	$300
	Special Projects	Infrastructure-AMI	$1,623	$5,320
Non-Infrastructure			**$3,339**	**$9,281**
Other Actual	Other	Other	$0	($8,363)
Other Actual			**$0**	**($8,363)**
Direct Capex (Incl. Cost of Removal)			**$222,342**	**$227,374**
Capital Overhead Clearing			$0	$0
Other Capital Charges			$1,686	$0
Other Indirect			$0	$0
Topside Adjustments			$314	$0
IMWM			$6	$81
Unassigned (FI/CO Diffe			($1,836)	$0
Indirect Capex (Incl. Cost of Removal)			**$170**	**$81**
Total Capital (Incl. Cost of Removal)			**$222,511**	**$227,455**
Direct Cost of Removal			($10,346)	($8,640)
Indirect Cost of Removal			($780)	$0
Unassigned (FI/CO Diffe			$1,092	$0
Total Cost of Removal			**($10,035)**	**($8,640)**
Total Capital (Excl. Cost of Removal)			**$212,477**	**$218,815**

NIAGARA MOHAWK POWER CORP

CAPITAL BY CATEGORY - CY- 01/2023-12/2023 ($000's)

Classification	Category	Final Category Code	YTD Actual	YTD Budget
Growth	Base Growth	Base Growth - Customer Contributions	($1,859)	($1,272)
		Base Growth - Fitting	$10,832	$8,300
		Base Growth - Install Meter / Regulator	$4,385	$3,359
		Install Main	$7,362	$6,827
		Install Service	$9,852	$11,629
		NEP - Install Service	$1	$0
	Base Growth - Special Projects	Amazon - Kirkville, NY	$0	$0
		Amazon Shodack District Warehouse	$3	$0
		Marcy Nanotech Center (MV EDGE)	$0	$0
		Micron	$483	$0
		Port Albany District Commission	$42	$0
		RI Meter Lab Testing Equipment	$0	$5,500
		White Pine - Micron	$19	$0
		White Pine Project/Onondaga Cty IDA	($5)	$0
		White Pine Project/Onondaga Cty IDA - CIAC	$0	($5,500)
	Gas System Reinforcement	Gas Reinforcement - Alplaus GRS_Riverview Rd	$145	$137
		Gas Reinforcement - Central Square_State Hwy 49	$515	$505
		Gas Reinforcement - LTUN12247_Rexford_Rt 146_New Main a	$13	$270
		Gas Reinforcement - LTUN12350_Altamont_St Rt146_New Mai	$1,655	$745
		Gas Reinforcement - LTUN20903 - Clifton Park_Rt 146	$155	$200
		Gas Reinforcement - LTUN20903 - Rotterdam_Crane St_Alta	$0	$0
		Gas Reinforcement - Pennelville_County Hwy 12_New Main	$1,004	$665
		Reinforcement	$3,764	$4,800
	Special Projects	Gas System Reinforcement - LTUN20903 - Rotterdam_Crane St	$0	$10
		MVHS Hospital	($2)	$0
Growth			**$38,365**	**$36,175**
Mandated	City State Construction - Non-Reimbursable	CSC-Non-Reimbursables	$5,635	$8,665
	City State Construction - Reimbursable	CSC-Reimbursable	$4	$0
	Integrity	Corrosion	$1,502	$1,200
		Cross Bore Remediation	$53	$200
		IMP - PL-16 Valve 1605 Replacement	$1,710	$1,870
		IMP-PL-16 Vlv 1604 (Flyer Settleme	$61	$0
		IMP-PL 33 Pipe Repair - Mexico	$0	$0
		IMP - PL-35 Valve 3505 Replacement	$245	$150
		IMP - PL-39 - Besaw Road C082641	$186	$142
		IMP-PL-39 Hall Rd to Watertown ILI-	$249	$550
		IMP - PL-39 - Hall Road C082639	$7,148	$5,737
		IMP - PL-39 - Valve 3903 C082643	$6,460	$4,508
		IMP - PL-39 - Valve 3904 C082642	$1,985	$2,593
		IMP - PL-39 - Valve 3905 C082640	$7	$56
		IMP - PL-39 - Valve 3908 C082644	$204	$354

Classification	Category	Final Category Code	YTD Actual	YTD Budget
		IMP - PL-39 - Valve 3911 C082647	$144	$400
		IMP - PL-39 - Valve 3914 C082650	$515	$740
		IMP-PL-43 Watertown Feed ILI-able	$4	$0
		IMP - PL-48 - I-81 to LeRay ILI	$522	$207
		IMP-PL-49 Intcnct Watertown Feed IL	$93	$33
		IMP - PL-49 - Rices Rd to I-81 ILI	$9,958	$11,568
		IMP - PL-49 - Valve 4901 Rplc	$34	$50
		IMP - PL-55 - ILI HDD	$906	$910
		IMP - PL-58 - ILI Hall Road C079791	$0	$0
		IMP - PL-58 ILI Independence Indeck	$0	$0
		IMP - PL-65 - Launcher and Receiver	$46	$0
		IMP - PL E20 Part Repl	$41	$60
		IMP - Rices Road Valve Site	$38	$0
		IMP-V3912 and V3913 - Replace vlvs	$348	$400
		IVP-PL-31 - Onondaga Creek HDD	$1	$57
		IVP-PL-34 - 8 Inch Replacement	$1	$0
		IVP - PL-36 - 16 Inch Replacement	$1,012	$2,345
		IVP - PL-E18 Pipeline Replacement	$3	$2,500
		IVP-PL-E18 - Pipeline Replacement	$472	$0
		Low Pressure Pockets	$5,282	$2,000
		P Integrity IVP E18 L/R Putnam Vley	$6	$0
		Pipeline E12 Hudson River Crossing	$1,405	$4,000
		Pipeline Integrity - IMP - Pipeline valve 1606 replacement	$0	$500
		Pipeline Integrity - IMP - PL-50	$142	$135
		Pipeline Integrity - IVP - PL 16 HCA Sections - Orange Commons	$0	$2,500
		Pipeline Integrity - IVP - PL 16 HCA Sections - Valve 1607 to Northern Blvd	$0	$500
		PL 11 Washout-Sauquoit Creek-Ne	$24	$0
		PL 16 IMP Taft Road Spur Partial Re	$3,559	$4,048
		PL-16 Pl Integrity IVP HCA v1603 t	$128	$0
		PL 31: Highway 481 HDD	$20	$1
		PL 31: Highway 81 HDD	$497	$400
		PL 32 V3203 Fence Replacement	$0	$500
		PL-33 valve bypass coupling replace	($119)	$0
		PL-35 Drip Pots and Relo Wash Out	$5	$42
		PL-35 Pipeline Integrity IMP Taft	$178	$307
		PL-41A - ILI Taft Rd to Colimer Rd	$261	$182
		PL-51 IMP Enable ILI Kingdom Rd Sta	$0	$0
		PL-52 IMP ILI Enablement	$306	$120
		PL-55 IMP ILI Enable 55/51 Intercon	$308	$575
		PL-56 Modify for ILI (Year 2 of 3)	$0	$146
		PL-E16 Relo Latham Ridge Rd	$21	$0
		PL E8 Partial Replacement / Relocat	$1	$0
		Replace Pipe on Bridges - MA&N Railroad Bridge Subsidence	$0	$250
		Transmission Pipeline Reactive	$391	$50
		Transmission Pipeline Washout's	($122)	$33
		Transmission Station Integrity - PHMSA - Leray -344	$0	$52
		Transmission Station Integrity - PHMSA - Loughberry Lake GRS 924-736A/B	$0	$200
		Transmission Station Integrity - PHMSA - North Pole - GRS 824-340A/B	$0	$52
		Transmission Station Integrity - PHMSA - Taunton GRS 824-071A/B/C	$0	$50

Classification	Category	Final Category Code	YTD Actual	YTD Budget
		UPNY pipeline washouts, low cover i	$0	$380
	Main Replacements - Proactive Programs	Main Repl Leak Prone Pipe	$80,407	$73,892
	Main Replacements - Reactive Programs	Maintenance	$1,071	$0
	Meter Work	Meter Changes	$4,286	$0
		Other Meter Work	$90	$1,657
	Purchase Meters (Replacements)	Meter Purchases	$6,913	$9,365
	Service Replacements - Reactive Programs	Atmospheric Corrosion/Inside Inspections	$0	$71
		Farm Taps	$419	$500
		Leaks	$1,881	$1,828
		Non-Leak / Other	$4,825	$6,434
		Valve Installation/Replacement	$0	$85
	Special Projects	Access Protection Remediation	$1,127	$780
		Gas Infrastructure Replacement on Structures	$510	$821
		Low Pressure System Elimination	$1,604	$2,000
		RCV	$2,128	$2,879
		Sectionalizing District Implementation	$3,633	$2,200
		Storm Hardening Install Remote Service Shutoff Valves	($318)	$0
		Transmission Station Integrity	$6,499	$6,634
Mandated			**$166,958**	**$171,465**
Reliability	CNG Programs - Special Projects	UNY CNG Site#2	$117	$250
	Gas System Reliability	Critical Spares	$123	$62
		Elton Ave & Salina St GRS 824-043	($0)	$0
		Floral Ave GRS 924-428	$133	$173
		Gas Planning/RCV Program	$614	$2,118
		Gas Regulator Station Security	$364	$600
		Glenmont - Kenwood Av - Reliability	$490	$876
		GRS Heater Program-UNY	$819	$0
		Holcomb Heater Replacement	$11	$128
		Hollywood Ave GRS 924-429	$2,338	$2,156
		I&R Training Facility	$0	$1,000
		Nelson Ave GRS 924-709	$2,244	$1,363
		Pres Reg Facil - proactive-UNY	$367	$650
		Pres Reg Facil - Reactive-UNY.	$2,060	$1,259
		Pressure Reg CNG-Proactive-UNY	$3	$208
		Reliability_Colonie_RCV_Flow Con_V	$36	$0
		Rowland Heater Replacement.	$157	$100
		System Automation	$1,077	$2,103
		Vley Rd Heater Replacement	$156	$100
		Water Intrusion	$690	$493
		W Linden St. GRS 824-641	$1,943	$2,142
	Special Projects	CNG-Moreau Injection Site Upgrade	$6,654	$7,420
		Delaware Ave GRS 924-402	$4,156	$4,388
		Distribution Station OPP-UNY	$357	$317

Classification	Category	Final Category Code	YTD Actual	YTD Budget
		E Greenbush GRS 924-335	$1,185	$494
		Ellisburg GRS 824-308	$1,075	$735
		FOH-Geothermal Pilot NMPC (Syr)	$202	$0
		FOH-Geothermal Pilot NMPC (Troy)	$175	$0
		Gas Reliability - RCV - LTUN20986 - RCV-Placeholder(FY25)-Shaker Rd	$0	$10
		Gas Reliability - RCV - LTUN21012 - State Fair Blvd_ I-690	$0	$10
		Gas Reliability - RCV - LTUN21013 - Loss of GRS in ROME	$0	$10
		Gas System Control - MapBoard Replacement	$0	$560
		GRS 824-004 Therm City Take OPP	$44	$679
		GRS 824-096 Skaneateles Take OPP	$113	$25
		GRS 824-164 Tully-Oak Hill	$333	$200
		GRS 824-176 Hall Rd Replacement	$5	$0
		GRS 824-181 Cazenovia Take OPP	$50	$50
		GRS 824-224 Hi-Lo valve removal	$26	$0
		GRS 824-230 Biddlecum Take OPP	$563	$135
		GRS 824-354 Croghan Take OPP	$67	$998
		GRS 824-757 Vickerman Hill	$1,223	$400
		GRS 924-330 Troy	$10	$25
		GRS 924-334 Wolf Rd	$691	$300
		GRS 924-340 Normanskill	$270	$806
		GRS 924-351 Riverside Take OPP	$75	$224
		GRS 924-450 Take OPP - Putnam Gate	$135	$107
		GRS 924-815 Shellstone.	$1	$0
		Heater Installation Program - BMS Upgrades & Fuel Train Replacement	$0	$200
		Heater Installation Program - Brownville Heater Replacement GRS 824-339	$0	$245
		Hydrogen Developer Albany,NY	($1)	$0
		Hydrogen Developer - Solvay, NY	($0)	$0
		Multi-Use Hydrogen Facilkity-Gas Po	$49	$0
		Odor Vapor Managment Project.	$264	$200
		Oil Seal Replacement	$359	$674
		Oneida Supply - GRS 824-709	$2	$10
		Patrick Rd GRS 824-711	$6	$0
		Sandy Creek GRS 824-216A, 216B	$67	$66
		Shellstone GRS 924-815	$4,689	$4,824
		Taft Rd GRS 824-173	$4,080	$5,172
		Tanner Road GRS 824-144	$33	$125
		Yorkville GRS 824-644	$252	$250
Reliability			**$40,951**	**$45,441**
Non-Infrastructure	Hydrogen Blending, Geothermal Heating and RN	AMI	$0	$2,520
		Future of Heat - Clean Heat Initiative (Geo Thermal & Hydrogen Blending)	$0	$1,200
		Future of Heat - Renewable Natural Gas (RNG) Interconnections	$0	$487
	Purchase Misc Capital Equipment & Tools	Capital Equipment/Tools	$2,240	$2,756
		Meter Testing Equipment	$185	$110
		Telecomm - Radio Capital Expenditures	$130	$306
		Tools & Equipment - Combustible gas indicator (CGI)	$0	$1,872
	Special Projects	Infrastructure-AMI	$1,896	$18,123

Classification	Category	Final Category Code	YTD Actual	YTD Budget
Non-Infrastructure			**$4,451**	**$27,375**
Other Actual	Other	Alignment to BPC	$0	$8,773
Other Actual			**$0**	**$8,773**
Direct Capex (Incl. Cost of Removal)			**$250,725**	**$289,227**
Capital Overhead Clearing			$2,368	$0
Other Capital Charges			$1,624	$0
Topside Adjustments			$1,144	$0
Facilities			$0	$264
Unassigned (FI/CO Diffe			($796)	$0
Indirect Capex (Incl. Cost of Removal)			**$4,340**	**$264**
Total Capital (Incl. Cost of Removal)			**$255,064**	**$289,492**
Direct Cost of Removal			($9,094)	($10,991)
Indirect Cost of Removal			($743)	$0
Unassigned (FI/CO Diffe			$670	$0
Total Cost of Removal			**($9,167)**	**($10,991)**
Total Capital (Excl. Cost of Removal)			**$245,898**	**$278,501**

Date of Request: June 7, 2024 Request No. DPS-284
Due Date: June 17, 2024 NG Request No. NG-302

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Default NYPSC

TO: National Grid

SUBJECT: Capex - Workpapers

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

1. For each line item identified within Exhibit__(GIOP-1), provide all workpapers used to forecast the proposed budgets. Include the projected number of units (ex. number of meters, footage of main installed, number of services, etc.). Explain all assumptions used to derive the cost estimate. Include an itemized list of costs where possible.

2. If similar historic projects were used to estimate costs, include the actual cost and the year placed in service of the similar project. Demonstrate how the cost of the similar project was used to forecast the cost of the proposed project.

Response:

The Company provided DPS Staff with an electronic copy of the workpapers used to forecast the proposed budgets via USB drive mailed on June 17, 2024.

Attachment 1 is a copy of Exhibit ___ (GIOP-1) that contains the following designations:

- Column A in Attachment 1 labels each investment with a unique number that corresponds to a separate folder within the USB drive containing the estimate/forecast files.
- Column B designates the group. Folders for Group 1 are contained within this response. Folders for Group 2 will be sent on a separate USB drive by June 21st, 2024 as discussed with Staff.
- Items marked as Group 3 do not request funding in the Rate and Data Years (fiscal years 2026 through 2029); therefore, those workpapers have not been included.

Name of Respondent: Date of Reply:
Patricia McVeigh June 17, 2024

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 24-G-0323
DPS-284 Attachment 1
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Niagara Mohawk Power Corporation d/b/a National Grid
Direct Capital Expenditures (CAPEX and COR)

					NMPC				
Legend	Group	Planning Portfolio	Classification	Investment Name	FY25 Stay out Period	FY26	FY27	FY28	FY29
1a	Group 1	Customer Connections	Mains & Svc	Customer Connections - Install Main	$ 7,046,431	$ 7,219,041	$ 7,313,122	$ 7,408,220	$ 7,509,925
1b	Group 1	Customer Connections	Mains & Svc	Customer Connections - Install Services	$ 9,909,182	$ 10,123,528	$ 9,592,191	$ 8,474,303	$ 6,813,533
1c	Group 1	Customer Connections	Mains & Svc	Customer Connections - Customer Contributions	$ (1,527,846)	$ (1,565,272)	$ (1,585,671)	$ (1,606,291)	$ (1,628,343)
1d	Group 1	Customer Connections	Mains & Svc	Customer Connections - Install Meter/Regulator	$ 2,960,248	$ 3,020,680	$ 2,859,521	$ 2,523,826	$ 2,027,324
1e	Group 1	Customer Connections	Mains & Svc	Customer Connections - Fitting	$ 8,278,913	$ 8,453,621	$ 8,618,296	$ 8,781,937	$ 8,953,076
2a	Group 1	Customer Connections	Mains & Svc	Gas System Reinforcement	$ 6,272,912	$ 6,711,952	$ 6,860,784	$ 7,247,808	$ 7,151,204
3	Group 1	Customer Connections	Mains & Svc	Gas System Reinforcement - LTUN20867 - Central Sq - State Hwy 49	$ 4,726,000	$ 500,000	$ 44,000	$ -	$ -
4	Group 2	Customer Connections	Mains & Svc	Gas System Reinforcement - LTUN20902 - Alplaus - New GRS Riverview Rd	$ 200,000	$ 2,400,000	$ 10,800,000	$ 50,000	$ -
5	Group 1	Customer Connections	Mains & Svc	Gas System Reinforcement - LTUN20903 - Clifton Park _ Old RT146	$ 700,000	$ 2,450,000	$ 160,000	$ -	$ -
		Customer Connections - Total			**$ 38,565,840**	**$ 39,313,550**	**$ 44,662,243**	**$ 32,879,803**	**$ 30,826,718**
6	Group 1	Mandated	Mains & Svc	Corrosion	$ 4,117,836	$ 4,253,160	$ 4,390,738	$ 4,532,374	$ 4,679,854
7	Group 1	Mandated	Mains & Svc	Corrosion - Alternating Current (AC) Corrosion Mitigation	$ 2,750,000	$ 11,409,075	$ 11,284,340	$ 14,302,922	$ 14,419,341
8	Group 1	Mandated	Mains & Svc	CSC/Public Works - Non Reimbursable	$ 8,256,147	$ 8,430,352	$ 8,594,744	$ 8,758,044	$ 8,928,826
9	Group 1	Mandated	Mains & Svc	CSC/Public Works - I-81	$ 2,045,000	$ 2,045,000	$ 2,045,000	$ -	$ -
10	Group 2	Mandated	Mains & Svc	Large Diameter Pipe Rehabilitation	$ 108,640	$ 1,138,435	$ 1,160,634	$ 1,182,687	$ 1,205,749
11	Group 3	Mandated	Mains & Svc	Main Protection - Access Protection Remediation	$ 300,000	$ -	$ -	$ -	$ -
12	Group 1	Mandated	Mains & Svc	Main Replacement - Proactive - Leak Prone Pipe	$ 76,088,069	$ 49,937,683	$ 51,182,036	$ 52,446,451	$ 53,756,204
13	Group 2	Mandated	Mains & Svc	Main Replacement - Annual Leak Prone Pipe Survey - Leak Repair	$ 242,756	$ 247,878	$ 252,712	$ 257,513	$ 262,535
14	Group 1	Mandated	Mains & Svc	Main Replacement - Reactive - Maintenance	$ 1,107,026	$ 1,130,385	$ 1,152,427	$ 1,174,323	$ 1,197,223
15	Group 1	Mandated	Mains & Svc	Main Upgrades - Low Pressure System Elimination - Proactive	$ 4,047,238	$ 2,496,884	$ 2,559,102	$ 2,622,323	$ 2,687,810
16	Group 1	Mandated	Mains & Svc	Main Upgrades - Low Pressure Zones	$ 5,365,656	$ 3,329,179	$ 3,412,136	$ 3,496,430	$ 3,583,747
17	Group 2	Mandated	Mains & Svc	Main Upgrades - Transmission Pipeline - Reactive	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000
18	Group 1	Mandated	Meters/Hse Reg	Meter Work - Meter Changes	$ 6,974,812	$ 6,171,954	$ 16,051,638	$ 10,038,773	$ 4,832,913
19	Group 3	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-51 - Cut Outs resulting from ILI results	$ 2,176,479	$ -	$ -	$ -	$ -
20	Group 3	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-58 - Cut Outs resulting from ILI results	$ 2,176,479	$ -	$ -	$ -	$ -
21	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL 32 robotic ILI enable near CCC in Fulton - approx 713-feet	$ -	$ -	$ -	$ -	$ 100,000
22	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-16 - Taft Road Spur Partial Rel	$ 335,000	$ 140,000	$ 65,000	$ 15,000	$ 15,000
23	Group 3	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-16 - Valve 1604 Replacement	$ 8,000	$ -	$ -	$ -	$ -
24	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-16 - Valve 1605 Replacement	$ 50,000	$ 25,000	$ -	$ -	$ -
25	Group 2	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-35 - Therm City to Taunton	$ 1,795,000	$ 14,879,000	$ 180,000	$ -	$ -
26	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-35 - Valve 3505 Replacement	$ 2,418,000	$ 115,000	$ 50,000	$ -	$ -
27	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-36 Robotic ILI near Route 690 and WB Mason Warehouse Robotic ILI	$ -	$ -	$ -	$ 100,000	$ 100,000
28	Group 3	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Besaw Road C082641	$ 42,000	$ -	$ -	$ -	$ -
29	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Chestnut to Watertown ILI (Salmon River)	$ 6,600,000	$ 200,000	$ 73,000	$ -	$ -
30	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Hall Road C082639	$ 385,000	$ 75,000	$ -	$ -	$ -
31	Group 2	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Valve 3903 C082643	$ 320,000	$ 150,000	$ -	$ -	$ -
32	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Valve 3904 C082642	$ 89,000	$ 75,000	$ -	$ -	$ -
33	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Valve 3908 C082644	$ 2,606,000	$ 50,000	$ -	$ -	$ -
34	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Valve 3911 C082647	$ 2,293,000	$ 200,000	$ 38,000	$ -	$ -
35	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Valve 3912 and 3913 C082648	$ 2,137,000	$ 200,000	$ 75,000	$ -	$ -
36	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Valve 3914 C082650	$ 6,123,000	$ 550,000	$ 325,000	$ -	$ -
37	Group 3	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 Hall Rd to Watertown ILI-	$ -	$ -	$ -	$ -	$ -
38	Group 2	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-41A - ILI Taft Rd to Colimer Rd	$ 1,050,000	$ 8,819,000	$ 80,000	$ -	$ -
39	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-48 - I-81 to LeRay ILI	$ 11,330,000	$ 200,000	$ 100,000	$ -	$ -
40	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-49 - Rices Rd to I-81 ILI	$ 993,000	$ 75,000	$ -	$ -	$ -
41	Group 3	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-49 - Valve 4901 Rplc	$ 45,000	$ -	$ -	$ -	$ -
42	Group 2	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-49 - Valve at I-81 ILI C082652	$ 125,000	$ 15,000	$ 5,000	$ -	$ -
43	Group 2	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-50	$ 365,000	$ -	$ -	$ -	$ 1,000,000
45	Group 3	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-55 - ILI Interconnect C082639	$ 245,000	$ -	$ -	$ -	$ -
46	Group 3	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-55 - ILI HDD	$ 60,000	$ -	$ -	$ -	$ -
47	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-56 - Robotic ILI Enable from tie-in to PL 64 to Carthage GRS	$ -	$ -	$ -	$ -	$ 100,000
48	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-61 Robotic ILI needs stopple and communication port near tie-in to PL 15	$ -	$ -	$ -	$ -	$ 100,000
49	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-E12 - Hudson River Crossing - Reactive Transmission Program	$ 12,466,000	$ 3,231,000	$ 80,000	$ -	$ -
50	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-E18 -ILI Enable Launcher and receiver Putnam Rd to Vley Rd	$ 800,000	$ 1,616,000	$ 9,138,000	$ 600,000	$ -
51	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-E18 Pipeline ILI Enable (Mohawk River and I890 HDD)	$ 2,146,000	$ 3,615,000	$ 18,532,000	$ 1,100,000	$ -
52	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-E20 - Partial Replacement Project	$ 45,000	$ 25,000	$ -	$ -	$ -
53	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-E5 - ILI enable, 12-inch run approx. 20,000-ft	$ -	$ -	$ -	$ -	$ 250,000
54	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-E8 - Robotic ILI enable 1850 ft described as shark fin	$ -	$ -	$ -	$ -	$ 250,000
55	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IVP - PL 32 Three Rivers Bridge plus Upstream and Downstream Valves - approx 1250-feet	$ -	$ -	$ 250,000	$ 250,000	$ 1,000,000
56	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Fyler Road Kirkville near trailer park	$ -	$ 250,000	$ 250,000	$ 500,000	$ 5,000,000
57	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Orange Commons	$ 250,000	$ 500,000	$ 5,000,000	$ 61,453,226	$ 2,000,000
58	Group 2	Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Union Street to Glenwood Ave, Oneida	$ 250,000	$ 250,000	$ 1,000,000	$ 4,578,760	$ 50,000
59	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Valve 1607 to Northern Blvd	$ 500,000	$ 500,000	$ 1,000,000	$ 103,000,000	$ 100,044,011
60	Group 2	Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections Valve 1603 to Lakeport Road	$ 1,100,000	$ 9,764,000	$ 133,000	$ -	$ -
61	Group 2	Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-36 - 16 Inch Replacement	$ 20,328,000	$ 598,000	$ 60,000	$ -	$ -
62	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-E18 - MAOP Reconfirmation	$ 2,000,000	$ 2,000,000	$ 30,000,000	$ 155,000,000	$ 148,356,026
63	Group 2	Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-E18 - MAOP Reconfirmation - Capital portion of Pressure Testing	$ 100,000	$ 2,200,000	$ 2,300,000	$ 2,300,000	$ 2,300,000
64	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-E21 Kinderhook Creek Replacement approx 232-feet	$ -	$ -	$ -	$ 250,000	$ 250,000
65	Group 1	Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-E35 modify for ILI	$ -	$ -	$ -	$ -	$ 100,000
66	Group 2	Mandated	Meters/Hse Reg	Purchase Meters (Replacements)	$ 12,417,399	$ 13,875,254	$ 14,145,822	$ 14,414,592	$ 14,695,677
67	Group 3	Mandated	Mains & Svc	Gas Reliability - RCV - LTUN12243 - Valve 1305 Near GRS 924-733	$ 15,000	$ -	$ -	$ -	$ -
68	Group 3	Mandated	Mains & Svc	Gas Reliability - RCV - LTUN20986 - RCV--Shaker Rd	$ 330,000	$ -	$ -	$ -	$ -
69	Group 1	Mandated	Mains & Svc	Replace Pipe on Bridges	$ 892,627	$ 911,462	$ 929,235	$ 946,891	$ 965,355
70	Group 1	Mandated	Mains & Svc	Replace Pipe on Bridges - MA&N Railroad Bridge Subsidence	$ 360,000	$ 900,000	$ 1,800,000	$ 680,000	$ -
71	Group 3	Mandated	Mains & Svc	Sectionalizing District Implementation	$ 4,000,000	$ -	$ -	$ -	$ -
72	Group 1	Mandated	Mains & Svc	Service Replacement - Atmospheric Corrosion Inside Inspections (Remediation)	$ 30,516	$ 31,160	$ 31,768	$ 32,371	$ 33,003
73	Group 1	Mandated	Mains & Svc	Service Replacement - Reactive - Leaks	$ 2,159,174	$ 2,204,733	$ 2,247,725	$ 2,290,432	$ 2,335,095
74	Group 1	Mandated	Mains & Svc	Service Replacement - Reactive - Non-Leaks - Other	$ 5,813,776	$ 5,936,447	$ 6,052,207	$ 6,167,199	$ 6,287,460
75	Group 1	Mandated	Mains & Svc	Service Replacement - Proactive- Unprotected Steel Service Replacement Program/Meter Relocation - NEW	$ -	$ -	$ -	$ 2,750,916	$ 5,606,297
76	Group 2	Mandated	Mains & Svc	Transmission Pipeline Washout	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000
77	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - 364 Walnut St (Burkle) GRS 824-211A/B	$ -	$ -	$ 600,000	$ 3,000,000	$ 9,074,981
78	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Coffeen - GRS 824-345	$ -	$ -	$ -	$ 600,000	$ 2,000,000
79	Group 3	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Cold Springs Rd - GRS 824-127	$ 23,000	$ -	$ -	$ -	$ -
80	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Collamer Rd GRS 824-170A/B	$ -	$ 250,000	$ 450,000	$ 3,527,808	$ 85,000
81	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Dams Corners GRS 824-697	$ 3,805,000	$ 60,000	$ 75,000	$ -	$ -
82	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Harris Road GRS 824-406/407	$ 4,210,000	$ 200,000	$ 80,000	$ -	$ -
83	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Holcomb St GRS 824-306A/B/C	$ 333,000	$ 1,578,000	$ 9,637,793	$ 82,000	$ 45,000
84	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Lamphere - GRS 824-695	$ -	$ 400,000	$ 600,000	$ 2,250,000	$ 4,528,985
85	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Leray -344	$ 127,500	$ -	$ 400,000	$ 2,250,000	$ 4,134,248
86	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Loughberry Lake GRS 924-736A/B	$ 400,000	$ 1,370,000	$ 5,579,000	$ 100,000	$ -
87	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - North Pole - GRS 824-340A/B	$ 200,000	$ 385,000	$ 2,566,000	$ 10,063,537	$ 300,000
88	Group 3	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Old Campion Road GRS 824-688	$ 50,000	$ -	$ -	$ -	$ -
89	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Rattlesnake GRS 824-171-172	$ 50,000	$ 25,000	$ -	$ -	$ -
90	Group 2	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Route 26 GRS 824-759	$ 6,021,000	$ 60,000	$ 75,000	$ -	$ -
91	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Route 3 / West Carthage GRS 824-352	$ 850,000	$ 5,824,000	$ 100,000	$ 50,000	$ -
92	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Shaker Road GRS 924-318	$ 6,550,000	$ 80,000	$ 15,000	$ -	$ -
93	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Taunton GRS 824-071A/B/C	$ 275,000	$ 800,000	$ 4,456,000	$ 80,000	$ -
94	Group 3	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Washington & Fuller - GRS 924-313	$ 32,000	$ -	$ -	$ -	$ -
95	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Wheeler Rd (Chittenago) GRS 824-166	$ 260,000	$ 4,395,000	$ 83,000	$ -	$ -
96	Group 1	Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA/Over Pressure Protection - Burdeck St (PL-E8) GRS 924-401	$ 341,000	$ 6,058,000	$ 82,000	$ -	$ -
97	Group 1	Mandated	Mains & Svc	Roadway Excavation Quality Assurance Act (Prevailing Wage)	$ 16,183,179	$ 16,524,644	$ 16,846,874	$ 17,166,965	$ 17,501,721
98	Group 1	Mandated	Mains & Svc	Valve Installation/Replacement	$ 80,000	$ 255,139	$ 86,705	$ 88,352	$ 90,075
		Mandated - Total			**$ 261,964,310**	**$ 204,030,823**	**$ 238,758,636**	**$ 495,499,889**	**$ 425,252,135**
99	Group 2	Reliability	Gen Equip	CNG - CNG Fill - NIMO Blanket	$ 212,242	$ 216,486	$ 220,816	$ 225,232	$ 229,737
100	Group 1	Reliability	Storage	CNG - Moreau Injection Site Upgrade	$ 26,850,000	$ 2,940,000	$ -	$ -	$ -
101	Group 1	Reliability	Storage	CNG - LTUN21000 - Energy Transfer Site- CNG Site-2	$ 2,594,000	$ 8,000,000	$ 35,600,000	$ 2,015,000	$ -
178	Group 1	Reliability	Mains & Svc	Gas Reliability	$ 2,870,590	$ 2,819,212	$ 2,718,399	$ 2,865,682	$ 2,976,953
102	Group 1	Reliability	Mains & Svc	Gas Reliability - LTUN21012 - State Fair Blvd_ I-690	$ 195,000	$ 700,000	$ 4,462,000	$ 60,000	$ 75,000
103	Group 1	Reliability	Mains & Svc	Gas Reliability - LTUN 21033-GRS Church St Saratoga Spring 45#_New main (FY30)	$ 100,000	$ -	$ 300,000	$ 500,000	$ 1,000,000
104	Group 2	Reliability	Mains & Svc	Gas Reliability - LTUN12251 - East gate reliability project	$ 300,000	$ 750,000	$ 750,000	$ 1,000,000	$ 5,200,000
105	Group 1	Reliability	Mains & Svc	Gas Reliability - LTUN12345 - Glenmont Kenwood Rd loss of GRS 340	$ 7,112,000	$ 80,000	$ 50,000	$ -	$ -
106	Group 1	Reliability	Mains & Svc	Gas Reliability - LTUN21013 - Loss of GRS in ROME	$ 400,000	$ 750,000	$ 3,434,510	$ 12,722,254	$ 123,250
107	Group 1	Reliability	Mains & Svc	Gas Reliability - LTUN21022- GRS 924-340-B Normanskill (FY27)	$ 120,000	$ 600,000	$ 6,454,000	$ 75,000	$ 60,000
108	Group 1	Reliability	Mains & Svc	Gas Reliability - LTUN-21032 - GRS Schenectady 32#_ New Main (FY29)	$ 100,000	$ -	$ 300,000	$ 500,000	$ 1,000,000
109	Group 1	Reliability	Meas. & Reg	Gas Reliability - System Automation	$ 2,058,662	$ 2,102,100	$ 2,143,091	$ 2,183,810	$ 2,226,394
110	Group 1	Reliability	Meas. & Reg	Heater Installation Program - Ballston Lake Heater Replacement GRS 924-419	$ -	$ -	$ -	$ -	$ 1,157,031
111	Group 1	Reliability	Meas. & Reg	Heater Installation Program - Bethlehem Take Station Heater Replacement GRS 824-388	$ -	$ -	$ 3,583,411	$ 5,618,690	$ -
112	Group 2	Reliability	Meas. & Reg	Heater Installation Program - BMS Upgrades & Fuel Train Replacement	$ 204,000	$ 289,244	$ 295,029	$ 300,929	$ 306,948
113	Group 1	Reliability	Meas. & Reg	Heater Installation Program - Boonville Take Station Heater Replacement GRS 824-302	$ -	$ -	$ -	$ 2,520,689	$ 3,909,158
114	Group 1	Reliability	Meas. & Reg	Heater Installation Program - Collamer Road Heater Replacement GRS 824-170B	$ -	$ -	$ -	$ -	$ 1,626,348
115	Group 1	Reliability	Meas. & Reg	Heater Installation Program - Queen Ann Heater Replacement - GRS 924-806	$ -	$ -	$ -	$ -	$ 1,896,056
116	Group 1	Reliability	Meas. & Reg	Heater Installation Program - Rowland Street Heater Replacement GRS 924-707	$ -	$ 1,157,031	$ 2,047,253	$ -	$ -

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Direct Capital Expenditures (CAPEX and COR)

Niagara Mohawk Power Corporation
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					NMPC				
Legend	Group	Planning Portfolio	Classification	Investment Name	FY25 Stay out Period	FY26	FY27	FY28	FY29
117	Group 1	Reliability	Meas. & Reg	Heater Installation Program - Seneca Street Heater Replacement - GRS 924-437	$ -	$ -	$ -	$ 1,157,031	$ 2,188,242
118	Group 1	Reliability	Meas. & Reg	Heater Installation Program - Vley Road Heater Replacement - GRS 924-445	$ -	$ 1,157,031	$ 2,047,253	$ -	$ -
119	Group 3	Reliability	Meas. & Reg	I&R - Critical Spares	$ 26,731	$ -	$ -	$ -	$ -
120	Group 1	Reliability	Meas. & Reg	I&R - Gas Regulator Station Security	$ 85,186	$ 86,983	$ 88,680	$ 90,365	$ 92,127
121	Group 1	Reliability	Meas. & Reg	I&R - LMR Land Mobile Radio System	$ 238,316	$ 243,344	$ 248,089	$ 252,803	$ 257,733
122	Group 1	Reliability	Meas. & Reg	I&R - Oil Seal Replacement	$ 438,385	$ 1,733,221	$ 1,767,019	$ 1,800,592	$ 1,835,704
123	Group 1	Reliability	Meas. & Reg	I&R - Reactive	$ 871,715	$ 890,108	$ 907,465	$ 924,707	$ 942,739
124	Group 1	Reliability	Meas. & Reg	I&R - ZEVAC Equipment	$ -	$ 1,676,063	$ -	$ -	$ -
125	Group 1	Reliability	Mains & Svc	Main Upgrades - Water Intrusion	$ 222,206	$ 226,895	$ 231,319	$ 235,714	$ 240,311
126	Group 1	Reliability	Mains & Svc	Main Protection - Live Tracer System - Gas Main (Jameson Main Locates)	$ 2,742,429	$ 2,800,302	$ 2,854,851	$ 2,909,057	$ 2,965,748
127	Group 3	Reliability	Meas. & Reg	Take Station - Odorant Vapor Management at Take Stations	$ 150,000	$ -	$ -	$ -	$ -
128	Group 1	Reliability	Meas. & Reg	Proactive Regulator Stations - Proactive	$ 3,300,000	$ 2,592,344	$ 2,642,895	$ 2,693,110	$ 2,745,625
129	Group 3	Reliability	Meas. & Reg	Proactive Regulator Stations - Hollywood Ave GRS 924-429	$ 100,000	$ -	$ -	$ -	$ -
130	Group 2	Reliability	Meas. & Reg	Proactive Regulator Stations - Nelson Ave GRS 924-709	$ 82,000	$ 100,000	$ -	$ -	$ -
131	Group 2	Reliability	Meas. & Reg	Proactive Regulator Stations - Plastic Control Lines	$ -	$ 198,000	$ 201,960	$ 205,999	$ 210,119
132	Group 3	Reliability	Meas. & Reg	Proactive Regulator Stations - Shellstone GRS 924-815	$ 50,000	$ -	$ -	$ -	$ -
133	Group 1	Reliability	Meas. & Reg	Proactive Regulator Station - Station Coating	$ -	$ 350,000	$ 357,000	$ 364,140	$ 371,423
134	Group 1	Reliability	Meas. & Reg	Proactive Regulator Stations - W Linden St. GRS 824-641	$ 48,000	$ 10,000	$ -	$ -	$ -
135	Group 2	Reliability	Meas. & Reg	Proactive Regulator Stations - Over Pressure Protection	$ 267,269	$ 275,000	$ -	$ -	$ -
136	Group 1	Reliability	Meas. & Reg	Station Integrity - Burt St GRS 824-110	$ -	$ 400,000	$ 600,000	$ 2,250,000	$ 9,134,354
137	Group 3	Reliability	Meas. & Reg	Station Integrity - Delaware Ave GRS 924-402	$ 86,000	$ -	$ -	$ -	$ -
138	Group 2	Reliability	Meas. & Reg	Station Integrity - Ellisburg GRS 824-308	$ 5,137,000	$ 350,000	$ 100,000	$ -	$ -
139	Group 2	Reliability	Meas. & Reg	Station Integrity - Hall Road GRS 824-176	$ 250,000	$ 400,000	$ 2,250,000	$ 15,575,636	$ 150,000
140	Group 2	Reliability	Meas. & Reg	Station Integrity - Hinmansville Retirement	$ -	$ -	$ -	$ -	$ 57,369
141	Group 2	Reliability	Meas. & Reg	Station Integrity - Hudson GRS 924-606	$ -	$ 54,060	$ 135,304	$ 270,608	$ 487,094
142	Group 2	Reliability	Meas. & Reg	Station Integrity - Kingdom Road GRS 824-213	$ -	$ -	$ 55,141	$ 138,010	$ 276,020
143	Group 2	Reliability	Meas. & Reg	Station Integrity - Knowell Rd GRS 824-139	$ -	$ -	$ -	$ 56,244	$ 140,770
144	Group 1	Reliability	Meas. & Reg	Station Integrity - Lakeland GRS 824-140	$ 53,000	$ 150,000	$ 300,000	$ 500,000	$ 3,975,863
145	Group 3	Reliability	Meas. & Reg	Station Integrity - Sandy Creek GRS 824-216A, 216B	$ 26,000	$ -	$ -	$ -	$ -
146	Group 1	Reliability	Meas. & Reg	Station Integrity - Taft Rd GRS 824-173	$ 320,000	$ 90,000	$ 20,000	$ -	$ -
147	Group 2	Reliability	Meas. & Reg	Station Integrity - Tanner Road GRS 824-144	$ 250,000	$ 750,000	$ 5,763,923	$ 184,000	$ -
148	Group 1	Reliability	Meas. & Reg	Station Integrity - Yorkville GRS 824-644	$ 525,000	$ 6,836,000	$ 175,000	$ -	$ -
149	Group 3	Reliability	Meas. & Reg	Station Integrity- Shellstone GRS 924-815	$ 50,000	$ -	$ -	$ -	$ -
150	Group 2	Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Biddlecum Rd GRS 824-230 (Inlet Replacement)	$ 55,000	$ 171,000	$ 3,041,000	$ 82,000	$ -
151	Group 1	Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Croghan GRS 824-354	$ 1,106,000	$ 577,000	$ 1,731,000	$ 82,000	$ -
152	Group 3	Reliability	Meas. & Reg	Take Station - Over Pressure Protection - E Greenbush GRS 924-335	$ 25,500	$ -	$ -	$ -	$ -
153	Group 1	Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Normanskill GRS 924-340	$ 595,000	$ 2,250,000	$ 9,058,000	$ 75,000	$ 60,000
154	Group 2	Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Putnam GRS 924-450	$ 226,729	$ 25,500	$ -	$ -	$ -
155	Group 1	Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Riverside GRS 924-351	$ 492,000	$ 1,132,000	$ 37,000	$ -	$ -
156	Group 1	Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Therm City GRS 824-004	$ 314,791	$ 2,860,954	$ 81,600	$ -	$ -
157	Group 3	Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Tully-Oak Hill GRS 824-164	$ 25,000	$ -	$ -	$ -	$ -
158	Group 1	Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Wolf Rd GRS 924-334	$ 2,113,000	$ 70,000	$ 30,000	$ -	$ -
		Reliability- Total			**$ 63,388,750**	**$ 48,859,879**	**$ 97,083,009**	**$ 60,434,303**	**$ 47,918,116**
159	Group 2	Non Infrastructure	Gen Equip	Tools & Equipment - All	$ 1,862,380	$ 1,133,618	$ 1,155,723	$ 1,177,682	$ 1,200,647
160	Group 2	Non Infrastructure	Gen Equip	Tools & Equipment - I&R	$ 792,945	$ 404,004	$ 411,882	$ 419,708	$ 427,892
161	Group 2	Non Infrastructure	Gen Equip	Tools & Equipment - Learning & Development	$ -	$ 284,375	$ 283,594	$ 295,898	$ 308,818
162	Group 2	Non Infrastructure	Meters/Hse Reg	Tools & Equipment - Meter Testing	$ 124,833	$ 127,467	$ 129,953	$ 132,422	$ 135,004
163	Group 3	Non Infrastructure	Gen Equip	Tools & Equipment - Combustible gas indicator (CGI)	$ 1,872,500	$ -	$ -	$ -	$ -
		Non-Infrastructure - Total			**$ 4,652,659**	**$ 1,949,463**	**$ 1,981,152**	**$ 2,025,709**	**$ 2,072,361**
164	Group 2	AMI	Meters/Hse Reg	AMI	$ 42,443,310	$ 25,692,381	$ 14,364,915	$ 977,849	$ -
165	Group 2	AMI	Meters/Hse Reg	AMI - Gas FAN Battery Pack Capex	$ -	$ 1,859,384	$ -	$ -	$ -
		AMI - Total			**$ 42,443,310**	**$ 27,551,764**	**$ 14,364,915**	**$ 977,849**	**$ -**
166	Group 1	Residential Methane Detectors	Meters/Hse Reg	RMD - Residential Methane Detectors	$ 2,400,000	$ 7,405,627	$ 9,962,460	$ 17,804,478	$ 15,263,718
167	Group 2	Residential Methane Detectors	Meters/Hse Reg	RMD - Smart Meter Replacements	$ -	$ 2,317,071	$ 1,955,285	$ 1,990,482	$ 1,804,660
		Residential Methane Detectors - Total			**$ 2,400,000**	**$ 9,722,698**	**$ 11,917,745**	**$ 19,794,960**	**$ 17,068,378**
168	Group 2	Future of Heat	FOH	Future of Heat - Renewable Natural Gas (RNG) Interconnections	$ -	$ -	$ -	$ -	$ 950,000
169	Group 2	Future of Heat	FOH	Future of Heat - RNG Interconnection 1	$ 500,000	$ 1,429,540	$ 3,253,161	$ 1,803,344	$ -
170	Group 2	Future of Heat	FOH	Future of Heat - RNG Interconnection 2	$ 500,000	$ 331,858	$ 884,860	$ 2,320,480	$ 1,622,214
171	Group 2	Future of Heat	FOH	Future of Heat - RNG Interconnection 3	$ 500,000	$ 255,275	$ 2,264,200	$ 4,084,044	$ 702,959
172	Group 2	Future of Heat	FOH	Future of Heat - RNG Interconnection 4	$ 500,000	$ 306,330	$ 3,513,414	$ 5,303,953	$ 1,351,845
173	Group 3	Future of Heat	FOH	Future of Heat - Hydrogen Project 1 - HyGrid-Clay/Liverpool	$ 1,000,000	$ -	$ -	$ -	$ -
		Future of Heat - Total			**$ 3,000,000**	**$ 2,323,003**	**$ 9,915,634**	**$ 13,511,821**	**$ 4,627,019**
174	Group 2	Operator Qualification Program	Gen Equip	Operator Qualification Program - Learning & Development - FTE's	$ -	$ 259,000	$ 355,425	$ 544,784	$ 576,398
175	Group 2	Operator Qualification Program	Gen Equip	Operator Qualification Program - Operations - Contract Increases	$ -	$ 3,063,300	$ 3,123,034	$ 3,182,372	$ 3,244,428
176	Group 2	Operator Qualification Program	Gen Equip	Operator Qualification Program - Pipeline Safety - ITS FTE's	$ -	$ 220,000	$ 224,290	$ 224,180	$ 224,290
177	Group 2	Operator Qualification Program	Gen Equip	Operator Qualification Program - Pipeline Safety - ITS System	$ -	$ 239,737	$ 244,412	$ 249,055	$ 253,912
		Operator Qualification Program - Total			**$ -**	**$ 3,782,037**	**$ 3,947,161**	**$ 4,200,391**	**$ 4,299,028**
		Total Capital Including COR - Direct			**$ 416,414,868**	**$ 337,533,218**	**$ 422,630,494**	**$ 629,324,726**	**$ 532,063,754**
		Cost of Removal - Direct			**$ 15,823,765**	**$ 12,826,262**	**$ 16,059,959**	**$ 23,914,340**	**$ 20,218,423**
		Total Less COR - Direct			**$ 400,591,103**	**$ 324,706,956**	**$ 406,570,535**	**$ 605,410,386**	**$ 511,845,332**

Date of Request: June 7, 2024 Request No. DPS-284
Due Date: June 17, 2024 NG Request No. NG-302

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Default NYPSC

TO: National Grid

SUBJECT: Capex - Workpapers

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

1. For each line item identified within Exhibit__(GIOP-1), provide all workpapers used to forecast the proposed budgets. Include the projected number of units (ex. number of meters, footage of main installed, number of services, etc.). Explain all assumptions used to derive the cost estimate. Include an itemized list of costs where possible.

2. If similar historic projects were used to estimate costs, include the actual cost and the year placed in service of the similar project. Demonstrate how the cost of the similar project was used to forecast the cost of the proposed project.

Response:

Please see Attachment 1 for the forecast file to Customer Connections - Install Main, Customer Connections - Install Services, Customer Connections - Customer Contributions, Customer Connections - Install Meter/Regulator and Customer Connections - Fitting.

Name of Respondent: Date of Reply:
Gerard Klingler June 17, 2024

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 24-G-0323
DPS-284.1A-1E Attachment 1
Page 1 of 1

Customer Connections - NIMO

Company	Investment Name	Calculation Category	FY21	FY22	FY23
NIMO	Customer Connections- Install Main	CBC $- Install Main- Less Contractors	$ 3,744,501	$ 4,513,345	$ 5,451,652
		Inflation %	18.5%	12.2%	5.2%
		CBC $- Install Main- Less Contractors Inflated	$ 4,438,132	$ 5,062,865	$ 5,735,056
		CBC $- Install Main- Contractors	$ 1,327,672	$ 1,429,046	$ 1,228,346
		Inflation %	47.5%	44.6%	27.4%
		CBC $- Install Main- Contractors Inflated	$ 1,958,824	$ 2,067,048	$ 1,565,414
		Adjusted CBC $- Install Main with Inflation/Contractor Increases	$ 6,396,956	$ 7,129,913	$ 7,300,470
		Units- Install Main	87,437	91,842	101,845
		Unit Costs- Install Main	$ 73	$ 78	$ 72

Contractor/ Other Split	FY21	FY22	FY23	3 Year Average FY21, FY22, FY23	3 Year Average FY21, FY22, FY23
	$ 3,744,501	$ 4,513,345	$ 5,451,652	$ 4,569,833	
	$ 1,327,672	$ 1,429,046	$ 1,228,346	$ 1,328,355	
	$ 5,072,173	$ 5,942,391	$ 6,679,998	$ 5,898,187	$ 6,942,447
Other	74%	76%	82%	77%	93,708
Contractor	26%	24%	18%	23%	$ 74 $ 74

	FY25	FY26	FY27	FY28	FY29
Inflation %	2.17%	2.11%	1.95%	1.90%	1.95%
Unit Cost- Install Main	$ 59	$ 59.88	$ 61.05	$ 62	$ 63
Contractor Increase %	2.50%	3.50%	3.00%	3.00%	3.00%
Unit Cost- Install Main - Contractor	$ 17	$ 17.70	$ 18.23	$ 19	$ 19
Total Unit Cost	$ 76	$ 78	$ 79	$ 81	$ 83
Units- Install Main	93,027	93,050	92,244	91,475	90,742
$- Install Main	$ 7,046,431	$ 7,219,041	$ 7,313,122	$ 7,408,220	$ 7,509,925

Company	Investment Name	Calculation Category	FY21	FY22	FY23
NIMO	Customer Connections- Install Services	CBC $- Install Services- Less Contractors	$ 7,925,466	$ 9,595,496	$ 10,335,189
		Inflation %	18.5%	12.2%	5.2%
		CBC $- Install Services- Less Contractors Inflated	$ 9,393,579	$ 10,763,791	$ 10,872,464
		CBC $- Install Services- Contractors	$ 1,170,675	$ 1,053,610	$ 441,774
		Inflation %	47.5%	44.6%	27.4%
		CBC $- Install Services- Contractors Inflated	$ 1,727,193	$ 1,523,998	$ 563,000
		Adjusted CBC $- Install Services with Inflation/Contractor Increases	$ 11,120,772	$ 12,287,789	$ 11,435,464
		Units- Install Services	2,141	2,154	2,071
		Unit Costs- Install Services	$ 5,194	$ 5,705	$ 5,522

Contractor/ Other Split	FY21	FY22	FY23	3 Year Average FY20, FY21, FY22	3 Year Average FY21, FY22, FY23
	$ 7,925,466	$ 9,595,496	$ 10,335,189	$ 9,285,384	
	$ 1,170,675	$ 1,053,610	$ 441,774	$ 888,686	
	$ 9,096,141	$ 10,649,106	$ 10,776,963	$ 10,174,070	$ 11,614,675
Other	87%	90%	96%	91%	2,122
Contractor	13%	10%	4%	9%	$ 5,473 $ 5,473

Rate & Data Years

	FY25	FY26	FY27	FY28	FY29
Inflation %	2.17%	2.11%	1.95%	1.90%	1.95%
Unit Cost- Install Services	$ 5,104	$ 5,211.25	$ 5,312.77	$ 5,414	$ 5,519
Contractor Increase %	2.50%	3.50%	3.00%	3.00%	3.00%
Unit Cost- Install Main - Contractor	$ 490	$ 507	$ 522	$ 538	$ 554
Total Unit Cost	$ 5,594	$ 5,718	$ 5,835	$ 5,952	$ 6,073
Units- Install Services	1,772	1,770	1,644	1,424	1,122
$- Install Services	$ 9,909,182	$ 10,123,528	$ 9,592,191	$ 8,474,303	$ 6,813,533

Company	Investment Name	Calculation Category	FY21	FY22	FY23
NIMO	Customer Connections- Customer Contributions	CBC $- Customer Contributions	$ (4,547,139)	$ (995,669)	$ (1,912,555)
		Inflation %	18.5%	12.2%	5.2%
		CBC $- Customer Contributions Inflated	$ (5,389,451)	$ (1,116,896)	$ (2,011,979)
		Adjusted CBC $- Install Main with Inflation/Contractor Increases	$ 6,396,956	$ 7,129,913	$ 7,300,470
		% of Main Footage	-84.3%	-15.7%	-27.6%

2 Year Average FY22, FY23
$ (1,564,438)
$ 7,215,192
-22% -21.7%

Rate & Data Years

	FY25	FY26	FY27	FY28	FY29
Inflation %	2.17%	2.11%	1.95%	1.90%	1.95%
Units- Install Main	93,027	93,050	92,244	91,475	90,742
Unit Cost- Install Main	$ 59	$ 60	$ 61	$ 62	$ 63
$- Install Main	$ 7,046,431	$ 7,219,041	$ 7,313,122	$ 7,408,220	$ 7,509,925
Customer Contribution Rate	-21.7%	-21.7%	-21.7%	-21.7%	-21.7%
$- Customer Contributions	$ (1,527,846)	$ (1,565,272)	$ (1,585,671)	$ (1,606,291)	$ (1,628,343)

Company	Investment Name	Calculation Category	FY21	FY22	FY23
NIMO	Customer Connections- Install Meter/Regulator	CBC $- Install Meter/Regulator	$ 3,006,678	$ 2,833,909	$ 3,480,889
		Inflation %	18.5%	12.2%	5.2%
		CBC $- Install Meter/Regulator Inflated	$ 3,563,635	$ 3,178,950	$ 3,661,843
		Units- Meter/Regulator	4,461	4,082	4,465
		Service/Meter Regulator Ratio	2.1	1.9	2.2
		Unit Costs- Install Meter/Regulator	$ 799	$ 779	$ 820

3 Year Average FY21, FY22, FY23
$ 3,468,143
4,336
2.0 2.0
$ 799.8 $ 800

Rate & Data Years

	FY25	FY26	FY27	FY28	FY29
Inflation %	2.17%	2.11%	1.95%	1.90%	1.95%
Unit Cost- Install Meter/Regulator	$ 817	$ 834	$ 851	$ 867	$ 884
Units- Install Meter/Regulator	3,623	3,620	3,361	2,912	2,294
$- Install Meter Regulator	$ 2,960,248	$ 3,020,680	$ 2,859,521	$ 2,523,826	$ 2,027,324
Service/Meter Ratio	2	2	2	2	2

Company	Investment Name	Calculation Category	FY21	FY22	FY23
NIMO	Customer Connections- Fittings	CBC $- Fittings	$ 6,068,532	$ 6,850,346	$ 8,966,981
		Inflation %	18.5%	12.2%	5.2%
		CBC $- Fittings	$ 7,192,667	$ 7,684,406	$ 9,433,129
		Units- Fittings	42,908	48,096	50,167
		Unit Costs- Fittings	$ 168	$ 160	$ 188

3 Year Average FY21, FY22, FY23
$ 8,103,401
47,057 47,057
$ 172 $ 172

Rate & Data Years

	FY25	FY26	FY27	FY28	FY29
Inflation %	2.17%	2.11%	1.95%	1.90%	1.95%
Unit Cost- Fittings	$ 176	$ 180	$ 183	$ 187	$ 190
Units- Fittings	47,057	47,057	47,057	47,057	47,057
$- Fittings	$ 8,278,913	$ 8,453,621	$ 8,618,296	$ 8,781,937	$ 8,953,076

Date of Request: June 7, 2024 Request No. DPS-284
Due Date: June 17, 2024 NG Request No. NG-302

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Default NYPSC

TO: National Grid

SUBJECT: Capex - Workpapers

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

1. For each line item identified within Exhibit__(GIOP-1), provide all workpapers used to forecast the proposed budgets. Include the projected number of units (ex. number of meters, footage of main installed, number of services, etc.). Explain all assumptions used to derive the cost estimate. Include an itemized list of costs where possible.

2. If similar historic projects were used to estimate costs, include the actual cost and the year placed in service of the similar project. Demonstrate how the cost of the similar project was used to forecast the cost of the proposed project.

Response:

Please see Attachment 1 for the forecast file to Corrosion.

Name of Respondent: Date of Reply:
Megan Piccaretto June 17, 2024

Niagara Mohawk Power Corporation d/b/a National Grid
Cases 24-E-0322 24-G-0323
DPS-284.6 Attachment 1
Page 1 of 1

Investment Name	FY21 Actuals	FY22 Actuals	FY23 Actuals
Corrosion	$ 1,553,836	$ 1,243,233	$ 1,264,006
Inflation %	18.5%	12.2%	5.2%
Inflated $	$ 1,841,669	$ 1,394,603	$ 1,329,716

3 Year Average FY21, FY22, FY23
$ 1,521,996

	Rate & Data Years				
	FY25	**FY26**	**FY27**	**FY28**	**FY29**
	2.17%	2.11%	1.95%	1.90%	1.95%
	$ 1,554,961	**$ 1,587,770**	**$ 1,618,732**	**$ 1,649,488**	**$ 1,681,653**
Prevailing Wage Increase (75%)	$ 825,000	**$ 858,000**	**$ 892,320**	**$ 928,013**	**$ 965,133**
CapEx Scope Increase (25%)	$ 722,500	**$ 751,400**	**$ 781,456**	**$ 812,714**	**$ 845,223**
Contract Price Increase (20%)	$ 220,000	**$ 228,800**	**$ 237,952**	**$ 247,470**	**$ 257,369**
Overhead Increase (45%)	$ 795,375	**$ 827,190**	**$ 860,278**	**$ 894,689**	**$ 930,476**
	$ 4,117,836	**$ 4,253,160**	**$ 4,390,737**	**$ 4,532,374**	**$ 4,679,854**

Date of Request: June 7, 2024 Request No. DPS-284
Due Date: June 17, 2024 NG Request No. NG-302

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Default NYPSC

TO: National Grid

SUBJECT: Capex - Workpapers

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

1. For each line item identified within Exhibit__(GIOP-1), provide all workpapers used to forecast the proposed budgets. Include the projected number of units (ex. number of meters, footage of main installed, number of services, etc.). Explain all assumptions used to derive the cost estimate. Include an itemized list of costs where possible.

2. If similar historic projects were used to estimate costs, include the actual cost and the year placed in service of the similar project. Demonstrate how the cost of the similar project was used to forecast the cost of the proposed project.

Response:

Please see Attachment 1 for the forecast file to Main Replacement - Proactive - Leak Prone Pipe.

Name of Respondent: Date of Reply:
Saadat Khan June 17, 2024

Niagara Mohawk Power Corporation d/b/a National Grid
Cases 24-E-0322 24-G-0323
DPS-284.12 Attachment 1
Page 1 of 1

NIMO Main Replacement - Proactive - Leak Prone Pipe

NIMO	FY21	FY22	FY23
CBC $ Less Contractor	$ 26,269,163	$ 26,076,369	$ 32,756,661
Inflation %	18.5%	12.2%	5.2%
CBC $ Less Contractor with Inflation	$ 31,135,262	$ 29,251,286	$ 34,459,515
CBC Contractor Dollars	$ 28,956,673	$ 25,566,590	$ 34,703,261
Inflation % / Contractor %	47.5%	44.6%	27.4%
CBC Contractor $ with Inflation	$ 42,722,163	$ 36,980,876	$ 44,226,118
Revised CBC	$ 73,857,425	$ 66,232,162	$ 78,685,633
Units	251,397	233,304	245,520
Mileage	47.6	44.2	47
Unit Cost	**$ 294**	**$ 284**	**$ 320**

Contractor/ Other Split	FY21	FY22	FY23	3 Year Average FY21, FY22, FY23
	$ 26,269,163	$ 26,076,369	$ 32,756,661	$ 28,367,398
	$ 28,956,673	$ 25,566,590	$ 34,703,261	$ 29,742,175
	$ 55,225,837	$ 51,642,959	$ 67,459,922	$ 58,109,572
Other	48%	50%	49%	49%
Contractor	52%	50%	51%	51%

3 Year Average FY21, FY22, FY23		
$ 72,925,073		
243,407		
46.1		
$ 300	$	300

Rate & Data Years

	FY25	FY26	FY27	FY28	FY29
Inflation %	2.17%	2.11%	1.95%	1.90%	1.95%
Unit Costs Non Contractor	$ 149.43	$ 153	$ 156	$ 159	$ 162
Contractor Increase %	2.50%	3.50%	3.00%	3.00%	3.00%
Unit Costs Contractor	$ 157	$ 163	$ 168	$ 173	$ 178
Total Unit Cost	$ 306.61	$ 315.26	$ 323.12	$ 331.10	$ 339.37
Mileage	47.0	30.0	30.0	30.0	30.0
Footage	248,160	158,400	158,400	158,400	158,400
$- LPP	$ 76,088,069	$ 49,937,683	$ 51,182,036	$ 52,446,451	$ 53,756,204

Date of Request: June 14, 2024
Due Date: June 24, 2024

Request No. DPS-313
NG Request No. NG-333

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Brandon Ng

TO: National Grid

SUBJECT: Plant Model - Monthly Additions Allocations

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

1. Within the Excel file "RRP-7 Ratebase Sch 1 Plant in Service Forecast NM24", tabs "Elec Cash Flow %'s" and "Gas Cash Flow %'s", the monthly capital addition allocations are calculated using the average cash flows for transmission, sub-transmission, and distribution from calendar years 2022 and 2023.

    a. Why were the average monthly allocations calculated using two years of historic data?

    b. Provide the same cash flows for transmission, sub-transmission, and distribution from calendar year 2019-2023, by month.

Response:

    a. The Company uses an historic cash flow analysis to translate the annual electric and gas capital forecasts into a monthly net plant forecast. The analysis looks at historic monthly capital spend across the different categories of the capital portfolio using a two-year average. Specifically, the Company used the monthly capital spending in the Historic Test Year and the prior year to develop monthly electric and gas cash flow percentages. This methodology has been used in the previous five National Grid rate cases to establish the electric and gas net plant balances for ratemaking purposes. The Company submits that the methodology, which reflects the most recent (two-year) trend in capital spending across the different categories, is a reasonable indicator of the level of monthly plant in service that is expected to occur in the Rate Year and Data Years.

b. Please see Attachments 1 and 2 for electric and gas cash flows for calendar years 2019 through 2023. As can be seen, the attachments for electric and gas cash flows show that the average monthly cash flow data from 2022-2023 (which was used in the forecast) is generally consistent with the 2019-2023 monthly allocations.

Name of Respondent:
Amy LaVaute

Date of Reply:
June 24, 2024

Niagara Mohawk Power Corporation d/b/a National Grid
Monthly T & D Cashflows based on PSC Quarterly Reports

Monthly 2019 Cash Flows	January	February	March	April	May	June	July	August	September	October	November	December	Total YTD Actuals
Total Summary													
Transmission	14,934,721	16,460,665	29,927,654	11,760,861	16,820,361	16,632,504	15,568,401	17,596,261	18,740,004	16,784,012	17,561,455	16,667,039	209,453,939
Sub-Transmission	1,453,322	1,633,633	4,870,862	4,107,513	4,171,665	2,965,409	3,326,059	2,612,279	3,319,613	3,540,821	3,406,673	239,796	35,647,643
Distribution	30,057,603	24,815,198	35,640,309	26,423,543	27,369,200	32,053,526	30,569,504	38,714,132	24,255,200	29,971,292	25,616,411	21,098,548	346,584,467
Total	46,445,646	42,909,496	70,438,825	42,291,917	48,361,226	51,651,438	49,463,964	58,922,672	46,314,817	50,296,125	46,584,540	38,005,383	591,686,050
Monthly 2019 Cash Flow Percentages													
Total Summary													
Transmission	7.13%	7.86%	14.29%	5.62%	8.03%	7.94%	7.43%	8.40%	8.95%	8.01%	8.38%	7.96%	100.00%
Sub-Transmission	4.08%	4.58%	13.66%	11.52%	11.70%	8.32%	9.33%	7.33%	9.31%	9.93%	9.56%	0.67%	100.00%
Distribution	8.67%	7.16%	10.28%	7.62%	7.90%	9.25%	8.82%	11.17%	7.00%	8.65%	7.39%	6.09%	100.00%
2019 Cash Flow Percentages	7.85%	7.25%	11.90%	7.15%	8.17%	8.73%	8.36%	9.96%	7.83%	8.50%	7.87%	6.42%	100.00%

Monthly 2020 Cash Flows	January	February	March	April	May	June	July	August	September	October	November	December	Total YTD Actuals
Total Summary													
Transmission	18,522,342	22,120,150	26,320,290	14,107,177	17,411,139	17,071,351	14,413,144	10,930,006	17,218,121	15,646,529	15,105,697	12,509,663	201,375,609
Sub-Transmission	4,798,720	2,120,887	3,399,901	1,985,087	1,780,257	2,552,017	3,846,903	2,142,961	2,989,464	3,122,678	2,609,675	2,936,376	34,284,925
Distribution	34,289,012	21,604,091	29,660,352	32,916,583	32,293,799	34,230,454	36,375,326	33,560,800	33,760,394	32,623,052	31,042,691	25,694,381	378,050,934
Total	57,610,073	45,845,127	59,380,543	49,008,847	51,485,195	53,853,822	54,635,373	46,633,768	53,967,980	51,392,258	48,758,063	41,140,420	613,711,468
Monthly 2020 Cash Flow Percentages													
Total Summary													
Transmission	9.20%	10.98%	13.07%	7.01%	8.65%	8.48%	7.16%	5.43%	8.55%	7.77%	7.50%	6.21%	100.00%
Sub-Transmission	14.00%	6.19%	9.92%	5.79%	5.19%	7.44%	11.22%	6.25%	8.72%	9.11%	7.61%	8.56%	100.00%
Distribution	9.07%	5.71%	7.85%	8.71%	8.54%	9.05%	9.62%	8.88%	8.93%	8.63%	8.21%	6.80%	100.00%
2020 Cash Flow Percentages	9.39%	7.47%	9.68%	7.99%	8.39%	8.78%	8.90%	7.60%	8.79%	8.37%	7.94%	6.70%	100.00%

Monthly 2021 Cash Flows	January	February	March	April	May	June	July	August	September	October	November	December	Total YTD Actuals
Total Summary													
Transmission	15,033,210	18,171,690	25,740,241	16,697,144	12,310,761	18,251,607	21,169,460	10,795,200	17,969,890	20,023,425	16,685,116	19,364,129	212,211,874
Sub-Transmission	3,475,021	2,897,830	3,860,323	2,330,711	3,523,721	3,537,189	3,285,972	2,385,170	2,375,638	2,953,003	1,866,962	2,566,681	35,058,219
Distribution	29,782,535	33,074,412	33,874,620	30,270,540	29,913,996	33,567,041	37,753,507	27,911,540	39,603,932	38,424,715	32,368,674	33,652,282	400,197,794
Total	48,290,766	54,143,932	63,475,183	49,298,395	45,748,478	55,355,837	62,208,938	41,091,911	59,949,460	61,401,143	50,920,752	55,583,093	647,467,888
Monthly 2021 Cash Flow Percentages													
Total Summary													
Transmission	7.08%	8.56%	12.13%	7.87%	5.80%	8.60%	9.98%	5.09%	8.47%	9.44%	7.86%	9.12%	100.00%
Sub-Transmission	9.91%	8.27%	11.01%	6.65%	10.05%	10.09%	9.37%	6.80%	6.78%	8.42%	5.33%	7.32%	100.00%
Distribution	7.44%	8.26%	8.46%	7.56%	7.47%	8.39%	9.43%	6.97%	9.90%	9.60%	8.09%	8.41%	100.00%
2021 Cash Flow Percentages	7.46%	8.36%	9.80%	7.61%	7.07%	8.55%	9.61%	6.35%	9.26%	9.48%	7.86%	8.58%	100.00%

Monthly 2022 Cash Flows	January	February	March	April	May	June	July	August	September	October	November	December	Total YTD Actuals
Total Summary													
Transmission	24,592,180	25,726,678	54,942,142	8,297,635	25,859,695	14,554,755	34,547,721	27,390,560	19,144,065	35,333,462	20,279,669	33,559,469	324,228,030
Sub-Transmission	2,859,540	2,740,877	3,257,191	1,480,023	3,756,393	1,985,737	2,801,140	3,467,160	1,927,566	3,217,776	2,561,328	4,112,529	34,167,260
Distribution	33,227,858	31,649,234	47,936,700	34,669,210	35,695,313	39,512,728	39,032,608	40,018,950	42,938,170	36,481,664	40,580,496	39,481,745	461,224,674
Total	60,679,578	60,116,789	106,136,033	44,446,867	65,311,401	56,053,219	76,381,468	70,876,669	64,009,802	75,032,902	63,421,493	77,153,743	819,619,964
Monthly 2022 Cash Flow Percentages													
Total Summary													
Transmission	7.58%	7.93%	16.95%	2.56%	7.98%	4.49%	10.66%	8.45%	5.90%	10.90%	6.25%	10.35%	100.00%
Sub-Transmission	8.37%	8.02%	9.53%	4.33%	10.99%	5.81%	8.20%	10.15%	5.64%	9.42%	7.50%	12.04%	100.00%
Distribution	7.20%	6.86%	10.39%	7.52%	7.74%	8.57%	8.46%	8.68%	9.31%	7.91%	8.80%	8.56%	100.00%
2022 Cash Flow Percentages	7.40%	7.33%	12.95%	5.42%	7.97%	6.84%	9.32%	8.65%	7.81%	9.15%	7.74%	9.41%	100.00%

Monthly 2023 Cash Flows	January	February	March	April	May	June	July	August	September	October	November	December	Total YTD Actuals
Total Summary													
Transmission	22,690,934	26,412,266	66,183,428	56,246,743	26,790,241	57,999,431	24,955,301	34,346,203	25,430,832	52,862,314	56,871,399	35,136,238	485,925,329
Sub-Transmission	2,188,665	2,153,961	3,674,322	2,765,102	2,620,002	3,055,353	4,032,848	4,363,537	4,753,316	3,636,873	2,586,382	2,492,280	38,322,642
Distribution	34,343,298	36,434,165	62,658,067	39,580,328	46,818,225	54,588,090	48,633,220	48,736,116	44,925,708	56,405,875	54,141,950	56,600,726	583,865,768
Total	59,222,897	65,000,392	132,515,817	98,592,173	76,228,468	115,642,874	77,621,369	87,445,857	75,109,857	112,905,062	113,599,731	94,229,244	1,108,113,739
Monthly 2023 Cash Flow Percentages													
Total Summary													
Transmission	4.67%	5.44%	13.62%	11.58%	5.51%	11.94%	5.14%	7.07%	5.23%	10.88%	11.70%	7.23%	100.00%
Sub-Transmission	5.71%	5.62%	9.59%	7.22%	6.84%	7.97%	10.52%	11.39%	12.40%	9.49%	6.75%	6.50%	100.00%
Distribution	5.88%	6.24%	10.73%	6.78%	8.02%	9.35%	8.33%	8.35%	7.69%	9.66%	9.27%	9.69%	100.00%
2023 Cash Flow Percentages	5.34%	5.87%	11.96%	8.90%	6.88%	10.44%	7.00%	7.89%	6.78%	10.19%	10.25%	8.50%	100.00%
Average of 2022 & 2023 Percentages	6.22%	6.49%	12.38%	7.42%	7.34%	8.91%	7.99%	8.21%	7.22%	9.75%	9.18%	8.89%	100.00%
Average of 2019-2023 Percentages	7.20%	7.09%	11.43%	7.50%	7.59%	8.80%	8.47%	8.07%	7.92%	9.28%	8.55%	8.10%	100.00%
FY24 Forecast :													
FY24 3 Month Forecast Jan 24-Mar 24	24.79%	25.87%	49.34%										100.00%

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
DPS-313 Attachment 2
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Niagara Mohawk Power Corporation d/b/a National Grid
Monthly Gas Cashflows based on Capital by Category Report

Monthly 2019 Cash Flows	January	February	March	April	May	June	July	August	September	October	November	December	Total YTD Actuals
CAPEX and COR													
Growth	$ 3,143,976	$ 1,085,320	$ 688,898	$ 992,380	$ 2,219,665	$ 1,802,021	$ 2,303,178	$ 2,027,200	$ 2,416,783	$ 2,738,063	$ 1,984,295	$ 2,563,588	$ 23,965,368
Mandated	10,505,472	3,409,073	3,141,644	4,559,878	8,527,355	9,609,406	11,236,835	12,396,587	11,913,516	11,665,193	11,315,097	7,787,266	106,067,322
Reliability	2,191,806	1,444,923	1,527,836	683,174	1,271,315	1,044,722	1,792,258	2,429,977	2,059,077	1,955,979	2,080,393	1,389,062	19,870,523
Non-Infrastructure	166,712	51,132	69,240	66,314	30,745	100,824	220,089	138,494	34,047	67,971	93,697	119,244	1,158,509
Unclassified	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal	$ 16,007,965	$ 5,990,448	$ 5,427,619	$ 6,301,747	$ 12,049,080	$ 12,556,973	$ 15,552,360	$ 16,992,257	$ 16,423,424	$ 16,427,206	$ 15,473,482	$ 11,859,161	$ 151,061,722
Less: Cost of Removal	105,242	182,182	587,679	2,380,028	2,581,496	(3,200,348)	6,943	566,712	392,116	626,652	321,022	1,056,271	5,605,995
Total CAPEX (Excluding COR)	$ 15,902,723	$ 5,808,266	$ 4,839,940	$ 3,921,719	$ 9,467,584	$ 15,757,321	$ 15,545,417	$ 16,425,546	$ 16,031,308	$ 15,800,555	$ 15,152,460	$ 10,802,890	$ 145,455,727
Monthly 2019 Cash Flow Percentages	10.93%	3.99%	3.33%	2.70%	6.51%	10.83%	10.69%	11.29%	11.02%	10.86%	10.42%	7.43%	100.00%

Monthly 2020 Cash Flows	January	February	March	April	May	June	July	August	September	October	November	December	Total YTD Actuals
CAPEX and COR													
Growth	$ 2,886,163	$ 2,343,453	$ 2,244,196	$ 2,342,017	$ 2,014,290	$ 2,319,948	$ 2,360,074	$ 1,704,305	$ 1,846,428	$ 2,921,648	$ 2,658,335	$ 2,247,468	$ 27,888,325
Mandated	6,229,182	3,420,779	9,298,827	7,025,577	9,320,810	12,231,182	11,568,880	13,451,866	15265694	14,815,794	8,534,257	5,786,573	116,949,420
Reliability	893,316	850,092	2,384,501	594,319	929,221	1,988,950	571,504	1,593,789	1327998	1,791,430	1,224,823	1,138,467	15,288,410
Non-Infrastructure	52,413	125,893	399,824	(185,596)	48,327	629,402	25,682	42,887	20776	194,252	55,234	94,753	1,503,847
Unclassified	48,315	1,185,402	(598,526)	1,772,701	794,910	(1,054,150)	680,427	369,765	1075473	(1,804,628)	(380,063)	(308,614)	1,781,011
Subtotal	$ 10,109,388	$ 7,925,618	$ 13,728,821	$ 11,549,017	$ 13,107,558.22	$ 16,115,332	$ 15,206,566	$ 17,162,613	$ 19,536,370	$ 17,918,496	$ 12,092,586	$ 8,958,647	$ 163,411,012
Less: Cost of Removal	387,653	794,152.65	1,076,510	474,336	333,365	617500.27	477,403	637,194	2,239,826	814,724	516,369	633,933	9,002,966
Total CAPEX (Excluding COR)	$ 9,721,735	$ 7,131,466	$ 12,652,311	$ 11,074,680	$ 12,774,193	$ 15,497,832	$ 14,729,163	$ 16,525,419	$ 17,296,544	$ 17,103,772	$ 11,576,217	$ 8,324,714	$ 154,408,046
Monthly 2020 Cash Flow Percentages	6.30%	4.62%	8.19%	7.17%	8.27%	10.04%	9.54%	10.70%	11.20%	11.08%	7.50%	5.39%	100.00%

Monthly 2021 Cash Flows	January	February	March	April	May	June	July	August	September	October	November	December	Total YTD Actuals
CAPEX and COR													
Growth	$ 2,736,929	$ 1,766,762	$ 4,508,620	$ 1,718,697	$ 1,708,606	$ (998,816)	$ 2,417,218	$ 3,160,294	$ 2,187,501	$ 3,186,940	$ 3,357,439	$ (599,350)	$ 25,150,837
Mandated	5,482,219	4,511,238	9,422,108	8,178,258	10,012,326	13,894,798	13,864,565	11,335,737	11,141,279	14,242,927	9,732,814	8,900,050	120,718,318
Reliability	285,253	930,219	3,398,861	661,499	2,118,208	1,459,125	2,978,925	1,552,269	1,652,486	1,792,052	2,197,974	1,767,163	20,794,034
Non-Infrastructure	100,642	265,584	44,629	131,102	20,181	48,814	97,120	92,283	54,647	96,063	59,079	17,825	1,027,970
Unclassified	1,114,278	2,925,016	(2,238,681)	697,709	1,310,951	293,296	(805,810)	133,168	233,122	171,107	542,522	(2,001,423)	2,375,254
Subtotal	$ 9,719,321	$ 10,398,818.80	$ 15,135,537	$ 11,387,264	$ 15,170,272	$ 14,697,217	$ 18,552,018	$ 16,273,752	$ 15,269,035	$ 19,489,089	$ 15,889,828	$ 8,084,264	$ 170,066,414
Less: Cost of Removal	471,604	587,401	427,926	388,105	493,623	615,619	270,167	684,601	477,268	1,237,931	140,719	(2,266,375)	3,528,589
Total CAPEX (Excluding COR)	9,247,717	9,811,417	14,707,611	10,999,160	14,676,648	14,081,598	18,281,850	15,589,150	14,791,767	18,251,158	15,749,109	10,350,639	166,537,824
Monthly 2021 Cash Flow Percentages	5.55%	5.89%	8.83%	6.60%	8.81%	8.46%	10.98%	9.36%	8.88%	10.96%	9.46%	6.22%	100.00%

Monthly 2022 Cash Flows	January	February	March	April	May	June	July	August	September	October	November	December	Total YTD Actuals
CAPEX and COR													
Growth	$ 2,121,055	$ 2,530,888	$ 4,673,752	$ 2,133,535	$ 3,129,987	$ 3,858,148	$ 4,075,705	$ 4,654,843	$ 5,001,441	$ 4,446,737	$ 3,951,214	$ 3,527,729	$ 44,105,034
Mandated	4,560,506	5,024,368	10,091,273	6,315,656	11,881,057	14,714,902	16,470,625	15,685,711	16,474,089	14,810,406	8,596,338	13,441,271	138,066,203
Reliability	1,226,609	(3,861,143)	4,484,725	2,986,455	2,967,071	3,231,303	3,326,150	2,819,409	2,931,938	1,286,734	2,742,517	1,999,894	26,141,663
Non-Infrastructure	70,598	332,990	2,095,723	205,114	107,322	144,346	456,072	105,675	255,406	121,568	29,781	466,328	4,390,924
Unclassified	860,392	1,931,570	(1,809,189)	1,416,475	(329,948)	(763,609)	(2,517,662)	(1,673,428)	(415,852)	(766,261)	632,851	(941,078)	(4,375,741)
Subtotal	$ 8,839,160	$ 5,958,672	$ 19,536,285	$ 13,057,234	$ 17,755,489	$ 21,185,091	$ 21,810,889	$ 21,592,211	$ 24,247,022	$ 19,899,184	$ 15,952,702	$ 18,494,144	$ 208,328,084
Less: Cost of Removal	250,074	615,143	1,499,474	144,394	483,537	857,541	732,718	1,046,414	1,110,996	764,725	1,044,262	1,225,463	9,774,741
Total CAPEX (Excluding COR)	$ 8,589,086	$ 5,343,529	$ 18,036,812	$ 12,912,840	$ 17,271,952	$ 20,327,549	$ 21,078,172	$ 20,545,797	$ 23,136,026	$ 19,134,459	$ 14,908,440	$ 17,268,680	$ 198,553,343
Monthly 2022 Cash Flow Percentages	4.33%	2.69%	9.08%	6.50%	8.70%	10.24%	10.62%	10.35%	11.65%	9.64%	7.51%	8.70%	100.00%

Monthly 2023 Cash Flows	January	February	March	April	May	June	July	August	September	October	November	December	Total YTD Actuals
CAPEX and COR													
Growth	$ 2,963,049	$ 2,822,326	$ 3,577,411	$ 2,799,368	$ 2,936,133	$ 2,714,976	$ 2,231,810	$ 3,344,742	$ 2,620,265	$ 3,876,038	$ 3,945,986	$ 4,532,747	$ 38,364,850
Mandated	5,303,458	6,956,218	9,403,659	10,918,508	14,649,131	18,232,541	12,836,963	20,855,168	17,383,739	19,454,684	15,419,088	14,423,212	165,836,369
Reliability	955,920	2,231,058	7,328,887	2,443,038	2,029,923	3,994,425	3,192,741	3,810,174	5,715,747	4,811,071	4,661,381	898,544	42,072,910
Non-Infrastructure	262,363	584,581	600,354	211,190	268,225	282,407	393,414	394,077	302,545	210,366	210,543	730,558	4,450,622
Unclassified	2,801,088	2,155,275	571,659	2,960,342	719,885	30,704	1,906,358	(847,640)	(599,118)	(3,517,798)	(1,234,453)	(606,569)	4,339,733
Subtotal	$ 12,285,878	$ 14,749,458	$ 21,481,970	$ 19,332,446	$ 20,603,297	$ 25,255,053	$ 20,561,286	$ 27,556,520	$ 25,423,178	$ 24,834,361	$ 23,002,545	$ 19,978,492	$ 255,064,483
Less: Cost of Removal	573,641	667,785	1,383,048	641,161	668,244	764,441	856,471	806,836	768,613	536,078	409,738	1,090,838	9,166,894
Total CAPEX (Excluding COR)	$ 11,712,236	$ 14,081,673	$ 20,098,922	$ 18,691,285	$ 19,935,053	$ 24,490,612	$ 19,704,815	$ 26,749,684	$ 24,654,565	$ 24,298,283	$ 22,592,807	$ 18,887,654	$ 245,897,590
Monthly 2023 Cash Flow Percentages	4.76%	5.73%	8.17%	7.60%	8.11%	9.96%	8.01%	10.88%	10.03%	9.88%	9.19%	7.68%	100.00%

Average of 2022 & 2023 Percentages	4.57%	4.37%	8.58%	7.11%	8.37%	10.08%	9.18%	10.64%	10.75%	9.77%	8.44%	8.14%	100.00%
Average of 2019-2023 Percentages	6.06%	4.63%	7.72%	6.32%	8.14%	9.90%	9.81%	10.52%	10.53%	10.38%	8.78%	7.21%	100.00%
FY24 Forecast :													
FY24 3 Month Forecast Jan 24-Mar 24	26.07%	24.95%	48.98%										100.00%

Date of Request: July 11, 2024
Due Date: July 22, 2024

Request No. DPS-542
NG Request No. NG-582

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323

Data Request

Request for Information

FROM: NYPSC - Sara Orsino

TO: National Grid

SUBJECT: Niagara Mohawk O&M Damage Prevention - Prevailing Wage

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

Referring to National Grid Exhibit__(RRP-3) OM Sch 42, page 6, line item Damage Prevention - Prevailing Wage:

1. Explain in detail how these costs for Fiscal Year (FY) 2026 - FY29 were forecasted. If historical costs were used to forecast these costs, in excel format, provide backup workpapers showing how the historical costs directly tie to the forecasted costs.

2. Explain in detail how the Roadway Excavation Quality Assurance Act impacts the estimate of future costs for this line item. Show how this impact directly ties to the forecasted costs in Exhibit__(RRP-3) OM Sch 42.

3. Do contractor rate increases impact the incremental O&M cost for this line item? If yes, provide the contractor contracts and show in Excel format how the increased contract costs directly tie to the forecast cost in Exhibit__(RRP-3) OM Sch 42 for this line item.

Response:

1. The incremental operations and maintenance ("O&M") costs for the line Damage Prevention – Prevailing Wage have increased since the Company filed its direct testimony in these proceedings. However, because of timing, the Company was unable to make the adjustment as part of the GIOP's Corrections and Updates testimony. The latest forecast for the Damage Prevention – Prevailing Wage line item has been provided in Attachment 1, which contains confidential, protected information and is being provided in accordance with the Protective Order. Attachment 1 also provides the variance between the original filing and the updated forecast, which is largely

immaterial. The variance is due to the difference between the estimated rates and finalization of rates for the Company's problem locate vendor, Reconn.

2. The Roadway Excavation Quality Assurance Act requires the Company's vendors to pay prevailing wages for certain projects. This is particularly impactful in damage prevention for Problem Locate Vacuum Excavation for which paying prevailing wages results is a much higher unit rate than the unit rate established in the Company's previous contract with the vendor, Reconn. As a reference, please see Attachment 2, which contains confidential, protected information and is being provided in accordance with the Protective Order, and shows the unit price contract rates before September 15, 2023 labeled "Current Rate." Attachment 3, which also contains confidential, protected information and is being provided in accordance with the Protective Order, provides the final rates effective as of September 15, 2023, which are used in the latest calculations presented in Attachment 1.

3. Contracted rate increases are the key driver of the incremental O&M. Attachment 1 details the difference between the impact of a progression of rates with a low 1% non-prevailing wage-related escalator and that of the contracted rates, which includes the prevailing wage impact. Each year is compared by fiscal year as well as to the baseline calendar year 2023, which derives the incremental O&M presented in Exhibit__(RRP-3), Schedule 42 to the Revenue Requirement Panel. Please see question 2 for additional information regarding contractor rates.

Name of Respondent:
Megan Piccarreto/John Fiume

Date of Reply:
July 22, 2024

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24-E-0322 and 24-G-0323

[redacted]

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24-E-0322 and 24-G-0323

[redacted]

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24-E-0322 and 24-G-0323

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASE 24-E-0322 AND 24-G-0323

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
DPS-542 Attachment 3
Page 1 of 1

[redacted]

Date of Request: July 11, 2024
Due Date: July 22, 2024

Request No. DPS-550
NG Request No. NG-590

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Sara Orsino

TO: National Grid

SUBJECT: Niagara Mohawk O&M Tools and Equipment - New Hires

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

Referring to National Grid Exhibit__(RRP-3) OM Sch 42, page 6, line item Tools & Equipment - New Hires:

1. Explain in detail how these costs for Fiscal Years (FY)26 - FY29 were forecasted. If historical costs were used to forecast these costs, in Excel format, provide backup workpapers showing how the historical costs directly tie to the forecasted costs.

2. Provide the actual historical cost of the non-labor O&M costs for tools and equipment for new hires for each FY from FY19 - FY24.

3. Provide the actual historical cost of the non-labor O&M costs for tools and equipment for the Company's existing gas operations workforce on a per full-time equivalent (FTE) basis for each FY from FY19 - FY24.

Response:

1. The incremental operations and maintenance ("O&M") costs for the line item "Tools & Equipment – New Hires" have increased since the Company filed its direct testimony in these proceedings as discussed in GIOP's Corrections and Updates testimony. The updated figures can be found in Attachment 1. The O&M non-labor tools and equipment costs are related to miscellaneous tools and equipment. Please see Attachment 1 for a breakdown of the forecast costs by component. As shown in Attachment 1, the costs were forecast by multiplying $5,000 per FTE for the incremental GIOP and Gas Safety FTEs requested. The forecast is inclusive of dollars allocated for office equipment, software and licenses, training and onboarding materials, and safety equipment.

2. This line item is not tracked at this level. Employees' O&M department budgets incur all expenses related to new hires and those expenses are not separately tracked or budgeted.

3. This line item is not tracked at this level. Employees' O&M department budgets incur all expenses related to new hires and those expenses are not separately tracked or budgeted.

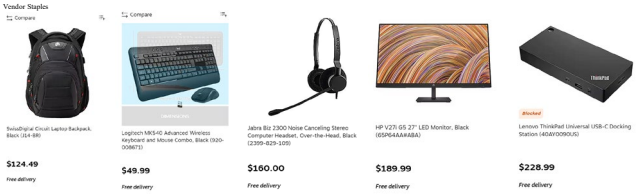
Name of Respondent:
Patricia McVeigh

Date of Reply:
July 22, 2024

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
DPS-550 Attachment 1
Page 1 of 2

			FTEs				Total Opex			
Office Equipment / Supplies			**2025**	**2026**	**2027**	**2028**	**2026**	**2027**	**2028**	**2029**
Backpack	$	124.49								
Wireless Keyboard & Mouse	$	49.99								
Headphones & microphone	$	160.00								
Monitors (2)	$	379.98								
Docking Station	$	228.99								
Office Chair	$	249.99								
Misc	$	550.00								
Safety Equipment										
Boot Allowance	$	150.00								
Fire Retardant Clothing	$	700.00								
Rain Gear - Pants	$	233.00								
Rain Gear - Jacket	$	233.00								
Flashlight	$	63.82								
Hard Hat	$	50.00								
Safety Vest	$	13.04								
Safety Gloves	$	45.37								
Safety Glasses - clear (3)	$	6.42								
Safety Glasses - sun (2)	$	33.00								
Ear Protection (2)	$	16.44								
Cell phone charger box	$	25.46								
Cell phone charger wire	$	25.46								
Software & Licenses										
Misc Licences	$	750.00								
Training & Onboarding Materials										
Misc Training Materials	$	550.00								
	$	4,638.45								
Tax Estimate	$	400.07								
Total	**$**	**5,038.52**								
Approximate $	**$**	**5,000.00**	**168**	**175**	**178**	**182**	**$ 840,000**	**$ 875,000**	**$ 890,000**	**$ 910,000**

Vendor Staples



SwissDigital Circuit Laptop Backpack, Black (14-6R)

$124.49

Free delivery

Logitech MK540 Advanced Wireless Keyboard and Mouse Combo, Black (920-008671)

$49.99

Free delivery

Jabra Biz 2300 Noise Cancelling Stereo Computer Headset, Over-the-Head, Black (2399-829-109)

$160.00

Free delivery

HP V27i G5 27" LED Monitor, Black (65P64AA#ABA)

$189.99

Free delivery

Attached

Lenovo ThinkPad Universal USB-C Docking Station (40AY0090US)

$228.99

Free delivery

Staples Corvair Mesh Back Luxura Faux Leather Computer and Desk Chair, Black (23097)

$249.99

Free delivery

Ariba buying

Safety Glasses Blue Mirror ScratchResist

Supplier: THE OLYMPIC GLOVE & SAFETY CO. INC.
Supplier Part #: 115560000020
Available in: 7 Day(s)
Contract: C416 View Details

Safety Glasses Series Metaliks(TM) GT Gender Unisex Lens Color Blue Mirror Polarized Lens No Lens Coating Scratch-Resistant No Foam Lined Eyewear Frame Design Wraparound Eyewear Frame Style Full-Frame Frame Color Bronze Eyewear Size Universal Frame Material Metal Lens Material Polycarbonate Temple Color Bronze Temple Style Adjustable Spatula Photochromatic Lens No Metal Detectable No X-Ray Detectable No UV Protection 99.99 Percent UVA/UVB Standards ANSI Z87.1-2010

$16.50 USD / each

Qty: 1 Add to Cart

Add to Favorites

Safety Glasses Clear

Supplier: W W GRAINGER INC.
Supplier Part #: 21U060
Available in: 5 Day(s)
Contract: C1167 View Details

Safety Glasses Series BK3 Gender Unisex Lens Color Clear Polarized Lens No Lens Coating Anti-Scratch No Foam Lined Eyewear Frame Design Wraparound Eyewear Frame Style Frameless Frame Color Clear Eyewear Size M Frame Material Polycarbonate Lens Material Polycarbonate Temple Color Clear Temple Style Hybrid Photochromatic Lens No Metal Detectable Yes X-Ray Detectable Yes UV Protection 99.99 Percent UVA/UVB Standards ANSI Z87+

$2.14 USD * / each

Buy from Supplier

Add to Favorites

Banded Ear Plugs Bell 28dB

Supplier: W W GRAINGER INC.
Supplier Part #: 3NHP2
Available in: 3 Day(s)
Contract: C1167 View Details

Banded Ear Plugs Noise Reduction Rating 28 dB Earplug Shape Cone Insertion Method Push-In Reusability Reusable Cord Options Banded Earplug Size M Earplug Material Foam Earplug Packaging Bulk Box Wrapped Pairs Earplug Pair Pack Type Plastic Bag Band Color Orange Series E-A-Rflex(TM) Band Material ABS PVC Silicone Cord Color Orange Standards 28 dB CSA Class AL Pairs per

$8.22 USD * / each

Buy from Supplier

Add to Favorites

Handheld Flashlight Nylon Orange 175lm

Supplier: W W GRAINGER INC.
Supplier Part #: 1UNC5
Available in: 5 Day(s)
Contract: C1167 View Details

Right-Angle Safety-Rated Flashlight Battery Chemistry Alkaline Battery Size AA Includes Batteries Yes Number of Batteries 4 Rechargeable No Beam Pattern Spot Body Color Orange Body Material Nylon Lighting Technology LED Number of Light Output Modes 4 Maximum Beam Distance 405 m Maximum Brightness 175 lm Run Time at Maximum Brightness 4 hr Weight with Batteries 13.7 oz Alternate Battery Size Proprietary Includes Charger No Beam Color White Beam Focus Fixed

$63.82 USD * / each

Buy from Supplier

Add to Favorites

H4225 Mechanics Gloves S/7 12-1/4 PR

Supplier: W W GRAINGER INC.
Supplier Part #: 21AN42
Available in: 8 Day(s)
Contract: C1167 View Details

H4225 Mechanics Gloves Additional Hazard Protection None Glove Style Mechanics Palm Style Reinforced Hand Protection Style Glove Backing Style Nylon with TPR Rubber Knuckle Protection Cuff Style Gauntlet Glove Insulation Material Cryoflex(R) Insulated Yes Palm Material Synthetic Leather Silicone-Free No Glove Liner Material Cryoflex(R) Glove Back Material Nylon Glove Back Color Black Glove Construction Cut and Sewn Knuckle Protection Material TPR Standards EN 388 3222 ANSI

$45.37 USD * / each

Buy from Supplier

Add to Favorites

FR/ARC HIVIS Bib Trouser Long

Supplier: NEILSEN CLOTHING INC
Supplier Part #: PRARCBTL-3XL
Available in: 30 Day(s)
Contract: C881 View Details

PRO ARC PRARCBTL FR/ARC BIB TROUSER LONG Breathable/Waterproof High Visibility Rainwear Yellow/Navy Class 3. Boot access with zippers and storm flap, adjustable suspenders, chest pocket, 2 Cargo pockets, 3M Reflective Tape, 26.1 Cal/cm2 ETBI/ATPV (CAT 3).

$233.00 USD / each

Qty: 1 Add to Cart

Add to Favorites

Delivery:

Next-Day eligible

Apple Lightning USB Cable for iPhone/iPad/iPod Touch, 3.3 ft., White (MD818AM/A)

$25.46

Free delivery

Apple 12W USB Adapter for iPhone/iPad/iPod Touch, White (MD836LL/A)

$25.46

Free delivery

Safety Vest, High-Visibility Reflective Vest, M/L

Supplier: GRAYBAR ELECTRIC CO. INC.
Supplier Part #: 25600264
Available in: 28 Day(s)
Contract: C807 View Details

Breathable mesh fabric on back. 2-inch retro-reflective stripes enhance visibility. Exterior tab to attach radio clip or other items. Two large interior pockets measure 6.75 [illegible]

$13.04 USD / each

Qty: 1 Add to Cart

Add to Favorites

Date of Request: July 11, 2024 Request No. DPS-557
Due Date: July 22, 2024 NG Request No. NG-597

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Sara Orsino

TO: National Grid

SUBJECT: Niagara Mohawk O&M Damage Prevention - Contractor Increases/Volume Increases

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

Referring to National Grid Exhibit__(RRP-3) OM Sch 42, page 6 line item Damage Prevention - Contractor Increases/Volume Increases:

1. Explain in detail how these costs for Fiscal Year (FY)26 - FY29 were forecasted. If historical costs were used to forecast these costs, in Excel format, provide backup workpapers showing how the historical costs directly tie to the forecasted costs.

    a. Include the ticket volume, in number of tickets, the Company expects for each FY26 - FY29. Identify and explain all assumptions used to forecast future ticket volumes for each FY.

    b. Include contractor cost increases with associated contracts, if applicable.

2. Provide the actual historical cost of the O&M cost for this line item for the FY19 - FY24 and the number of tickets responded to in each FY19 - FY24.

Response:

1. The Company forecasts one call ticket volume increases and contractor increases as shown in Attachment 1. Ticket volumes are derived using the FY25 budget, which was built at a detailed level and inclusive of actuals for April-Jan 2024 and forecasts through March 2024, based on the prior year's actuals adjusted where appliable for projected rate increases and trend adjustments. The FY25 budget was then increased to account for anticipated increases. These forecast increases include growth in complex high-risk excavations that result in additional incremental work locating and marking facilities. The increase in high-risk excavation is driven by an increase in third-party and municipal projects, especially work generated by the Federal Infrastructure Investment and Jobs Act.

In addition, future major construction projects such as the I-81 replacement project will affect surrounding road reconstruction and the building of additional roadways over the next several years. The recent announcement of a chip manufacturer investing over $100 billion in Central New York is another example of economic development impacting the damage prevention program. In addition, local water departments are currently working towards complying with the recent Federal Water Lead Pipe replacement program which is expected to generate additional tickets. These items will collectively generate more economic development, which will add to the additional volume of high-risk excavations. Assumptions around these increases can be seen in the workpapers provided in Attachments 1 and 2.

Attachment 1 provides the detailed FY25 budget build, which is the basis for the forecast and Attachment 2 provides the increases for the Rate Year and Data Years. Incremental O&M is the difference between the total projected forecast and the historical test year actuals (CY 2023). Please note the figures in these documents were in negotiation at the same time prevailing wage requirements were being estimated. Due to the timing of these communications, there are minor variances between the FY25 Budget and the basis of the forecast for the Rate Year and Data Years.

a. The forecast ticket values can be found in Attachment 2, ticket volumes related to locating services are included in columns BC:BL, BX:CG & CS:CU. Assumption explanations are also included in the file.

b. Both Attachment 1 and Attachment 2 show the changes between volume and rate changes. In addition, Attachments 3-6 show the rate cards from associated contracts. For Problem Locates, the contract was under negotiation, so a five percent rate escalation estimate was applied.

Attachments 1-6 contain confidential, protected information and are subject to the Protective Order.

2. Please see Attachment 7 for total O&M Costs & Ticket volumes related to Damage Prevention.

Name of Respondent:
Megan Piccaretto
John Fiume

Date of Reply:
July 22, 2024

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24 E 0322 and 24 G 0323

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
DPS-557 Attachment 1
Page 1 of 6

NIMO

Actuals	Fiscal Year 2021	Period Ending	Total Damage Prevention Costs	Outreach Total	Watch Guard Total	Dig Safely Total	Cast Iron Total	Problem Locates Total	Locating Total
		4/30/2020							
		5/31/2020							
		6/30/2020							
		7/31/2020							
		8/31/2020							
		9/30/2020							
		10/31/2020							
		11/30/2020							
		12/31/2020							
		1/31/2021							
		2/28/2021							
		3/31/2021							
		Total							

Forecast	Fiscal Year 2022	Period Ending
		4/30/2021
		5/31/2021
		6/30/2021
		7/31/2021
		8/31/2021
		9/30/2021
		10/31/2021
		11/30/2021
		12/31/2021
		1/31/2022
		2/28/2022
		3/31/2022
		Total

Actuals	Fiscal Year 2022	Period Ending
		4/30/2021
		5/31/2021
		6/30/2021
		7/31/2021
		8/31/2021
		9/30/2021
		10/31/2021
		11/30/2021
		12/31/2021
		1/31/2022
		2/28/2022
		3/31/2022
		Total

10 2

l vs Forecast	l Year 2022	Period Ending
		4/30/2021
		5/31/2021
		6/30/2021
		7/31/2021
		8/31/2021
		9/30/2021
		10/31/2021

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24 E 0322 and 24 G 0323

Actua	Fisca
	11/30/2021
	12/31/2021
	1/31/2022
	2/28/2022
	3/31/2022
Total	

Budget	Fiscal Year 2023	Period Ending
		4/30/2022
		5/31/2022
		6/30/2022
		7/31/2022
		8/31/2022
		9/30/2022
		10/31/2022
		11/30/2022
		12/31/2022
		1/31/2023
		2/28/2023
		3/31/2023
	Total	

YoY Increase

Actuals	Fiscal Year 2023	Period Ending
		4/30/2022
		5/31/2022
		6/30/2022
		7/31/2022
		8/31/2022
		9/30/2022
		10/31/2022
		11/30/2022
		12/31/2022
		1/31/2023
		2/28/2023
		3/31/2023
	Total	

Actual vs Forecast	Fiscal Year 2023	Period Ending
		4/30/2022
		5/31/2022
		6/30/2022
		7/31/2022
		8/31/2022
		9/30/2022
		10/31/2022
		11/30/2022
		12/31/2022
		1/31/2023
		2/28/2023
		3/31/2023

[redacted]

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24 E 0322 and 24 G 0323

Total

Budget	Fiscal Year 2024	Period Ending
		4/30/2023
		5/31/2023
		6/30/2023
		7/31/2023
		8/31/2023
		9/30/2023
		10/31/2023
		11/30/2023
		12/31/2023
		1/31/2024
		2/29/2024
		3/31/2024

Total

YoY Increase

Actuals	Fiscal Year 2024	Period Ending
		4/30/2023
		5/31/2023
		6/30/2023
		7/31/2023
		8/31/2023
		9/30/2023
		10/31/2023
		11/30/2023
		12/31/2023
		1/31/2024
		2/29/2024
		3/31/2024

Total

Actual vs Forecast	Fiscal Year 2024	Period Ending
		4/30/2023
		5/31/2023
		6/30/2023
		7/31/2023
		8/31/2023
		9/30/2023
		10/31/2023
		11/30/2023
		12/31/2023
		1/31/2024
		2/29/2024
		3/31/2024

Total

	025	Period Ending
		4/30/2024
		5/31/2024

[redacted]

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24 E 0322 and 24 G 0323

Budget	Fiscal Year 2
	6/30/2024
	7/31/2024
	8/31/2024
	9/30/2024
	10/31/2024
	11/30/2024
	12/31/2024
	1/31/2025
	2/28/2025
	3/31/2025
	Total

YoY Increase

Total

Total

[redacted]

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24 E 0322 and 24 G 0323

[redacted]

Premier-Locating

Rates beginning April of each year noted (Fiscal Year-)

UNY Central Items	UOM
GAS MARKOUT	EA
ELECTRIC MARKOUT	EA
GAS/ELECTRIC MARKOUT	EA
FEE CALL OUT	EA
LOCATOR T&M RT W/VEHICLE	HR
LOCATOR T&M OT W/VEH CLE	HR

UNY East Items	UOM
GAS MARKOUT	EA
ELECTRIC MARKOUT	EA
GAS/ELECTRIC MARKOUT	EA
FEE CALL OUT	EA
LOCATOR T&M RT W/VEHICLE	HR
LOCATOR T&M OT W/VEH CLE	HR

UNY West Items	UOM
ELECTRIC MARKOUT	EA
FEE CALL OUT	EA
LOCATOR T&M RT W/VEHICLE	HR
LOCATOR T&M OT W/VEH CLE	HR
OFFICE SCREEN	EA

[redacted]

Outreach-DPA (Recovery)

LINE DESCRIPTION	UOM	Price Per
DAMAGE PREVENTION ADVISOR UNY	HR	1.00

[redacted]

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24 E 0322 and 24 G 0323

LINE DESCRIPTION	UOM	Price Per	[redacted]
SVC, WATCHGUARDNG ADVISOR	HR	1.00	
SVC, GAS VISIT ST CI UNY	EACH	1.00	
SVC, GAS KECK CI UNY	EACH	1.00	
SVC, GAS CLAG CI UNY	EACH	1.00	

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24-E-0322 and 24-G-0323

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
DPS-057 Attachment 2
Page 1 of 1

NIMO Rate Case Assumptions:

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
DPS-557 Attachment 3
Page 1 of 1

Premier Rates for 2023 Budget - UNY

UNY Central Items	UOM
GAS MARKOUT	EA
ELECTRIC MARKOUT	EA
GAS/ELECTRIC MARKOUT	EA
FEE CALL OUT	EA
LOCATOR T&M RT W/VEHICLE	HR
LOCATOR T&M OT W/VEHICLE	HR

UNY East Items	UOM
GAS MARKOUT	EA
ELECTRIC MARKOUT	EA
GAS/ELECTRIC MARKOUT	EA
FEE CALL OUT	EA
LOCATOR T&M RT W/VEHICLE	HR
LOCATOR T&M OT W/VEHICLE	HR

UNY West Items	UOM
ELECTRIC MARKOUT	EA
FEE CALL OUT	EA
LOCATOR T&M RT W/VEHICLE	HR
LOCATOR T&M OT W/VEHICLE	HR
OFFICE SCEEN	EA

[redacted]

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24-E-0322 and 24-G-0323

Reconn Damage Prevention Advisor -UNY

[redacted]

LINE DESCRIPTION	UOM	Price Per
DAMAGE PREVENTION ADVISOR - UNY	HR	1.00

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24-E-0322 and 24-G-0323

Reconn VacEX Problem Locate Pricing Workbook

LINE DESCRIPTION	[redacted]
Restoration	
Hourly Rate (flagging, Traffice, hand dig)	
Vac Ex Truck w Crew Scheduled Work	
Vac Ex Truck w Crew Emergency Work	
Spoil Dumps	

[redacted]

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24-E-0322 and 24-G-0323

Reconn Watchguard Cast Iron Princing Workbook

LINE DESCRIPTION	UOM	Price Per
SVC, WATCHGUARDING ADVISOR	HR	1.00
SVC, GAS VISIT ST CI UNY	EACH	1.00
SVC, GAS RECK CI UNY	EACH	1.00
SVC, GAS CLRG CI UNY	EACH	1.00

[redacted]

Niagara Mohawk Power Corporation d/b/a National Grid
Cases 24-E-0322 & 24-G-0323 DPS-557 Attachment 7
Page 1 of 1

	FY19	FY20	FY21	FY22	FY23	FY24
Damage Prevention O&M $	**13,112,065**	**14,349,525**	**22,198,810**	**23,672,216**	**25,422,052**	**29,414,431**
# of Tickets	313,110	334,537	221,186	197,428	186,239	238,856

Date of Request: July 17, 2024
Due Date: July 29, 2024

Request No. DPS-606
NG Request No. NG-660

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Brandon Ng

TO: National Grid

SUBJECT: Capex - Corrosion

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

1. Attachment 1 of the Company's response to DPS 284.6 details the proposed corrosion capital expenditures. The Company lists inflation, prevailing wage increase, capex scope increase, contract price increase, and overhead increase as drivers for the corrosion program increased budget.

    a. Explain, in detail, the reasons the Company is shifting opex to capex.

        i. Are the operations and maintenance costs adjusted in the revenue requirements? Where is this change reflected?

    b. How were the inflation percentages 18.5%, 12.2%, and 5.2% determined for fiscal years 2021, 2022, and 2023, respectively?

    c. Why was the Prevailing Wage increase assumed to be 75%? Is this also included within the Roadway Excavation Quality Assurance Act (REQA) project?

    d. Why does the Company assume a 45% increase to overhead for moving from opex to capex?

        i. Is the overhead increase assumption double counted?

    e. What is the capex scope increase of 25%? Provide a detailed description.

    f. What is the contract price increase of 20%? Provide a detailed description

Response:

1. a. The Company's shift from operation and maintenance ("O&M") expense to capital expenditures for corrosion work is driven by the following factors:

- Remediation work will be shifted away from smaller spot repairs of 5–10 feet in length, which are charged to O&M, to larger sections or entire pipelines, which are charged to capital. Approximately 83 percent of atmospheric pipelines in the Company's Atmospheric Corrosion program are greater than 20 feet in length and future upcoming projects in the program largely will require more than 20 feet of wrap to fully remediate atmospheric corrosion concerns. In addition, supports will be replaced in conjunction with wrapping, which is also charged to capital. Replacing supports in conjunction with wrapping will allow the Company to better use time already on-site, leverage permits, and mitigate future needs for repair on the same pipeline.

- Based on an analysis of the remediation work queue for Cathodic Protection, for the first quarter of 2024, 96 percent (29 out of 30) of the jobs to be done by the Company's contractor to remediate failing reads would benefit from adding another test station in conjunction with the installation of anodes. The installation of a new test station results in the entire remediation work being charged to capital. The benefits of adding an additional test station include: (i) allowing the Company to relocate poorly placed test stations; (ii) replacing test stations in poor condition or those susceptible to damage for safety reasons; (iii) adding test stations where they may be in or near the roadways; (iv) allowing for additional test stations across long spans of pipe currently without test stations; (v) adding test stations to end caps on pipes; (vi) adding test stations across insulators where there is no test station/wires on either side of the insulator. As a result of this analysis, the Company assumed that 90 percent of the Cathodic Protection work would be charged to capital, as shown in the Company's response to DPS-284, which allows for continued O&M installations where it would not be practical or safe to install a test station (*i.e.*, due to a roadway location, or a location within close proximity to another test station).

    i. The Company notes that O&M reductions related to the corrosion work were inadvertently excluded from the Company's incremental O&M presented in Exhibit__(RRP-3), Schedule 42 and will be updated in the Company's rebuttal filing. The reduction for O&M is presented in Attachment 1 and is $224,432 in the Rate Year, $233,409 in Data Year 1, $242,746 in Data Year 2. and $252,455 in Data Year 3.

b. The Company derived the inflation percentages using the October 2023 release of Moody's U.S. Inflation Gross Domestic Product ("GDP"). The values (18.5 percent for 2021, 12.2 percent for 2022 and 5.2 percent for 2023) are compounded rates to adjust prior years to present values (*i.e.*, fiscal year ("FY") 2024).

c. The Company assumed a prevailing wage increase of 75 percent based on the labor portion for damage prevention contractors. The contractors used by the Company for corrosion work are included in the Roadway Excavation and Quality Assurance Act ("REQA") proposal as described in the Company's response to DPS-615 and therefore should be removed from this line item as shown in Attachment 1 in the amount of $858,000 in the Rate Year $892,320 in Data Year 1, $928,013 in Data Year 2, and $965,133 in Data Year 3.

d. Capital overhead represents indirect costs to capital expenditures. It consists of a collection of costs that are incurred to construct and place in-service capital assets that cannot reasonably be attributed to a single asset. Costs may include, but are not limited to, engineering, supervision, general office salaries and expenses, legal expenses, insurance, injuries and damages, relief and pensions, taxes and interest associated with construction, and engineering services.

O&M costs do not receive capital overheads; therefore, the overhead rate was applied to the base cost moving from O&M to capital. The assumed 45 percent was based on the actual FY 2024 year-end capital overhead adjusted for inflation.

i. Yes, in part. The Company has identified an error with its calculation of the 45 percent increase to overhead. The capital overhead increase should have been applied only to those components that did not already have the 45 percent increase included as part of the Company's contractor work. The double count resulted in an overestimate of $232,081 in the Rate Year, $241,364 in Data Year 1, $251,019 in Data Year 2, and $261,060 in Data Year 3. Please see Attachment 1 for the calculation.

As shown in Attachment 1, the adjusted capital expenses for corrosion from these changes are $3.070 million in FY 2025, $3.163 million in FY 2026, $3.257 million in FY 2027, $3.353 million in FY 2028, and $3.454 million in FY 2029.

e. The capital expenditure scope increase of 25 percent represents the additional cost of installing a test station in addition to anodes rather than installing just anodes. The additional cost to install a two-wire test station is a 24 percent increase and the cost for a four-wire test station is a 26 percent increase, which results in an average increase of 25 percent. See Attachment 2, which outlines this increase based on the specific unit prices for the contractor performing this work. Attachment 2 contains confidential, protected information. The Company is submitting the attachment in accordance with the Protective Order adopted in these proceedings.

f. At the time this estimate was created, prevailing wage increases were being examined and the contracts for corrosion contractors were due to be renegotiated. Based on feedback from the Company's Procurement team managing the contracts, there was an expectation that the contracts would increase by 20 percent in addition to the prevailing wage increase, to ensure contractor crews are paid at the prevailing wage. The estimated increase was built into the forecast for this program.

Name of Respondent: Date of Reply:
Megan Piccarreto July 29, 2024

Niagara Mohawk Power Corporation d/b/a National Grid
Cases 24-E-0322 & 24-G-0323 DPS-606 Attachment 1
Page 1 of 2

Investment Name	FY21 Actuals	FY22 Actuals	FY23 Actuals
Corrosion	$ 1,553,836	$ 1,243,233	$ 1,264,006
Inflation %	18.5%	12.2%	5.2%
Inflated $	$ 1,841,669	$ 1,394,603	$ 1,329,716

3 Year Average FY21, FY22, FY23
$ 1,521,996

		Rate & Data Years				
	FY25	**FY26**	**FY27**	**FY28**	**FY29**
	2.17%	2.11%	1.95%	1.90%	1.95%
	$ 1,554,961	**$ 1,587,770**	**$ 1,618,732**	**$ 1,649,488**	**$ 1,681,653**
Prevailing Wage Increase (75%)	$ -	**$ -**	**$ -**	**$ -**	**$ -**
CapEx Scope Increase (25%)	$ 722,500	**$ 751,400**	**$ 781,456**	**$ 812,714**	**$ 845,223**
Contract Price Increase (20%)	$ 220,000	**$ 228,800**	**$ 237,952**	**$ 247,470**	**$ 257,369**
Overhead Increase (45%)	$ 572,220	**$ 595,109**	**$ 618,913**	**$ 643,670**	**$ 669,416**
	$ 3,069,681	**$ 3,163,079**	**$ 3,257,053**	**$ 3,353,342**	**$ 3,453,661**
OpEx Spend Reduction	$ (215,800)	$ (224,432)	$ (233,409)	$ (242,746)	$ (252,455)

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
DPS-606 Attachment 1
Page 2 of 2

CapEx

	FY25	FY26	FY27	FY28	FY29
Base spend (3 year ave)	$ 1,554,961	$ 1,587,770	$ 1,618,732	$ 1,649,488	$ 1,681,653
Prevailing Wage Increase (75%)	$ 825,000	$ 858,000	$ 892,320	$ 928,013	$ 965,133
CapEx Scope Increase (25%)	$ 722,500	$ 751,400	$ 781,456	$ 812,714	$ 845,223
Contract Price Increase (20%)	$ 220,000	$ 228,800	$ 237,952	$ 247,470	$ 257,369
Overheads Increase (45%)	$ 572,220	$ 595,109	$ 618,913	$ 643,670	$ 669,416
Total	$ 3,894,681	$ 4,021,079	$ 4,149,373	$ 4,281,355	$ 4,418,794

CapEx- Previously submitted					
	FY25	*FY26*	*FY27*	*FY28*	*FY29*
Base spend (3 year ave)	*$ 1,554,961*	*$ 1,587,770*	*$ 1,618,732*	*$ 1,649,488*	*$ 1,681,653*
Prevailing Wage Increase (75%)	*$ 825,000*	*$ 858,000*	*$ 892,320*	*$ 928,013*	*$ 965,133*
CapEx Scope Increase (25%)	*$ 722,500*	*$ 751,400*	*$ 781,456*	*$ 812,714*	*$ 845,223*
Contract Price Increase (20%)	*$ 220,000*	*$ 228,800*	*$ 237,952*	*$ 247,470*	*$ 257,369*
Overheads Increase (45%)	*$ 795,375*	*$ 827,190*	*$ 860,278*	*$ 894,689*	*$ 930,476*
Total	*$ 4,117,836*	*$ 4,253,160*	*$ 4,390,737*	*$ 4,532,374*	*$ 4,679,854*
Variance from original submittal (Cap OH Reduction)	**$ (223,155)**	**$ (232,081)**	**$ (241,364)**	**$ (251,019)**	**$ (261,060)**
Removal of Pevailing Wage Increase	**$ (825,000)**	**$ (858,000)**	**$ (892,320)**	**$ (928,013)**	**$ (965,133)**
Total Adjustment from Exhibit _GIOP-1	**$ (1,048,155)**	**$ (1,090,081)**	**$ (1,133,684)**	**$ (1,179,032)**	**$ (1,226,193)**
New Total Capex Corrosion	**$ 3,069,681**	**$ 3,163,079**	**$ 3,257,053**	**$ 3,353,342**	**$ 3,453,661**

OPEX

UNY Anticipated Spend	OPEX
FY25	$ 920,000.00
FY26	$ 956,800.00
FY27	$ 995,072.00
FY28	$ 1,034,874.88
FY29	$ 1,076,269.88

Proposed Spend

UNY Anticipated Spend	OPEX
FY25	$ 704,200.00
FY26	$ 732,368.00
FY27	$ 761,662.72
FY28	$ 792,129.23
FY29	$ 823,814.40

Consolidated Corrosion Budget Impact

Budget Impact	OPEX
FY25	$ (215,800.00)
FY26	$ (224,432.00)
FY27	$ (233,409.28)
FY28	$ (242,745.65)
FY29	$ (252,455.48)

	FY25	FY26	FY27	FY28	FY29
OpEx Reduction	**$ (215,800.00)**	**$ (224,432.00)**	**$ (233,409.28)**	**$ (242,745.65)**	**$ (252,455.48)**

Illustrative Information for Scope of work for contractors impacted by Adjustments

AC

Original Spend

UNY Anticipated Spend	CAPEX	OPEX	OPEX Inspections	OPEX Repairs
FY25	$ 145,000.00	$ 400,000.00	$ 300,000.00	$ 100,000.00
FY26	$ 150,800.00	$ 416,000.00	$ 312,000.00	$ 104,000.00
FY27	$ 156,832.00	$ 432,640.00	$ 324,480.00	$ 108,160.00
FY28	$ 163,105.28	$ 449,945.60	$ 337,459.20	$ 112,486.40
FY29	$ 169,629.49	$ 467,943.42	$ 350,957.57	$ 116,985.86

Proposed Spend

UNY Anticipated Spend	CAPEX	OPEX	OPEX Inspections	OPEX Repairs
FY25	$ 943,950.00	$ 595,000.00	$ 504,000.00	$ 91,000.00
FY26	$ 981,708.00	$ 618,800.00	$ 524,160.00	$ 94,640.00
FY27	$ 1,020,976.32	$ 643,552.00	$ 545,126.40	$ 98,425.60
FY28	$ 1,061,815.37	$ 669,294.08	$ 566,931.46	$ 102,362.62
FY29	$ 1,104,287.99	$ 696,065.84	$ 589,608.71	$ 106,457.13

Assumptions
Move from OpEx to CapEx adds overheads (45%) and increase in scope (50%)
RR permits do not apply, and jurisdictional permits already applied for FY24
50% of repairs and 20% of inspections can be capitilized
Contract increase of 20% for FY25
Prevailing Wage increase of 75% for FY25

CP

Original Spend

UNY Anticipated Spend	CAPEX	OPEX
FY25	$ 377,000.00	$ 520,000.00
FY26	$ 392,080.00	$ 540,800.00
FY27	$ 407,763.20	$ 562,432.00
FY28	$ 424,073.73	$ 584,929.28
FY29	$ 441,036.68	$ 608,326.45

Proposed Spend

UNY Anticipated Spend	CAPEX	OPEX
FY25	$ 2,441,075.00	$ 109,200.00
FY26	$ 2,538,718.00	$ 113,568.00
FY27	$ 2,640,266.72	$ 118,110.72
FY28	$ 2,745,877.39	$ 122,835.15
FY29	$ 2,855,712.48	$ 127,748.55

Assumptions
Move from OpEx to CapEx adds overheads (45%) and increase in scope (25%)
Assumes active permits expire DecemberCY23
Assumes 90% of Opex can move to Capex (with the 25% increase in scope)
Contract increase of 20% for FY25
Prevailing Wage increase of 75% for FY24 (jan-mar) and FY25

Historic Spend with AC contractor

Fiscal Year		CAPEX	OPEX	Grand Total	
	2021	$ 667,869.07	$ 859,434.48	$ 1,527,303.55	*Significant discovery of new AC program locations
	2022	$ 160,784.86	$ 326,051.33	$ 486,836.19	*light inspection year reducing OPEX, was able to do additional CAPEX discovery from previous year
	2023	$ 101,912.20	$ 441,355.25	$ 543,267.45	*heavier than normal inspection year driving up OPEX
Grand Total		**$ 930,566.13**	**$ 1,626,841.06**	**$ 2,557,407.19**	
22/23 average		**$ 131,348.53**	**$ 383,703.29**	**$ 515,051.82**	

FY25 Forecast Original spend	$ 500,000
CAPEX	$ 100,000
OPEX	$ 400,000

Historic Spend with CP contractor to be impacted

	FY20	FY21	FY22	FY23
OPEX	$ 386,963	$ 525,760	$ 456,130	$ 503,801
CAPEX	$ 313,335	$ 284,052	$ 339,514	$ 233,542
Total	$ 700,298	$ 809,812	$ 795,644	$ 737,343

FY20-23 Average yearly spend:	$ 760,774
FY25 Forecast Original spend	$ 750,000
CAPEX	$ 250,000
OPEX	$ 500,000

*Historically 1/3 CAPEX work and 2/3 OPEX

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24-E-0322 and 24-G-0323

[redacted]

Contractor Name: Premier Utilit

Bid Region	Unit #
Central Division	1
Central Division	2
Central Division	3
Central Division	4
Central Division	5
Central Division	6
Central Division	7
Central Division	8
Central Division	9
Central Division	10

Date of Request: July 17, 2024 Request No. DPS-607
Due Date: July 29, 2024 NG Request No. NG-661

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Brandon Ng

TO: National Grid

SUBJECT: Capex - Customer Connections

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

1. The Company's response to DPS-284.1A-1E uses an inflation adjusted three-year average from fiscal year (FY) 21, FY22, and FY23 to forecast future expenditures for main, services, meters/regulators, and fittings for new customer connections. However, the Company uses a two-year average of FY22 and FY23 to forecast customer contributions.

    a. Explain why customer contributions does not use a three-year average similar to the other categories.

    b. Why are the customer contributions in FY21 so much higher than the contributions in FY22 and FY23? Is that something the Company would expect in future years? Explain why or why not.

    c. The forecasted number of "Units - Install Main" are listed as 93,027, 93,050, 92,244, 91,475, and 90,742 for FY25 through FY29, respectively. The forecasted number of "Units - Install Services" are listed as 1,772, 1,770, 1,644, 1,424, and 1,122 for FY25 through FY29, respectively. Explain how those figures were derived. Include backup workpapers in Excel.

Response:

1. a. The Company did not use a three-year average to forecast the customer contributions line item because fiscal year (“FY”) 21 was an outlier and its trend is not expected to continue, as explained in part b.

    b. The spike in FY 21 reimbursements is due to a combination of the reimbursements associated with one large project (Regen Mill Creek) for which

the reimbursement was $2.1 million and increased customer contributions due to COVID residual payments. Both items are not expected to continue in future years.

c. Please see Attachment 1 outlining the assumptions used to derive the anticipated customer connection volumes for FY25 - FY29.

Name of Respondent: Date of Reply:
Jacqueline Cahill July 26, 2024

		FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29		
Main- Conversion	Commercial		7,314	6,899	8,547	4,454	4,616	4,385	4,166	3,958	3,760	3,572	Saturation	Starting FY25, Commercial conversions will decrease 5% per year based on saturation.
Main- Conversion	Multi-Family	2,574	1,100	1,755	3,252	1,868	1,936	2,170	2,170	2,105	2,042	1,981	Saturation	Starting FY27, Multifamily conversions will decrease 3% per year based on saturation.
Main- Conversion	Residential	29,944	41,156	26,321	25,856	30,920	32,048	25,856	25,856	25,080	24,328	23,598	Saturation	Starting FY27, Resdiential conversions will decrease 3% per year based on saturation.
Main- New Construction	Commercial	4,761	7,029	3,642	4,812	4,044	4,191	4,208	4,225	4,241	4,258	4,275	New Construction Increases	Starting FY25, new construction will will continue to increase by .4%.
Main- New Construction	Multi-Family	24,522	28,137	27,610	19,731	22,376	23,193	23,286	23,379	23,472	23,566	23,661	New Construction Increases	Starting FY25, new construction will will continue to increase by .4%.
Main- New Construction	Residential	29,201	42,366	21,210	29,643	31,829	32,990	33,122	33,254	33,387	33,521	33,655	New Construction Increases	Starting FY25, new construction will will continue to increase by .4%.
								93,027	**93,050**	**92,244**	**91,475**	**90,742**		
Services- Conversion	Commercial	172	148	133	169	152	108	103	97	93	88	84	Saturation	Starting FY25, Commercial conversions will decrease 5% per year based on saturation.
Services- Conversion	Multi-Family	68	38	45	90	61	44	60	60	58	56	55	Saturation	Starting FY27, Multifamily conversions will decrease 3% per year based on saturation.
Services- Conversion	Residential	796	778	679	625	705	501	625	625	606	588	570	Saturation	Starting FY27, Resdiential conversions will decrease 3% per year based on saturation.
Services- New Construction	Commercial	258	120	104	106	186	163	164	164	165	166	166	New Construction Increases/Geo Thermal	Starting FY25, new construction will will continue to increase by .4%.
Services- New Construction	Multi-Family	103	651	644	438	76	65	65	66	66	66	66	New Construction Increases/Geo Thermal	Starting FY25, new construction will will continue to increase by .4%.
Services- New Construction	Residential	1,194	736	536	727	864	752	755	758	656	460	181	New Construction Increases/Geo Thermal	Starting FY25, new construction will will continue to increase by .4%., Reducing residential for anticipated geothermal customers
								1,772	**1,770**	**1,644**	**1,424**	**1,122**		

Date of Request: July 29, 2024 Request No. DPS-811
Due Date: August 8, 2024 NG Request No. NG-946

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Brandon Ng

TO: National Grid

SUBJECT: Capex - Pipeline Integrity PL-16

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

Referring to Exhibit__(GIOP-1), line item Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Valve 1607 to Northern Blvd, and Attachment 1 of DPS-284.59:

1. Provide a project with similar scope and size (need, material, mileage, cost, unit cost, etc.) completed previously. Provide the historic unit costs of the project.

2. For each unit cost listed in Question 1, above, provide the actual unit cost for the past five fiscal years 2019 through 2023.

3. Escalation for the project is listed as 24.96%, which is $32.009 million.

    a. Why is this escalation reasonable?
    b. Show how this percentage and amount were determined.

4. COD for the project is listed as 37.09%, which is $31.680 million.

    a. Define COD.
    b. Why is this COD reasonable?
    c. Show how this percentage and amount were determined.

5. Contingency for the project is listed as 30.00%, which is $48.081 million.

    a. Why is this contingency reasonable?
    b. Show how this percentage and amount were determined.

6. Identify any risks if this project is not completed.

Response:

1. The Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Valve 1607 to Northern Blvd ("PL-16") project is a complex capital project. The Company does not use actual costs from previous projects to forecast historic unit costs for complex capital projects. Instead, each complex capital project is treated as unique and estimated based on the project's specific scope of work. The specific estimates for the PL-16 project can be found in the response to DPS 284.59. Costs can vary between complex capital projects due to differences in work scope, execution plans, materials, labor, equipment, and subcontractors. As a result, it is not possible to directly compare complex capital projects with other projects. The methodology used to forecast the costs of complex capital projects is the same methodology used in the recent 2023 KEDNY and KEDLI rate cases.

2. See the Company's response to Question 1.

3. a. The Company's methodology for calculating escalation follows industry best practices by using published price indices to forecast escalation factors. See Attachment 1 for a description of the escalation tool used by the Company.

   b. The escalation tool is utilized to estimate the percentage of escalation for a specific project. Although the inputs for the tool may slightly differ from the final estimated value by cost element shown in the response to DPS-284.59 due to timing, the tool output provides a reasonable escalation factor. Attachment 2 includes the tool's escalation output percentage and associated calculations. The escalation amount is included in cell B69 of the "Escalation Tab." Once the escalation factor is determined, the Company's Estimating team enters it into Sage Estimating, where it is applied to the estimated base cost (including AFUDC), which is not accounted for in the escalation tool. Attachment 2 is confidential and subject to the Protective Order. The calculated escalation value of $32.009 million represents the capital portion of the total escalation value in Attachment 3.

4. a. Capital Overhead Distributable ("COD") represents indirect costs to capital expenditures. COD consists of a collection of costs that are incurred to construct and place in service capital assets that cannot reasonably be attributed to a single asset. Costs may include engineering, supervision, general office salaries and expenses, legal expenses, insurance, injuries and damages, relief and pensions, taxes, and interest associated with construction and engineering services. In the capital overhead clearing process, the capital overhead clearing rate is applied to all eligible capital expenditure charges. In this way, all direct and indirect capital activity are included to reflect the true cost of the capital project.

   - Capital overhead charges are recorded to a clearing account for each company when the expenditures are incurred.

- The FERC Allowable Components of Construction Costs is the main guide for determining eligibility for capital overhead.

- Overhead charges are moved from the clearing account to individual projects at least monthly, using the capital overhead clearing rate (described above).

b-c. The COD rate of 37.09% used in this estimate represents a two-year historical monthly average for Niagara Mohawk Gas at the time the estimate was generated. Please refer to Attachment 4, which displays the month-to-month capital overhead rates used to derive the 37.09% figure.

5. a. Estimated contingency costs on complex projects depend on the project development stage, level of scope definition, and business purpose for the estimate. For projects identified in the early project development phase, contingency cost percentages may be as high as 40 percent of the estimated base project cost.

Contingency costs are a necessary element of complex capital projects to capture unforeseen circumstances, risks, or changes in scope that may arise during the construction process. Contingency costs are a measure of cost growth added to the base estimate amount.

b. The 30% contingency represents the standard flat rate contingency utilized for Stage 4.2 Sage Estimates unless there are circumstances that provide for a higher contingency to be utilized by the estimator who uses experience and good judgment. Increases to the standard 30% contingency could occur if the project is especially unique or the estimators are seeing recent estimates actualized at a higher cost. As projects progress in their design, a quantitative risk analysis is conducted to determine a project-specific contingency. Please see Attachment 5, which shows a description of the different estimating tools utilized for estimate development.

6. This project is regulatory driven and related to class location changes that have occurred over time along the pipeline route. 16 NYCRR 255.611(a) requires operators to meet current class location requirements. Pipeline segments must be replaced to meet current requirements or will be in noncompliance with the referenced code section. As explained in the direct testimony of the Gas Infrastructure and Operations Panel, the Company filed an application with the Commission on March 29, 2024 in Case 24-G-0183, requesting that the Commission approve, as an alternative to MAOP confirmation/pressure reduction/pipe replacement, proposed risk control activities that will provide a margin of safety comparable to replacement of the segment of the pipeline. If the Commission approves the Company's request, the PL-16 project could be eliminated or scaled back during this rate proceeding.

Name of Respondent: Date of Reply:
Paul Cama August 8, 2024

Gas Complex Estimating

Escalation Tool Overview

Rev 0 07/30/2024

Escalation is a provision in costs for changes in the technical, economic and market conditions over time. National Grid's Gas Complex Estimating Escalation Excel Tool utilizes the Handy-Whitman Index of Public Utility Construction Costs to calculate escalation rates for future estimated costs. Different cost categories such as labor, materials, contractor, and equipment, have distinct indices. The tool allows us to forecast a compounding escalation over X number of years dictated by the estimate inputs from Sage Estimating Software and the project specific spending curve. The Excel File contains the indices and formulas used to calculate different escalation rates. The following pages include additional explanation of the Excel File and embedded calculations.

Escalation Tab- Escalation Calculator- Table 1

	A	B	C	D	E	H	K
1	**Escalation Calculator**						
2	**Estimate Date:**	**12/4/2023**		**Project Type:**	**Gas Transmission**		
3							
4	**Direct Cost Categories**	**Calendar Year of Spend**	**Estimated Spend**	**Cost to Date**	**Escalated Estimated Spend**	**Escalation Value**	**Escalation Percent**
5	Labor - Craft	2028	$ 405,377.26	$ -	$ 480,299.19	$ 74,921.93	18.48%
6	Labor - Management	2028	$ 1,204,165.76	$ -	$ 1,452,184.10	$ 248,018.34	20.60%
7	Material - Stock	2027	$ 56,212.27	$ -	$ 88,767.42	$ 32,555.15	57.91%
8	Material - Non-Stock	2027	$ 12,849,792.56	$ -	$ 20,291,706.27	$ 7,441,913.71	57.91%
9	Subcontractor	2028	$ 68,947,116.66	$ -	$ 81,689,941.28	$ 12,742,824.62	18.48%
10	Equipment	2028	$ 74,453.66	$ -	$ 93,272.17	$ 18,818.51	25.28%
11	Other	2028	$ 120,000.00	$ -	$ 142,178.43	$ 22,178.43	18.48%
12	**Direct Total**		$ 83,657,118.17	$ -	$ 104,238,348.85	$ 20,581,230.68	24.60%

Notes:

1. Cost data in Column C and D in the *Estimate Summary Tab* (Table 1) is imported from the Sage Estimate Report.
2. Cost data in Column E in the *Estimate Summary Tab* (Table 1) is calculated. This column subtracts Cost to Date (D5) from Estimated Spend (C5) and multiplies it by (1+the average of all escalation values within *Escalation Indices Tab* (Table 2) that correspond with "Bus Unit" (A2) (Gas or Electric) AND "SageCostGroup" (H2) (Labor- Craft, Subcontractor, etc.). If multiple values meet these criteria, it will average them all) and raises it to the power of (Calendar Year of Spend (B5) – Estimate Date (B2)), and then adds back cost to date (D5), which was not escalated.
    a. =IFERROR((C5-D5)*((1+AVERAGEIFS(indices[Current Escalation],indices [SageCostGroup],$A5,indicies[Bus Unit],'Estimate Summary'!C3))^(B5-YEAR(B$2)))+D5,0)

3. Column H in the *Estimate Summary Tab* (Table 1) takes the "Escalated Estimated Spend" (E5) and subtracts it from "Estimated Spend" (C5) to get the "Escalation Value"(H5).
4. Column K in the *Estimate Summary Tab* (Table 1) takes the percentage difference from "Escalated Estimated Spend" (E5) and "Estimated Spend" (C5) to get the "Escalation Percentage" (K5).

Escalation Indices Tab – Table 2

	A	B	C	D	E	F	G	H
	Bus Unit	Indirect Cost	Cost Index Curre	Cost Index Forecas	Current Escalation	Escalation Percentage	Source	SageCostGroup
	Gas	Craft Labor	778	804.841	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Craft
	Gas	Distribution Materials - Stock	1307	1465.6698	0.1214	12.14%	Handy Whitman: Distribution Plant Mains Steel 3-year average (Line 44)	Material - Stock
	Gas	Transmission Materials - Stock	952	1066.8112	0.1206	12.06%	Handy Whitman: Transmission Plant Mains 3-year average (Line 27)	Material - Stock
	Gas	Distribution Materials - Non-Stock	1307	1465.6698	0.1214	12.14%	Handy Whitman: Distribution Plant Mains Steel 3-year average (Line 44)	Material - Non-Stock
	Gas	Transmission Materials - Non-Stoc	952	1066.8112	0.1206	12.06%	Handy Whitman: Transmission Plant Mains 3-year average (Line 27)	Material - Non-Stock
	Gas	Equipment	683	714.4863	0.0461	4.61%	Handy Whitman: Construction Equipmt (M) 3-year average (Line 50)	Equipment
	Gas	Craft Supervision	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Labor - Management
	Gas	Engineering			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management
	Gas	Project Management			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management
	Gas	Vendor	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Subcontractor
	Gas	Other	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Other

Escalation Tab– Direct Costs Table 3

	A	B	C	D	E	H	K
14	Escalated Direct Costs						
15		Calendar Year of Spend	CAPEX	OPEX	COR	Total	
16	Labor - Craft	2028	$ 440,823	$ -	$ 39,476	$ 480,299	
17	Labor - Management	2028	$ 1,452,184	$ -	$ -	$ 1,452,184	
18	Material - Stock	2027	$ 88,767	$ -	$ -	$ 88,767	
19	Material - Non-Stock	2027	$ 20,291,706	$ -	$ -	$ 20,291,706	
20	Subcontractor	2028	$ 81,652,975	$ -	$ 36,966	$ 81,689,941	
21	Equipment	2028	$ 86,138	$ -	$ 7,134	$ 93,272	
22	Other	2028	$ 142,178	$ -	$ -	$ 142,178	

Notes:

1. Column B is directly from 'Estimate Summary' tab
2. C16 is calculated using estimated CAPEX spend from 'Estimate Summary' multiplied by 1+ the escalation percentage calculated in Table 1. E16 is calculated the same way but with using the COR spend from 'Estimate Summary'.

Escalation Tab- Indirect Costs – Table 4

	A	B	C	D	E	H	K
38	Escalated Indirect Costs						
39		Calendar Year of Spend	CAPEX	OPEX	COR	Total	
40	Material Tax	2027	$ 1,603,943	$ -	$ -	$ 1,603,943	
41	Stores Material Handling	2027	$ 15,321	$ -	$ -	$ 15,321	
42	Overhead - Craft	2028	$ 216,224	$ -	$ 19,363	$ 235,587	
43	Overhead - Management	2028	$ 888,011	$ -	$ -	$ 888,011	
44	COD	2028	$ 39,590,223	$ -	$ -	$ 39,590,223	
45	A&G	2028	$ 3,468,894	$ -	$ -	$ 3,468,894	
46	AFUDC	2028	$ 10,340,940	$ -	$ -	$ 10,340,940	

Notes:

1. C40 is calculated by multiplying the appropriate values from Table 2 and multiplying them by their corresponding overhead % in ‘Estimate Summary’ tab for both CAPEX and COR.

Escalation Tab- Total Estimate– Table 6

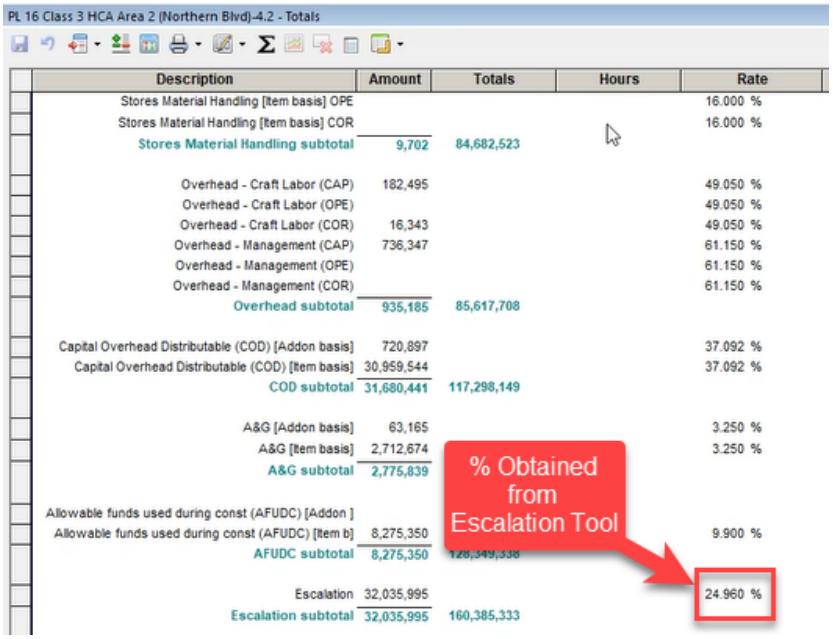
	A	B	C	D	E
62	Total Estimate (Direct + Indirect Costs)				
63		CAPEX	OPEX	COR	Total
64	Estimate Value (CY 2023)	$ 128,262,783	$ -	$ 86,556	$ 128,349,339
65	Estimate Value Including Escalation (CY 2028)	$ 160,278,328	$ -	$ 102,940	$ 160,381,267
66	Estimate Value Including Escalation (CY 2029)	$ 168,677,159	$ -	$ 106,574	$ 168,783,733
67	Estimate Value Including Escalation (CY 2030)	$ 177,711,749	$ -	$ 110,337	$ 177,822,086

Notes:

1. B65 and D65 are simply the addition of both Table 2 and Table 3 values that were calculated using escalated amounts.
2. The escalation percentage that is output into cell B69 is simply how much the escalated total amount differs from the estimated value, as seen below.

Escalation Percentage CY 2028	24.96%

The Estimator then inputs the escalation percentage into the Sage Estimating Totals Page which calculates an escalation amount.



Description	Amount	Totals	Hours	Rate
Stores Material Handling [Item basis] OPE				16.000 %
Stores Material Handling [Item basis] COR				16.000 %
Stores Material Handling subtotal	9,702	84,682,523		
Overhead - Craft Labor (CAP)	182,495			49.050 %
Overhead - Craft Labor (OPE)				49.050 %
Overhead - Craft Labor (COR)	16,343			49.050 %
Overhead - Management (CAP)	736,347			61.150 %
Overhead - Management (OPE)				61.150 %
Overhead - Management (COR)				61.150 %
Overhead subtotal	935,185	85,617,708		
Capital Overhead Distributable (COD) [Addon basis]	720,897			37.092 %
Capital Overhead Distributable (COD) [Item basis]	30,959,544			37.092 %
COD subtotal	31,680,441	117,298,149		
A&G [Addon basis]	63,165			3.250 %
A&G [Item basis]	2,712,674			3.250 %
A&G subtotal	2,775,839			
Allowable funds used during const (AFUDC) [Addon]				
Allowable funds used during const (AFUDC) [Item b]	8,275,350			9.900 %
AFUDC subtotal	8,275,350	128,349,338		
Escalation	32,035,995			24.960 %
Escalation subtotal	32,035,995	160,385,333		

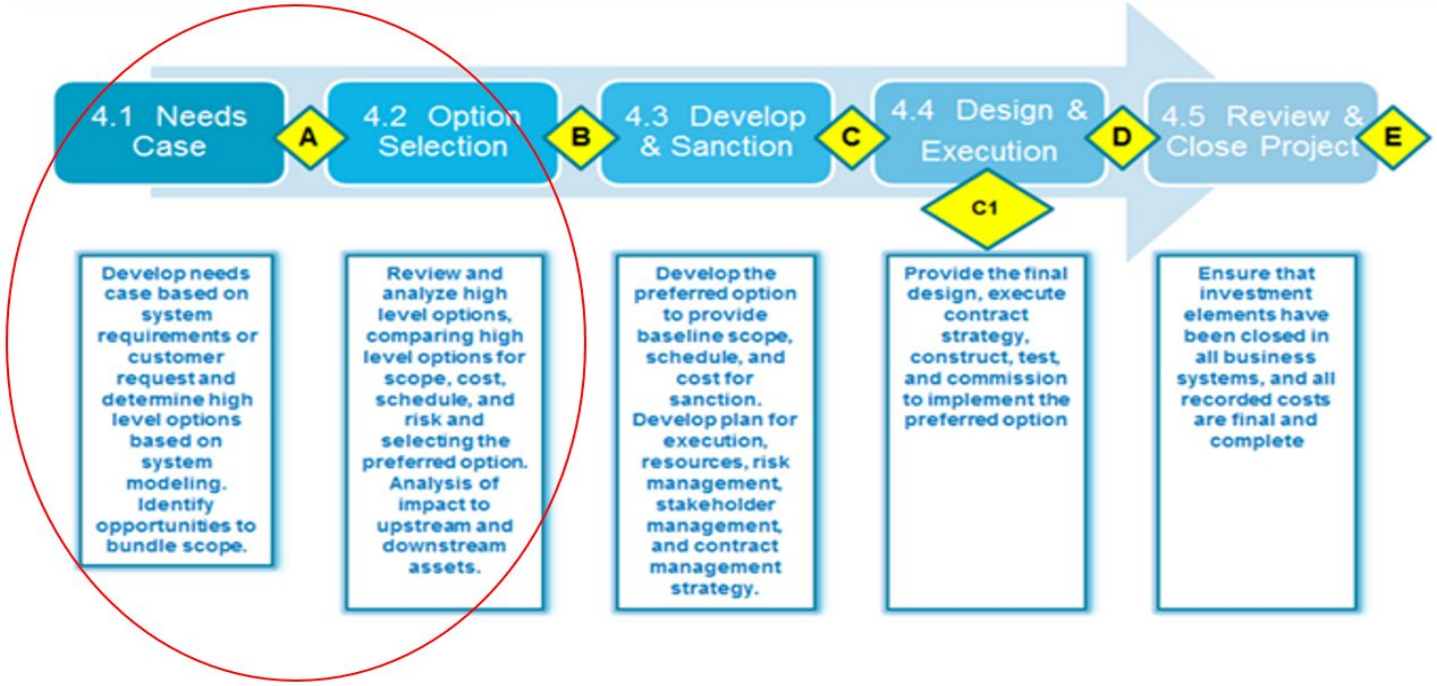
Preliminary Estimate Discussion

Gas NY

7/24/2024

nationalgrid

Preliminary Estimates



- The majority of complex estimates in the Rate Filing are in stage 4.1 & 4.2.
- Estimates in these stages are often referred as preliminary estimates, conceptual estimates, cost book estimates or budget sponsor estimates.
- These estimates have work scopes that are 10-20% developed.
  - Details such as roadway, subsurface surveys, spatial constraints etc. are not known in preliminary estimates.

Estimating's Role in Different Project Stages

Stage 4.2

- Creating the high level estimate, if the Cost Book cannot be used
- Supporting the Stakeholders in using the Cost Book
- Maintaining the Cost Book
- Completing Options Analysis, if there are multiple ways the project can be completed

Stage 4.3

- Developing the Detailed Estimate
- Creating & scoring the Risk Register, during the Risk Workshop
- Developing the Risk Assessment
- Breaking down the Estimate by WBS to assist with bid evaluation
- Assisting with Capital Efficiency Savings

Stage 4.4

- Updating the Estimates
- Supporting the evaluation of contractor bids
- Change Order Analysis & Reasonableness

Stage 4.5

- Estimate vs Actual Variance Analysis reporting
- Participating in Lessons Learned discussions

Cost Estimate Clarification Matrix

	Primary Characteristic	*Secondary Characteristic*		
ESTIMATE CLASS	**MATURITY LEVEL OF PROJECT DEFINITION DELIVERABLES** Expressed as % of complete definition	**END USAGE** Typical purpose of estimate	**METHODOLOGY** Typical estimating method	**EXPECTED ACCURACY RANGE** Typical variation in low and high ranges at an 80% confidence interval
Class 5	0% to 2%	Concept screening	Cost/length factors, parametric models, judgment, or analogy	L: -20% to -50% H: +30% to +100%
Class 4	1% to 15%	Study or feasibility	Cost/length, factored or parametric models	L: -15% to -30% H: +20% to +50%
Class 3	10% to 40%	Budget authorization or control	Semi-detailed unit costs with assembly level line items	L: -10% to -20% H: +10% to +30%
Class 2	30% to 75%	Control or bid/tender	Detailed unit cost with forced detailed take-off	L: -5% to -15% H: +5% to +20%
Class 1	65% to 100%	Check estimate or bid/tender	Detailed unit cost with detailed take-off	L: -3% to -10% H: +3% to +15%

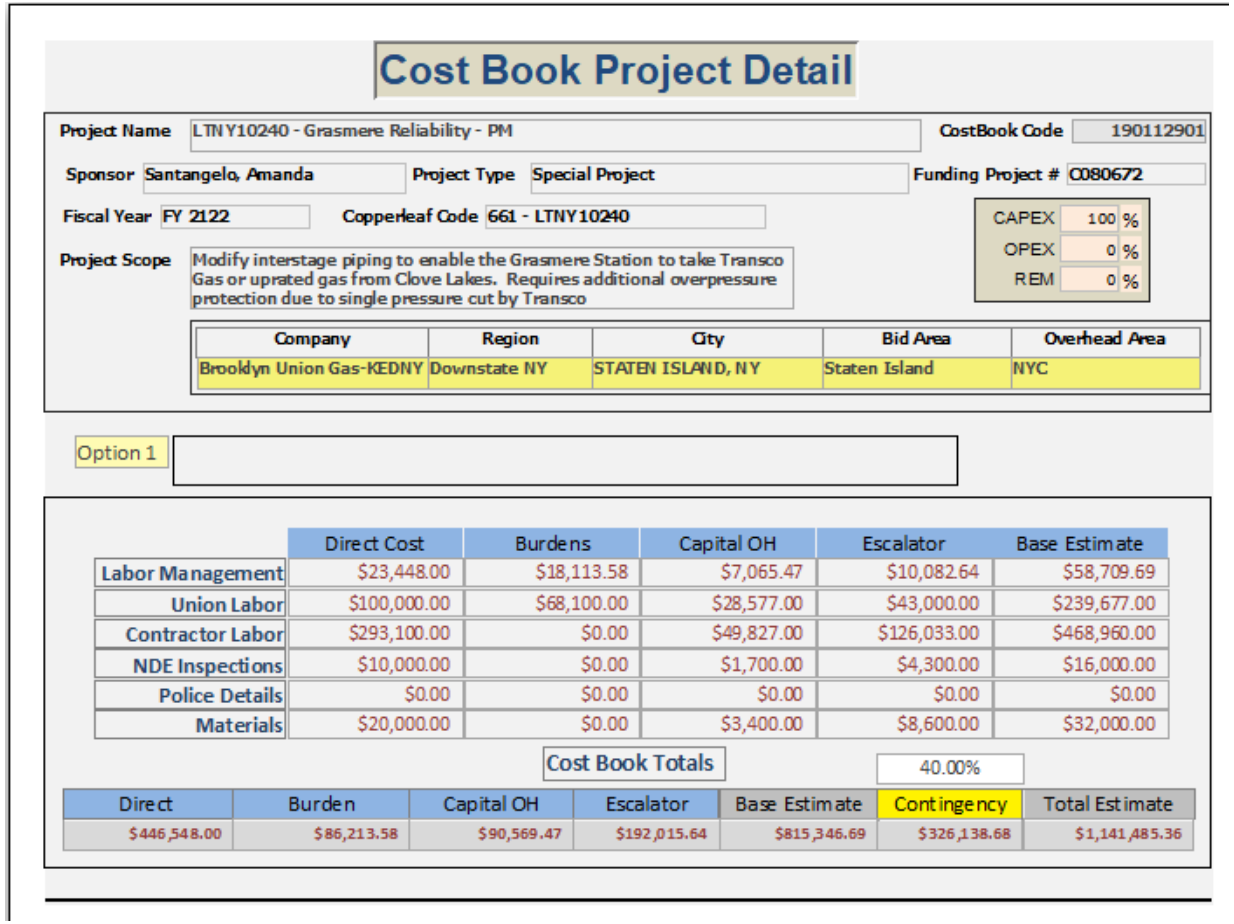
Table 1 – Cost Estimate Classification Matrix for the Pipeline Transportation Infrastructure Industries

- The matrix from AACEI is showing the different classes based on the maturity level of the project definition deliverables.
- This shows the expected end usage and accuracy range for each.

Methods for Complex Estimate Development

1) Microsoft Access Cost Book Estimates

- An internal database created in 2018 utilizing historical actuals.
- Plan to retire.
- Data escalated with inflation (Handy Whitman Index Average) and internal burden rates to keep estimations current.
- Fit for purpose for the majority of projects.



Cost Book Project Detail

Project Name	LTNY10240 - Grasmere Reliability - PM	CostBook Code	190112901
Sponsor	Santangelo, Amanda	Project Type	Special Project
Funding Project #	C080672		
Fiscal Year	FY 2122	Copperleaf Code	661 - LTNY10240
CAPEX	100 %		
OPEX	0 %		
REM	0 %		
Project Scope	Modify interstage piping to enable the Grasmere Station to take Transco Gas or uprated gas from Clove Lakes. Requires additional overpressure protection due to single pressure cut by Transco		

Company	Region	City	Bid Area	Overhead Area
Brooklyn Union Gas-KEDNY	Downstate NY	STATEN ISLAND, NY	Staten Island	NYC

Option 1

	Direct Cost	Burdens	Capital OH	Escalator	Base Estimate
Labor Management	$23,448.00	$18,113.58	$7,065.47	$10,082.64	$58,709.69
Union Labor	$100,000.00	$68,100.00	$28,577.00	$43,000.00	$239,677.00
Contractor Labor	$293,100.00	$0.00	$49,827.00	$126,033.00	$468,960.00
NDE Inspections	$10,000.00	$0.00	$1,700.00	$4,300.00	$16,000.00
Police Details	$0.00	$0.00	$0.00	$0.00	$0.00
Materials	$20,000.00	$0.00	$3,400.00	$8,600.00	$32,000.00

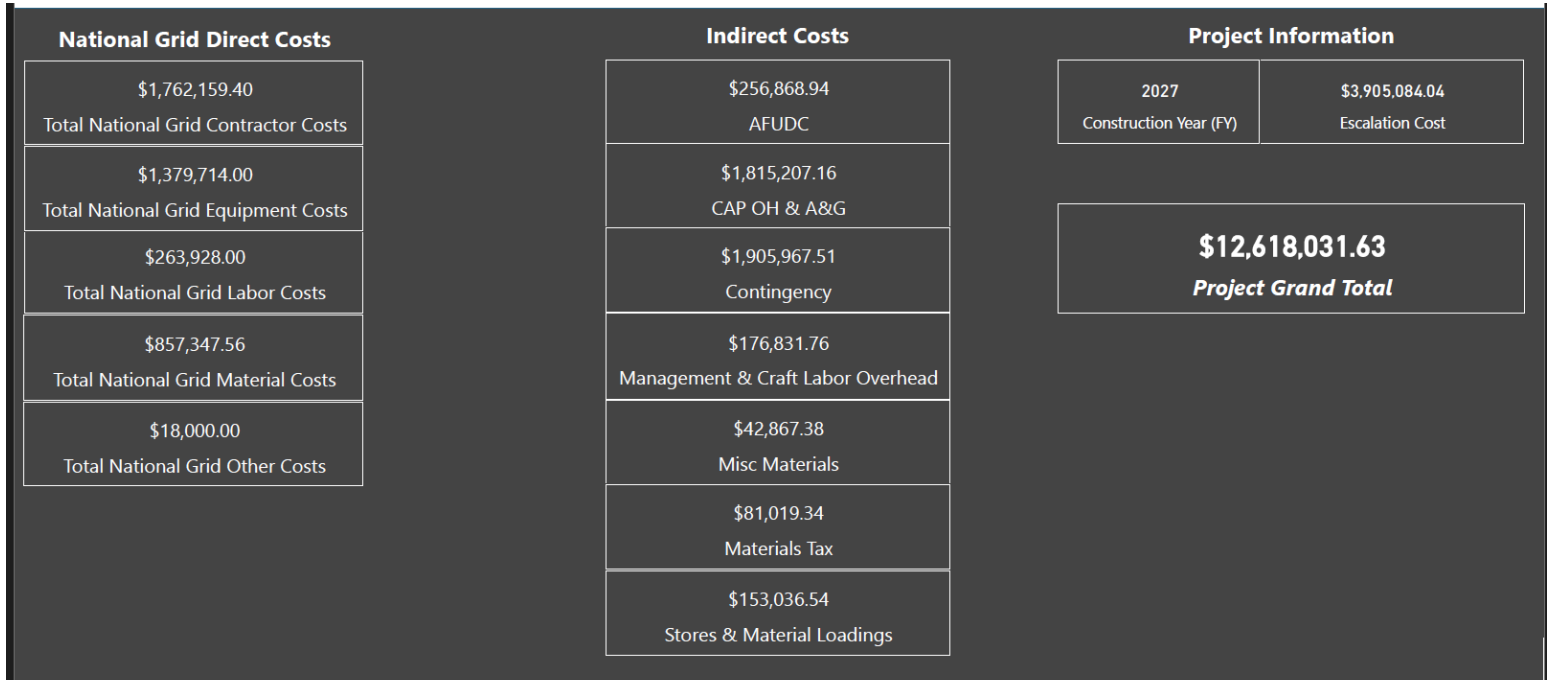
Cost Book Totals 40.00%

Direct	Burden	Capital OH	Escalator	Base Estimate	Contingency	Total Estimate
$446,548.00	$86,213.58	$90,569.47	$192,015.64	$815,346.69	$326,138.68	$1,141,485.36

Methods for Complex Estimate Development

2) New PowerBI Cost Book Estimates

- An internal database created in 2023, utilizing estimating software, Sage and the Natural Gas Knowledge Base.
- Data escalated with inflation (Handy Whitman Index Average) and internal burden rates to keep estimations current.
- Fit for purpose for pressure regulation at this time.



Methods for Complex Estimate Development

3) SAGE Estimates

- A purchased software package with a natural gas knowledge base consisting of ~30,000+ items, material catalog, specific tasks (i.e. installing a 12-inch valve, welded on flanges, excavation prices etc.) custom-made for the local industry and then adjusted for local labor rates/ practices, equipment rates, burden rates, national grid's work methods etc.
- Updated annually.
- This is used when the cost book is not fit for purpose.

nationalgrid **Estimate Summary**

PL 16 Class 3 HCA Area 2 (Northern Blvd)-4.2

Utility	**Gas**	Proj Number	**2023110981394**	Est Number	
Proj Type	**Gas Transmission**	Funding Proj	**TBD**	Est Stage	**4.2**
Proj Lead	**Conklin, Kevin**	Work Order	**TBD**	Est Version	**1**
Estimator	**Sheridan, Peter**	State	**NY**	Est Type	**Complex**
Company	**5210 - Niagara Mohawk Power Corp**	Fiscal Yr	**2028**	Last Update	**2/2/2024 4:19:54 PM**
Base Template	**Gas - 5210 - NY - NIMO Gas - April 2023**				

		CAP	OPE	COR	Total
Labor - Management		1,204,166	-	-	1,204,166
Labor - Craft		372,059	-	33,318	405,377
Material - Stock		56,212	-	-	56,212
Material - Non-stock		12,849,793	-	-	12,849,793
Subcontractor		68,915,917	-	31,200	68,947,117
Equipment		68,759	-	5,695	74,454
Other		120,000	-	-	120,000
Subtotal (by Category)		**83,586,905**	**-**	**70,213**	**83,657,118**
Material Tax	7.87%	1,015,703	-	-	1,015,703
Stores Material Handling	16.00%	9,702	-	-	9,702
Overhead - Management	61.15%	736,347	-	-	736,347
Overhead - Craft	49.05%	182,495	-	16,343	198,838
COD	37.09%	31,680,442	-	-	31,680,442
A&G	3.25%	2,775,839	-	-	2,775,839
AFUDC	-	8,275,350	-	-	8,275,350
Escalation	24.96%	32,009,107	-	26,888	32,035,995
Base Total		**160,271,891**	**-**	**113,443**	**160,385,334**
Contingency	30.00%	48,081,567	-	34,033	48,115,600
Base + Contingency Total		**208,353,458**	**-**	**147,476**	**208,500,934**

Methods for Complex Estimate Development

4) Historic Similar Scope Investments

- Utilizing a completed project's actuals with an assumed similar scope and carrying that estimate forward with inflation/adjustments to dollars based on scope.

Using Price Indices to Normalize Project Costs. For use at Stage 4.1 Estimate Stage Only. Although acceptable for Stage 4.2 estimates, Project Estimates will need to review and approve..

This job aid provides instructions to Asset Owners for standardizing the use of historical price indices to normalize past project estimates or actual costs to a current year or future basis.
Applicable for use on Stage 4.1 Estimates Only. Upon approval by Complex Estimating, this tool may be used for Stage 4.2 estimates.
Escalation factors are updated on a annual basis. Project specific cost estimates that fail to move forward will need to be have their cost estimates refreshed. Cost estimates are valid for two years only
The annual Inflation and escalation factors are derived from the January Handy-Whitman Index, Table G-1 "Cost Trends of Gas Utility Construction; North Atlantic Region", Line 30, "Meas. & Reg Stat Equipment."
The Year 2024 now reflects the actual index of 1277.
The Year 2025 has been updated with an estimated index of 1336, which represents an inflation factor of 0.046 compared to Year 2024.
This inflation factor was calculated by taking the average of the inflation factors over the last 10 years (2015 thru 2024), and subtracting out both the Highest inflation rate year and lowest inflation rate year.

Step 1
Obtain historical actual project costs for recently completed projects using the Complex Estimate dashboard. Projects being selected must be similar in work scope.
Estimate_to_Actuals_NYG - Power BI

Step 2
Calculate average cost for each project making sure projects were completed within a 2 year time frame

Base Estimate Actual Amount	$	2,100,000.00

Step 3
Select the BASE YEAR Price Index value for the recently completed projects.
Select the FORECAST Price Index value indicating the Year the project is forcesated to be completed.

YEAR	PRICE INDEX	ATION	FACTION FACTOR	
2010	623			
2011	672	0.079		
2012	735	0.094		
2013	733	-0.003		
2014	754	0.029		
2015	762	0.011		
2016	742	-0.026		
2017	783	0.055		
2018	805	0.028	0.03	
2019	862	0.071	0.10	
2020	895	0.038	0.14	
2021	915	0.022	0.17	
2022	1117	0.221	0.43	
2023	1267	0.134	0.62	0.57
2024	1277	0.008	0.63	0.48
2025	1336	0.046	0.71	0.49
2026	1397	0.046	0.78	0.53
2027	1461	0.046	0.87	0.31
2028	1529	0.046	0.95	0.21
2029	1599	0.046	1.04	0.25
2030	1673	0.046	1.14	0.83
2031	1749	0.046	1.23	0.91
2032	1830	0.046	1.34	1.00
2033	1914	0.046	1.44	1.09
2034	2002	0.046	1.56	1.19

Step 4
Calculate the relative index

Price Index at Future Year		1461	2027
Price Index at Base Year		895	2020
Formula			
(Price Index at Future Year) / (Price Index at Base Yea			0.6324
Escalation Cost	$	1,328,044.69	

Step 5

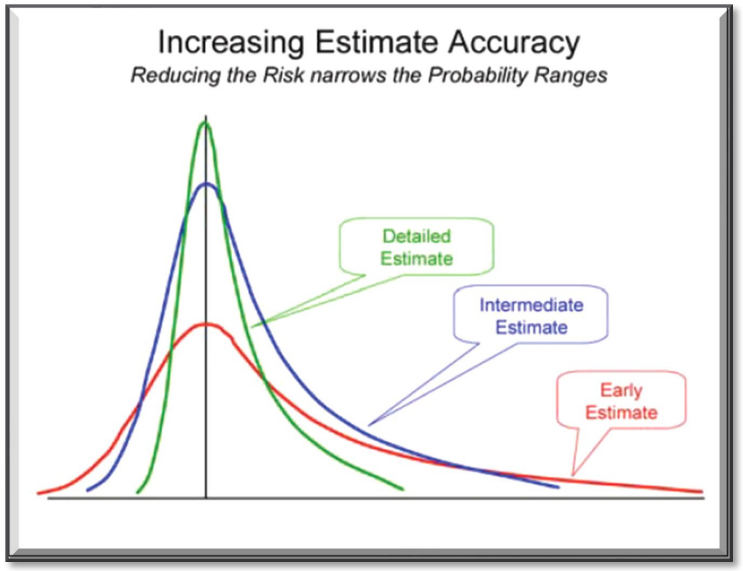
Nominal (Future) (	$	3,428,044.69


nationalgrid

The Complex Estimating Team plays a critical role in shaping National Grid's short and long-term capital budgets

Our highly collaborative team develops detailed, defensible construction cost estimates using recommended estimating techniques for New York Gas projects in Upstate and Downstate New York.

Our Goal



Our estimating techniques are recognized by leading industry organizations

ASPE | AMERICAN SOCIETY OF PROFESSIONAL ESTIMATORS

AACE INTERNATIONAL

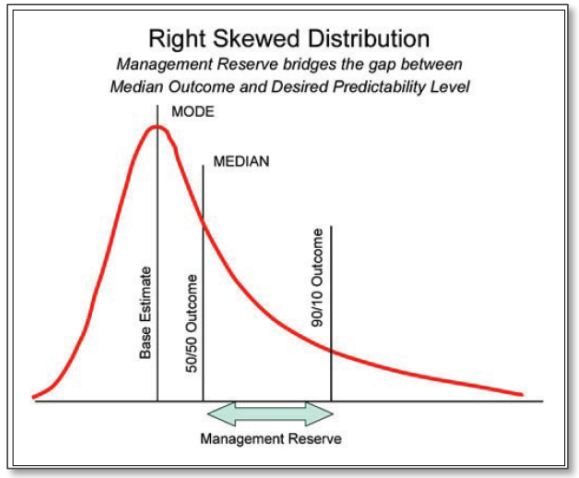
A Closer Look: Incorporating Contingency Risk Dollars in Estimates

Risk Contingency Estimating Methodology used:

- Identify project specific risks quantitatively
- Assign a likelihood & cost to each risk
- Quantify the risk contingency costs using **Palisades @Risk Software** – Monte Carlo Simulation
- Lead the discussion in the development of the risk mitigation strategy for each project specific risk

Completed Construction Cost Estimates are reported as 3 Values:

1. Base - the estimated cost of the known scope
2. P50 - risk loaded estimate where there is a 50% probability of overrun or underrun
3. P80 - risk loaded estimate where there is a 20% probability of overrun



CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24-E-0322 and 24-G-0323

Estimate Date:	[redacted]

Direct Cost Categories
Labor - Craft
Labor - Management
Material - Stock
Material - Non-Stock
Subcontractor
Equipment
Other
Direct Total

Labor - Craft
Labor - Management
Material - Stock
Material - Non-Stock
Subcontractor
Equipment
Other

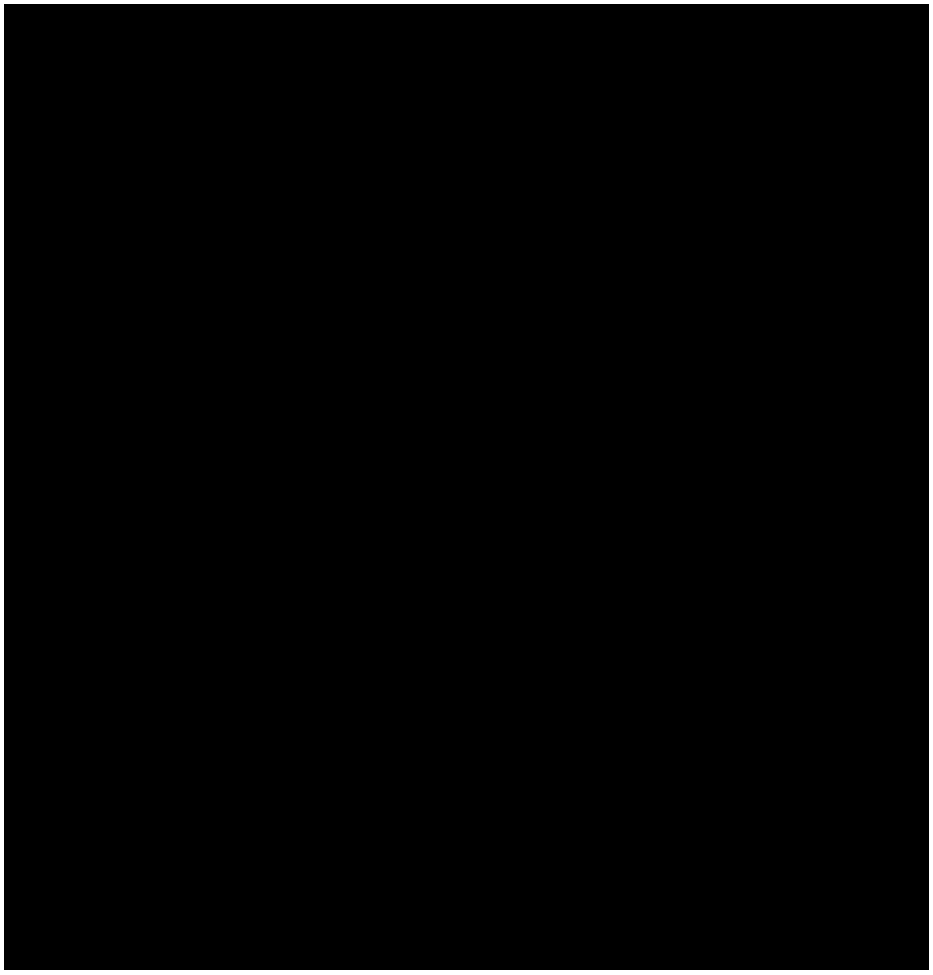
Material Tax
Stores Material Handling
Overhead - Craft
Overhead - Management
COD
A&G

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24-E-0322 and 24-G-0323

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24-E-0322 and 24-G-0323

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER

IN CASES 24-E-0322 and 24-G-0323



CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24-E-0322 and 24-G-0323

[redacted]

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24-E-0322 and 24-G-0323

[redacted]

CONF DENTIAL SUBJECT TO PROTECTIVE ORDER IN CASES 24-E-0322 and 24-G-0323

[redacted]

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
DPS-811 Attachment 3
Page 1 of 1

Estimate Summary

Category		Total
Labor Mgmt	$	1,204,166
Labor Craft	$	405,377
Material- Stock	$	56,212
Material- Non-Stock	$	12,849,793
Subcontractor	$	68,947,117
Equipment	$	74,454
Other	$	120,000
Subtotal (By Category)	$	83,657,119
Material Tax	$	1,015,703
Stores Material Handling	$	9,702
Overhead- Mgmt	$	736,347
Overhead- Craft	$	198,838
COD	$	31,680,442
A&G	$	2,775,839
AFUDC	$	8,275,350
Subtotal with Indirects	$	128,349,340

Escalation **$ 32,035,995** **24.96%**

Percentage is Obtained from Escalation Tool

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
DPS-811 Attachment 4
Page 1 of 1

Monthly NMPC COD Rate

Month	Capital Overhead Rates
Apr-21	23.0%
May-21	23.0%
Jun-21	23.0%
Jul-21	33.0%
Aug-21	36.0%
Sep-21	38.0%
Oct-21	38.0%
Nov-21	32.0%
Dec-21	32.0%
Jan-22	48.0%
Feb-22	55.0%
Mar-22	85.0%
Apr-22	43.0%
May-22	43.0%
Jun-22	43.0%
Jul-22	43.0%
Aug-22	35.0%
Sep-22	35.0%
Oct-22	30.0%
Nov-22	30.0%
Dec-22	30.0%
Jan-23	30.0%
Feb-23	30.0%
Mar-23	40.0%
Apr-23	29.3%
2 Year Historical Average	**37.09%**

Date of Request: August 1, 2024 Request No. DPS-823
Due Date: August 12, 2024 NG Request No. NG-998

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Andrew Timbrook

TO: National Grid

SUBJECT: Advanced Metering Infrastructure (AMI)

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

Regarding Electric AMI implementation:

1. Provide the actual number of AMI meters deployed, by fiscal year (FY), since implementation began.

2. Provide the projected number of AMI meters deployed, by fiscal year (FY), as part of the implementation plan.

3. Explain any delays or differences in the response to question 1 and question 2.

4. Provide the capital spending on electric AMI meter implementation by FY, since implementation began.

5. Provide the projected capital spending on electric AMI implementation by FY, as part of the implementation plan.

6. If, to date, actual electric AMI spending is less than budgeted, explain:

    a. If the Company spent the full electric capital budget included in rates as approved by the Order Adopted Terms of Joint Proposal, Establishing Rate Plans and Reporting Requirements, issued January 20, 2022 in Case 20-E-0380 (2022 Rate Order), cumulatively over the rate plan.

    b. If the answer to part (a) is yes, explain what capital projects or programs had the most significant amount of overspending to offset the underspending on electric AMI. Include the reasons for the overspending and what additional benefits customers received.

Regarding Gas AMI implementation:

7. Provide the actual number of AMI meters deployed, by fiscal year (FY), since implementation began.

8. Provide the projected number of AMI meters deployed, by fiscal year (FY), as part of the implementation plan.

9. Explain any delays or differences in the response to question 7 and question 8.

10. Provide the capital spending on gas AMI meter implementation by FY, since implementation began.

11. Provide the projected capital spending on gas AMI implementation by FY, as part of the implementation plan.

12. If, to date, actual gas AMI spending is less than budgeted, explain:

    a. If the Company spent the full gas capital budget included in rates as approved by the 2022 Rate Order, cumulatively over the rate plan.

    b. If the answer to part (a) is yes, explain what capital projects or programs had the most significant amount of overspending to offset the underspending on gas AMI. Include the reasons for the overspending and what additional benefits customers received.

Regarding AMI for electric and gas:

13. The Order Authorizing Implementation of AMI with Modifications, issued November 20, 2020 in Case 17-E-0238 (AMI Order), approved AMI and capped the recovery of total capital costs through the first six years of implementation to $475.2 million, or through March 2027. Provide:

    a. All AMI costs incurred to date compared to the projected AMI costs incurred to date in the original implementation plan.

    b. A current projection of total AMI costs through the March 2027 completion date, or the latest projected date of completion. Explain why costs are higher or lower than originally projected. If there is a delay in the project, explain why.

    c. The total amount of capital expenditures from project inception through the end of FY27 (including actual expenditures to date and forecast expenditures through FY27).

    d. The AMI Order allowed the Company to petition the Commission for costs above $475.2 million, provided the Company could demonstrate how these costs provided incremental customer benefits. Has the Company made such a petition, and, if not, does the Company plan to in the future?

14. The Order Adopted Terms of Joint Proposal, Establishing Rate Plans and Reporting Requirements, issued January 20, 2022 in Case 20-E-0380, established a downward only reconciliation of operations and maintenance costs associated with AMI with a recovery cap of $119.17 million.

    a. Provide O&M costs recovered through base rates to date for AMI implementation.

    b. Provide the projected O&M expenses to completely implement AMI. If that number is greater than $119.17 million, is the Company proposing to recover the incremental amount from ratepayers?

    c. The total amount of O&M expenses from project inception through the end of FY27 (including actual expenses to date and forecast expenses through FY27).

Response:

1. Please see the table, below, for the actual number of electric advanced metering infrastructure ("AMI") meters deployed during the AMI implementation phase.

Actual AMI Meters Deployed		
Fiscal Year	**Annual**	**Cumulative**
FY24	105,500	105,500
FY25	155,044	260,544

2. The Company's original AMI filing provided installation projections that aligned with the AMI program year (*i.e.*, July – June) based on the total electric meter and gas module installation assumptions (*i.e.*, endpoints) used in the AMI business case. As set forth in the table below, the projection of electric meter installations can be estimated by applying the percentage of electric endpoints of the total endpoints by program year, which is 72.09 percent.

	Total Endpoint Installation Assumptions (Electric and Gas)	**Installation of Electric Endpoints**
Program Year 1	400,000	288,040
Program Year 2	910,000	655,291
Program Year 3	888,000	639,449
Program Year 4	160,000	115,216

3. Actual electric meters deployed during fiscal year ("FY") 2023 and FY 2024 were less than planned as the Company addressed performance issues regarding meter connectivity and meter reading that were caused by new firmware associated with the electric meters and Field Area Network ("FAN") devices. The Company paused electric AMI meter deployment to conduct a root-cause analysis, which resulted in firmware revisions aimed at limiting the number of customers receiving estimated reads. Once the solutions were

deployed to new and existing units, the Company resumed electric meter deployment in accordance with the plan.

4. Please see the below table for the AMI program actual electric capital spent by FY since inception through FY 2024.

	Actuals ($M)				
NY AMI Program	FY21	FY22	FY23	FY24	Total
Electric Capex	$0.00	$0.35	$14.64	$72.41	$87.41
Electric COR	$0.00	$0.00	$0.01	$0.30	$0.31
Total Electric CAPEX & COR	**$0.00**	**$0.35**	**$14.65**	**$72.72**	**$87.72**

5. Please see the below table for the complete view of the AMI program actual electric capital spend along with the forecast spending for the duration of the six-year AMI program implementation.

	Actuals ($M)				Forecast ($M)				
NY AMI Program	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28(June)*	Total
Electric Capex	$0.00	$0.35	$14.64	$72.41	$114.77	$100.53	$24.55	$0.79	$328.05
Electric COR	$0.00	$0.00	$0.01	$0.30	$2.14	$2.18	$1.53	$0.00	$6.15
Total Electric CAPEX & COR	**$0.00**	**$0.35**	**$14.65**	**$72.72**	**$116.90**	**$102.71**	**$26.07**	**$0.79**	**$334.20**

6. a. The AMI program is currently projected to be within the approved cumulative program allowance. As part of the Company's original filing, incremental costs were included to cover post-deployment and run-the-business activity. Please see Exhibit__(RRP-11), Workpapers to Exhibit__(RRP-3), Schedule 40, Workpapers 4 and 6 for a breakdown of the incremental costs.

   b. Not applicable.

7. To date, the Company has not deployed AMI gas endpoints. The Company's petition for approval of the AMI gas modules remains pending before the Commission in Case 22-G-0679.

8. The Company's AMI original filing provided an installation projection based on total endpoints aligned with program year (*i.e.*, July – June). As set forth in the table below, the projection of gas meter installations can be estimated by applying the percentage of gas endpoints of the total endpoints by program year, which is 27.09 percent.

	Total Endpoint Installation Assumptions (Electric and Gas)	**Installation of Gas Endpoints**
Program Year 1	400,000	108,360
Program Year 2	910,000	246,519
Program Year 3	888,000	240,559
Program Year 4	160,000	43,344

9. As set forth in the Company's response to question 7, above, the petition for approval of AMI gas endpoints remains pending before the Commission. The Company has continued to work with Department of Public Service Staff through the required meter evaluation and testing process.

10. Please see the below table for the AMI actual gas capital spend by FY since inception through FY 2024.

	Actuals ($M)				
NY AMI Program	FY21	FY22	FY23	FY24	Total
Gas Capex	$0.00	$0.15	$1.62	$6.51	$8.28
Gas COR	$0.00	$0.00	$0.00	$0.00	$0.00
Total Gas CAPEX & COR	**$0.00**	**$0.15**	**$1.62**	**$6.51**	**$8.28**

11. Please see the below table for the complete view of the AMI program's actual gas capital spend through FY 2024 along with the programs forecasted spend for FY 2025 through FY 2028.

	Actuals ($M)				Forecast ($M)				
NY AMI Program	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28(June)*	Total
Gas Capex	$0.00	$0.15	$1.62	$6.51	$40.46	$22.72	$11.39	$2.18	$85.02
Gas COR	$0.00	$0.00	$0.00	$0.00	$1.99	$2.98	$2.98	$0.00	$7.94
Total Gas CAPEX & COR	**$0.00**	**$0.15**	**$1.62**	**$6.51**	**$42.44**	**$25.69**	**$14.36**	**$2.18**	**$92.96**

12. a. The AMI program is currently projected to be within the approved cumulative program allowance. As part of the Company's AMI implementation plan, incremental costs were included to cover post-deployment and run-the-business activity. Please see Exhibit__(RRP-11), Workpapers to Exhibit__(RRP-3), Schedule 40, Workpapers 4 and 6 for a breakdown of the incremental costs.

    b. Not applicable.

13. a. Please see the table, below, for the comparison of actual program spend and the forecasted approved business case. Cumulatively, the AMI program has spent $16.02 million. This is lower than the approved business case through June FY 2025. The variance in FY 2025 is primarily due to timing and will be normalized throughout the remainder of FY 2025.

	Actuals ($M)					
NY AMI Program Capex & COR	FY21	FY22	FY23	FY24	FY25(April- June)	Total
Electric Capex	$0.00	$0.35	$14.64	$72.41	$30.78	$118.19
Electric COR	$0.00	$0.00	$0.01	$0.30	$0.06	$0.37
Gas Capex	$0.00	$0.15	$1.62	$6.51	$0.97	$9.26
Gas COR	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
IT Capex	$0.00	$2.57	$15.09	$17.94	$2.99	$38.59
IT COR	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Program CAPEX & COR	**$0.00**	**$3.07**	**$31.36**	**$97.17**	**$34.80**	**$166.40**

	Original Business Case($M)					
	FY21	FY22	FY23	FY24	FY25(April- June)	Total
Electric Capex		$1.35	$7.42	$62.76	$28.69	$100.23
Electric COR		$0.00	$0.00	$1.20	$0.53	$1.73
Gas Capex		$0.50	$2.76	$17.73	$10.11	$31.10
Gas COR		$0.00	$0.00	$1.99	$0.50	$2.49
IT		$22.11	$16.65	$1.76	$1.73	$42.25
IT COR						$0.00
Total		**$23.97**	**$26.83**	**$85.43**	**$41.57**	**$177.80**
Variance against Business Case	**$0.00**	**-$20.90**	**$4.53**	**$11.74**	**-$11.39**	**-$16.02**

b. Please see the table, below for the comparison of the current forecasted program spend compared to the approved business case. The variance between the deployment years is due to the pace of the program ramp up and deployment. The program is still targeting to complete the six-year implementation (ending in 2027) within total approved capex allowance of $475.2 million.

	Current Program Projection								
	Actuals ($M)				Forecast ($M)				
NY AMI Program Capex & COR	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28(June)*	Total
Electric Capex	$0.00	$0.35	$14.64	$72.41	$114.77	$100.53	$24.55	$0.79	$328.05
Electric COR	$0.00	$0.00	$0.01	$0.30	$2.14	$2.18	$1.53	$0.00	$6.15
Gas Capex	$0.00	$0.15	$1.62	$6.51	$40.46	$22.72	$11.39	$2.18	$85.02
Gas COR	$0.00	$0.00	$0.00	$0.00	$1.99	$2.98	$2.98	$0.00	$7.94
IT Capex	$0.00	$2.57	$15.09	$17.94	$6.93	$3.38	$2.10	$0.00	$48.01
IT COR	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Program CAPEX & COR	**$0.00**	**$3.07**	**$31.36**	**$97.17**	**$166.27**	**$131.78**	**$42.54**	**$2.98**	**$475.17**
	Original Business Case($M)								
	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28(June)*	Total
Electric Capex		$1.35	$7.42	$62.76	$107.77	$108.61	$33.31		$321.23
Electric COR		$0.00	$0.00	$1.20	$2.13	$2.18	$0.63		$6.14
Gas Capex		$0.50	$2.76	$17.73	$29.57	$29.87	$9.99		$90.42
Gas COR		$0.00	$0.00	$1.99	$3.55	$3.62	$1.06		$10.21
IT		$22.11	$16.65	$1.76	$0.78	$3.60	$2.26		$47.17
Total		$23.97	$26.83	$85.43	$143.81	$147.88	$47.25	$0.00	$475.17
Variance against Business Case	$0.00	-$20.90	$4.53	$11.74	$22.46	-$16.10	-$4.71	$2.98	$0.00

c. Please see the table, below for the complete view of the program spend from inception of the six-year implementation period to end of implementation in FY 2028.

	Current Program Projection								
	Actuals ($M)				Forecast ($M)				
NY AMI Program Capex & COR	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28(June)*	Total
Electric Capex	$0.00	$0.35	$14.64	$72.41	$114.77	$100.53	$24.55	$0.79	$328.05
Electric COR	$0.00	$0.00	$0.01	$0.30	$2.14	$2.18	$1.53	$0.00	$6.15
Gas Capex	$0.00	$0.15	$1.62	$6.51	$40.46	$22.72	$11.39	$2.18	$85.02
Gas COR	$0.00	$0.00	$0.00	$0.00	$1.99	$2.98	$2.98	$0.00	$7.94
IT Capex	$0.00	$2.57	$15.09	$17.94	$6.93	$3.38	$2.10	$0.00	$48.01
IT COR	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Program CAPEX & COR	**$0.00**	**$3.07**	**$31.36**	**$97.17**	**$166.27**	**$131.78**	**$42.54**	**$2.98**	**$475.17**

d. As set forth in the direct testimony of the Customer Panel and the Electric Infrastructure and Operations Panel ("EIOP"), in response to the Commission's directive in the Order approving the 2020 NMPC Rate Case Joint Proposal, the Company has proposed $7.75 million of incremental investment in AMI storm-hardening battery packs, which were not included as part of the investments used to calculate the $475.2 million AMI capital cost cap approved in the AMI Order. In addition, the Company has identified some potential risks to the current forecast and capital cost cap related to delayed deployment of the AMI gas modules. However, the Company is actively working to remain within the total approved capital allowance and does not anticipate filing a petition to recover incremental costs. The Company is closely monitoring the spend on the AMI program and will work with Staff if these items or any other changes require the Company to file a petition to exceed the cap.

14. a. Please see the tables, below tables for the AMI program operation and maintenance ("O&M") costs recovered to date for AMI implementation.

	Actuals ($M)					
NY AMI Program- Downward Only O&M Tracker ($M)	FY21	FY22	FY23	FY24	FY25(April- June)	Total
Electric	$0.26	$7.70	$14.71	$15.03	$4.64	$42.34
Gas	$0.07	$2.91	$5.54	$5.33	$1.74	$15.59
Total	**$0.33**	**$10.62**	**$20.26**	**$20.35**	**$6.38**	**$57.94**

b. The Company does not currently plan to file a petition to recover costs above the allowance in the AMI Order. The Company is closely monitoring the spend on the AMI Program and will continue to work closely with Staff on any changes that may require a petition.

c. Please see the below table for the AMI program actual O&M spend through June FY 2025 along with the forecasted O&M spend through June of FY 2028.

	Actuals ($M)					Forecast($M)				
NY AMI Program- Downward Only O&M Tracker($M)	FY21	FY22	FY23	FY24	FY25(April- June)	FY25(July- March)	FY26	FY27	FY28(April to June)*	Total
Electric	$0.26	$7.70	$14.71	$15.03	$4.64	$13.53	$15.38	$12.47	$6.61	$90.33
Gas	$0.07	$2.91	$5.54	$5.33	$1.74	$3.72	$4.62	$3.75	$1.17	$28.85
Total	**$0.33**	**$10.62**	**$20.26**	**$20.35**	**$6.38**	**$17.24**	**$20.00**	**$16.21**	**$7.78**	**$119.17**

Name of Respondent:
Mike Mokey

Date of Reply:
August 12, 2024

Date of Request: August 2, 2024 Request No. DPS-836
Due Date: August 12, 2024 NG Request No. NG-1011

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Sara Orsino

TO: National Grid

SUBJECT: Full Time Equivalents (FTEs) - CMS - GRO - Workplan Increases

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

Referring to National Grid Gas Infrastructure and Operations Panel Exhibit__(GIOP-5), page 1, line item "CMS - GRO - Workplan Increases":

1. What does the acronym "GRO" stand for?

2. Provide the current number of FTEs for this specific line item.

    a. Provide the average number of overtime hours worked per week for the most recent two fiscal years (FY).

3. Provide a list of specific duties for this job title.

4. Explain in detail why each incremental FTE and each position in this line item is needed.

    a. Identify if it is for a new project or to handle increased workload.

    b. If for a new project, explain the new project and how the Company determined the number of FTEs proposed is appropriate.

    c. If incremental FTEs are needed to handle increased workload, provide five year historic workload volume for each Fiscal Year (FY) 2020 - FY24 and provide five year forecast workload volume for each FY25 - FY29. Give specific reasons why workload is expected to increase.

5. The response to DPS-560 states these FTEs would "ensure we hit all of our regulatory targets while improving the customer experience". Explain what regulatory targets the Company is referring to and whether it would be able to meet those targets without these

incremental FTEs.

6. Is the need for additional FTEs temporary or permanent? Explain why.

   a. If temporary, has the Company considered alternatives (i.e., contractors or temporary hires)?

7. Explain any risks associated with not receiving all proposed incremental FTEs.

Response:

1. "GRO" stands for "Gas Repair Order." It refers to the documentation the Company completes for any work that requires a future course of action or remediation.

2. Currently, there are no dedicated employees specifically assigned to address the backlog of GROs. The responsibility of working on GROs is currently integrated into the workload of Customer Meter Services ("CMS") representatives who complete various other work categories and trouble types.

   a. These employees are incremental and therefore there is no historical overtime associated with these positions. The Company also does not track overtime specifically related to the GRO work currently performed by CMS representatives.

3. The specific daily job duties include the following:

   - Pipe fitting
   - Pipe coating
   - Inspection of outside customer piping
   - Installing vent screens
   - Installing Vent strapping

4. The addition of each new employee will contribute to a focused effort on addressing GROs with the goal of reducing the variable GRO backlog to zero. GROs are received throughout the year at varying volumes and there are GROs with variable timelines that have accumulated in the backlog. While GROs are not new, this is a new Company initiative to expedite clearing the GRO backlog by addressing them more promptly rather than waiting for secondary visits to the premises.

   The calculation of 11 additional FTEs takes into account the estimated number of orders that can be completed per day, considering factors such as time spent on the job, travel time, unable task complete, and work type. Detailed forecasting and historical data can be found in Attachment 1. Based on these calculations, it was determined that an additional 11

FTEs are required to achieve a zero GRO backlog by the end of the Rate Year and Data Years.

5. CMS primarily focuses on regulatory programs such as Pick for Test Meter Changes, Emergency Response Times for leaks, Regulator Inspections, GRO remediation timeframes, Fixed Factor inspections, and Building of Public Assembly inspections. The Company is committed to continuing to meet the targets set for these programs.

   The Company aims to achieve several objectives with the addition of these incremental CMS FTEs. First, the Company aims to eliminate the backlog of GROs with variable timelines, ensuring that all tasks are addressed promptly. This will enable the Company to stay current with its workload and maintain efficient operations.

   Second, with these incremental FTEs, the Company will be able to create more staggered shifts while maintaining the same number of CMS representatives for normal coverage. This will allow the Company to offer night and weekend appointments, providing customers with greater flexibility and convenience for this type of work.

6. These FTEs would be required until the GRO backlog has been cleared to zero. Once the variable GRO backlog has been completely resolved and the Company can maintain current operations, it will no longer require these additional FTEs and they will be phased out through normal attrition. The purpose of hiring qualified CMS representatives is to ensure that the Company has the necessary expertise to effectively perform the work related to meter piping. The Company is unaware of a contractor that is currently qualified to complete these GROs.

7. If the Company does not receive these additional FTEs, variable GROs will continue to be addressed only if they can be bundled into the workplan. Currently, GROs are typically addressed when they coincide with other scheduled work to address specific issues. For instance, a GRO for updating an aging regulator vent terminus may have to wait until the next regulator inspection or meter change.

   The Company prefers to address these issues promptly for the benefit and safety of its customers. By obtaining the requested FTEs, the Company can proactively address these issues rather than waiting for them to coincide with other scheduled work. This approach allows the Company to provide more comprehensive and timely service to our customers.

Name of Respondent: Date of Reply:
Andrew Jordan August 12, 2024

Gas Repair Orders (GROS)	PRE GBE	POST GBE								
	COVID	BAU								
	FY21	FY22	FY23	FY24 TD	FY24 PYE	FY25 - Proposed WP	FY26	FY27	FY28	FY29
	Actuals	Actuals	Actuals	Actuals	Projected	Proposed	Incremental	Incremental	Incremental	Incremental
Completed Units	-	42509	45522	35776	37005	47968	14756	14756	14756	14756
FTE	-	62	67	52	54	11	11	11	11	11

In FY24 The Gas Repair received it's own order worktype so we can better track the accurate assuption for this specific task. It was previously lumped in with Fitting Work, skewing the job baselines.

Assumptions:	MOJ	Travel	UTC %	UTC Min	Working Days
FY21		11		11	189
FY22	76	10	12%	14	164
FY23	76	10	13%	14	163
FY24	76	10	7%	14	160
FY25	30	25	20%	14	191
FY26 (to mirror FY25)	30	25	20%	14	191
FY27 (to mirror FY25)	30	25	20%	14	191
FY28 (to mirror FY25)	30	25	20%	14	191

CMS Workplan assumptions are built year over year. They're adjusted based on actuals and are reviewed during the new years workplan build to create new basedlines and changes are made accordingly. This tells us how each tech is performing individual job types; including minutes spent on job, how long they're taking to travel to/from a job, and how many jobs are unable to complete for various reasons. We (CMS) also look through a techs productive time in a year, this includes, vacations, sick time, holidays, rest time and meetings/trainings.

FTE with Cost Estimate

FY/CY	Job Type Description	Total Productive Jobs	Total Visits (unprod + prod)	UTC Rate	UTC Volume	Total Prod MOJ	Prod Hours	UTC Hours	Travel Time	Total Hours	Total Mandays	FTE'S	FTEs Req w OT
FY22	GROs	42,509	48,306	12%	5,797	76	53,845	1,353	8,051	63,248	10,120	62	**49**
Total Hours/Jobs/FTE		**42,509**	**48,306**		**5,797**		**53,845**	**1,353**	**8,051**	**63,248**	**10,120**	**62**	**49**

Assumptions For Workplan FTE Calculations 5 days a week

UTC Min	Travel	OT	Workdays	Prod Hrs
14	10	0%	164	6.25

FTE with Cost Estimate

FY/CY	Job Type Description	Total Productive Jobs	Total Visits (unprod + prod)	UTC Rate	UTC Volume	Total Prod MOJ	Prod Hours	UTC Hours	Travel Time	Total Hours	Total Mandays	FTE'S	FTEs Req w OT
FY23	GROs	45,522	52,324	13%	6,802	76	57,661	1,587	8,721	67,969	10,875	67	**53**
Total Hours/Jobs/FTE		**45,522**	**52,324**		**6,802**		**57,661**	**1,587**	**8,721**	**67,969**	**10,875**	**67**	**53**

Assumptions For Workplan FTE Calculations 5 days a week

UTC Min	Travel	OT	Workdays	Prod Hrs
14	10	0%	163	6.25

FTE with Cost Estimate

FY/CY	Job Type Description	Total Productive Jobs	Total Visits (unprod + prod)	UTC Rate	UTC Volume	Total Prod MOJ	Prod Hours	UTC Hours	Travel Time	Total Hours	Total Mandays	FTE'S	FTEs Req w OT
FY24	GROs	35,776	38,469	7%	2,693	76	45,316	628	6,411	52,356	8,377	52	**42**
Total Hours/Jobs/FTE		**35,776**	**38,469**		**2,693**		**45,316**	**628**	**6,411**	**52,356**	**8,377**	**52**	**42**

Assumptions For Workplan FTE Calculations 5 days a week

UTC Min	Travel	OT	Workdays	Prod Hrs
14	10	0%	160	6.25

FTE with Cost Estimate

FY/CY	Job Type Description	Total Productive Jobs	Total Visits (unprod + prod)	UTC Rate	UTC Volume	Total Prod MOJ	Prod Hours	UTC Hours	Travel Time	Total Hours	Total Mandays	FTE'S	FTEs Req w OT
FY24 PYE	GROs	37,005	39,790	7%	2,785	76	46,873	650	6,632	54,155	8,665	54	**43**
Total Hours/Jobs/FTE		**37,005**	**39,790**		**2,785**		**46,873**	**650**	**6,632**	**54,155**	**8,665**	**54**	**43**

Assumptions For Workplan FTE Calculations 5 days a week

UTC Min	Travel	OT	Workdays	Prod Hrs
14	10	0%	160	6.25

FTE with Cost Estimate

FY/CY	Job Type Description	Total Productive Jobs	Total Visits (unprod + prod)	UTC Rate	UTC Volume	Total Prod MOJ	Prod Hours	UTC Hours	Travel Time	Total Hours	Total Mandays	FTE'S	FTEs Req w OT
FY25	GROs	14,756	18,445	20%	3,689	30	7,378	861	7,685	15,924	2,548	13	**11**
Total Hours/Jobs/FTE		**14,756**	**18,445**		**3,689**		**7,378**	**861**	**7,685**	**15,924**	**2,548**	**13**	**11**

Assumptions For Workplan FTE Calculations 5 days a week

UTC Min	Travel	OT	Workdays	Prod Hrs
14	25	0%	191	6.25

FTE with Cost Estimate

FY/CY	Job Type Description	Total Productive Jobs	Total Visits (unprod + prod)	UTC Rate	UTC Volume	Total Prod MOJ	Prod Hours	UTC Hours	Travel Time	Total Hours	Total Mandays	FTE'S	FTEs Req w OT
FY26	GROs	14,756	18,445	20%	3,689	30	7,378	861	7,685	15,924	2,548	13	**11**
Total Hours/Jobs/FTE		**14,756**	**18,445**		**3,689**		**7,378**	**861**	**7,685**	**15,924**	**2,548**	**13**	**11**

Assumptions For Workplan FTE Calculations 5 days a week

UTC Min	Travel	OT	Workdays	Prod Hrs
14	25	0%	191	6.25

FTE with Cost Estimate

FY/CY	Job Type Description	Total Productive Jobs	Total Visits (unprod + prod)	UTC Rate	UTC Volume	Total Prod MOJ	Prod Hours	UTC Hours	Travel Time	Total Hours	Total Mandays	FTE'S	FTEs Req w OT
FY27	GROs	14,756	18,445	20%	3,689	30	7,378	861	7,685	15,924	2,548	13	**11**
Total Hours/Jobs/FTE		**14,756**	**18,445**		**3,689**		**7,378**	**861**	**7,685**	**15,924**	**2,548**	**13**	**11**

Assumptions For Workplan FTE Calculations 5 days a week

UTC Min	Travel	OT	Workdays	Prod Hrs
14	25	0%	191	6.25

FTE with Cost Estimate

FY/CY	Job Type Description	Total Productive Jobs	Total Visits (unprod + prod)	UTC Rate	UTC Volume	Total Prod MOJ	Prod Hours	UTC Hours	Travel Time	Total Hours	Total Mandays	FTE'S	FTEs Req w OT
FY28	GROs	14,765	18,456	20%	3,691	30	7,383	861	7,690	15,934	2,549	13	**11**
Total Hours/Jobs/FTE		**14,765**	**18,456**		**3,691**		**7,383**	**861**	**7,690**	**15,934**	**2,549**	**13**	**11**

Assumptions For Workplan FTE Calculations 5 days a week

UTC Min	Travel	OT	Workdays	Prod Hrs
14	25	0%	191	6.25

FTE with Cost Estimate

FY/CY	Job Type Description	Total Productive Jobs	Total Visits (unprod + prod)	UTC Rate	UTC Volume	Total Prod MOJ	Prod Hours	UTC Hours	Travel Time	Total Hours	Total Mandays	FTE'S	FTEs Req w OT
FY29	GROs	14,765	18,456	20%	3,691	30	7,383	861	7,690	15,934	2,549	13	**11**
Total Hours/Jobs/FTE		**14,765**	**18,456**		**3,691**		**7,383**	**861**	**7,690**	**15,934**	**2,549**	**13**	**11**

Assumptions For Workplan FTE Calculations 5 days a week

UTC Min	Travel	OT	Workdays	Prod Hrs
14	25	0%	191	6.25

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
DPS-836 Attachment 1
Page 2 of 2

	Work Type	East	Central	Total
	FY26	12,109	2,647	14,756
	FY27	12,109	2,647	14,756
	FY28	12,109	2,647	14,756
GRO Backlog	FY29	12,109	2,647	14,756
Provided by Compliance		East	Central	Total
	Backlog	48,435	10,589	59,024

This is a Gas Repair Order backlog, we've split the backlog into a multi year program to evenly distribute to the allowable resources needed to complete this task.

Date of Request: August 2, 2024 Request No. DPS-843
Due Date: August 12, 2024 NG Request No. NG-1018

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Sara Orsino

TO: National Grid

SUBJECT: Full Time Equivalent (FTEs) - Pressure Regulation Engineering/CNG

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

Referring to National Grid Gas Infrastructure and Operations Panel Exhibit__(GIOP-5), page 2, line item "Pressure Regulation Engineering/CNG":

1. Provide the current number of FTEs for this specific line item.

2. Explain in detail why each incremental FTE and each position in this line item is needed.

    a. Identify if it is for a new project or to handle increased workload.

    b. If for a new project, explain the new project and how the Company determined the number of FTEs proposed is appropriate.

    c. If incremental FTEs are needed to handle increased workload, provide five year historic workload volume each Fiscal Year (FY) 2020 - FY24 and provide five year forecast workload volume for each FY25 - FY29.

3. Is the need for additional FTEs temporary or permanent? Explain why. Include the expected workload for each of these FTEs after the proposed CNG interconnection projects in Exhibit__(GIOP-1) are completed and operational.

    a. If temporary, has the Company considered alternatives (i.e., contractors or temporary hires)?

4. Explain any risks associated with not receiving all proposed incremental FTEs.

Response:

1. There are currently 22.5 FTE positions supporting Niagara Mohawk's Pressure Regulation Engineering/CNG organization. Six additional positions are needed as described in Attachment 1.

2. Please see Attachment 1.

3. Additional FTEs in the Pressure Regulation Engineering/CNG organization are permanent due to forecast incremental workloads and the need to deliver programs and projects promptly with a engineering expertise. The expected workload is not anticipated to change following the completion of the proposed CNG interconnection projects.

4. There are several risks associated with not receiving all the proposed incremental FTEs:

    - Compliance risks due to a lack of resources available to interpret proposed PHMSA DOT distribution rulemaking/code.

    - Compliance risks due to the inability to implement new program as it applies to distribution regulator stations per the PHMSA DOT distribution proposed rulemaking/code.

    - Government and community relations risks due to an inability to quantify and analyze risk at regulator stations promptly and cost effectively.

    - Public safety risks due to an inability to quantify and analyze risk at regulator stations promptly.

    - Government and community relations risks due to an inability to deliver on forecast project workload due to lack of engineering (process safety and design) expertise and resources.

Name of Respondent: Date of Reply:
Dennis Leyble August 12, 2024

Primary Programs driving Increased Workload by year	FY20 2019	FY21 2020	FY22 2021	FY23 2022	FY24 2023	FY25 2024	FY26 2025	FY27 2026	FY28 2027	FY29 2028
Transmission Station Integrity PHMSA	0	0	0	0	2	4	3	3	2	3
Take Station OPP	0	0	2	1	4	3	2	3	0	0

Position Requested	Need	
Eng Gas Asset Engineering	New Program	A single full time asset engineer is needed to interpret code, understand impacts, and deliver a 10-year capital plan as it applies to the proposed PHMSA DOT distribution rulemaking. This additional FTE was determined based on team's current complement required to manage and deliver existing similar programs.
Analyst Gas Asset Enging	New Program	A single data analyst is needed to support new software and data management programs that the engineering asset team is required to manage (asset inventory databases, risk assessment software and database). This additional FTE was determined based on team's current complement and capacity to deliver on critical engineering tasks.
Eng Gas Asset Enging	Increased Workload	Increased workload is primarily driven by PHMSA Transmission Station Integrity Program and Take Station Overpressure Protection Program. From 2019-2023 a total of 9 projects were completed in the two programs. From 2025-2029 a total of 23 projects are forecasted to be completed in the two programs.
Lead Eng Gas Asset Enging	Increased Workload	Increased workload is primarily driven by PHMSA Transmission Station Integrity Program and Take Station Overpressure Protection Program. From 2019-2023 a total of 9 projects were completed in the two programs. From 2025-2029 a total of 23 projects are forecasted to be completed in the two programs.
Snr Eng Gas Asset Enging	Increased Workload	Increased workload is primarily driven by PHMSA Transmission Station Integrity Program and Take Station Overpressure Protection Program. From 2019-2023 a total of 9 projects were completed in the two programs. From 2025-2029 a total of 23 projects are forecasted to be completed in the two programs.
Designer C	Increased Workload	Increased workload is primarily driven by PHMSA Transmission Station Integrity Program and Take Station Overpressure Protection Program. From 2019-2023 a total of 9 projects were completed in the two programs. From 2025-2029 a total of 23 projects are forecasted to be completed in the two programs.

Date of Request: August 2, 2024 Request No. DPS-844
Due Date: August 12, 2024 NG Request No. NG-1019

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Sara Orsino

TO: National Grid

SUBJECT: Full Time Equivalents (FTEs) - Project Management

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

Referring to National Grid Gas Infrastructure and Operations Panel Exhibit__(GIOP-5), page 2, line item "Project Management":

1. Provide the current number of FTEs for this specific line item.

2. Explain in detail why each incremental FTE and each position in this line item is needed.

    a. Identify if it is for a new project or to handle increased workload.

    b. If for a new project, explain the new project and how the Company determined the number of FTEs proposed is appropriate.

    c. If incremental FTEs are needed to handle increased workload, provide five year historic workload volume (or capital expenditure actuals) each Fiscal Year (FY) 2020 - FY24 and provide five year forecast workload volume (or capital expenditure budgets) for each FY25 - FY29. Demonstrate how the increased workload requires four additional FTEs.

3. Explain if the need for additional FTEs is temporary or permanent and why.

    a. If temporary, has the Company considered alternatives (i.e., contractors or temporary hires)?

4. Explain any risks associated with not receiving all proposed incremental FTEs.

5. Explain how efficiency improvements to gas operations made as a part of the proposed

Information Technology (IT) portfolio of projects impact the need for these additional FTEs. Include whether the number of proposed FTEs for this title were reduced as a result of the proposed IT projects.

Response:

1. There are currently eleven FTEs of varying levels within the Project Management team.

2. **Lead Project Manager** - This position is necessary to support the Company's Gas Complex Capital Construction Project Management team for the expanded portfolio detailed in Attachment 1 for FY25-FY29.

Senior Project Manager 1 - This position is necessary to support the Company's Gas Complex Capital Construction Project Management team for the expanded portfolio detailed in Attachment 1 for FY25-FY29.

Senior Project Manager 2 - This position is necessary to provide sufficient resources for the Company's Gas Complex Capital Construction Project Management team for the expanded portfolio detailed in Attachment 1 for FY25-FY29.

Project Manager - This position is necessary to provide sufficient resources for the Company's Gas Complex Capital Construction Project Management team for the expanded portfolio detailed in Attachment 1 for FY25-FY29.

a. As noted in the details for each position, all four FTEs are needed for increased workload related to increased capital spend to meet regulatory requirements. These projects require support from the Company's Gas Complex Capital Construction Project Management team.

b. Although a new program/type of project for alternating current corrosion mitigation is being added to the Company's Gas Complex Capital Construction Project Management portfolio, this was considered in the increased workload evaluation for FTEs as opposed to requesting an FTE specifically for this new program. This work will be incorporated into the workload of one of the incremental FTEs requested for the expanded workload, as the cost for this work was included in that justification per response 2c below.

c. The five-year historic complex capital actuals for FY20-FY24 and five-year forecast capital expenditure budgets for FY25-29 are shown in Attachment 1. An increase in the number of projects as well as the projects' complexities (additional CNG/RNG injection facilities, Article VII projects) and costs, requires incremental FTEs to develop, execute, and close out. The Company's complex gas portfolio shows an overall increase from FY24 ($84.008M) through FY29 ($325.735M). The Complex capital portfolio per fiscal year (not including CIAC payments) are anticipated as follows: $158.363M in FY25, $176.178M in FY26, $208.087M in FY27, $417.167M in FY28, and $325.735M in FY29. To maintain a reasonable

workload per FTE based on a combination of Project Manager average fiscal year portfolio cost, number of projects, and project complexity, the incremental FTEs are necessary. Ensuring appropriate headcount for the Project Management team will permit Project Managers to have sufficient time to execute the work, seek out and implement capital efficiencies, and minimize overall lifecycle on the complex projects, thus leading to lower customer costs.

3. The additional FTEs are intended to be permanent based on higher sustained workload through FY29 not anticipated to return to FY24 levels. Coverage of these positions via contractors or temporary hires does not permit for adequate knowledge transfer to occur nor does it maintain internal capabilities for the long run to manage the continued higher workload.

4. Without the addition of the four FTEs, capital projects that address safety, compliance, system reinforcement, and reliability would be at risk of not being completed on time due to understaffing. This would leave the assets at risk of being non-compliant with regulations, risk loss of existing customers, and risk the long-term safety of the assets. Cost overruns would result from inefficiencies using fewer FTEs, as projects would remain open for longer durations and attract additional costs.

5. The proposed IT projects had no impact on the need for additional FTEs, as this request is based on the expanded workload as reflected in the attachment and is independent of these IT projects.

Name of Respondent: Date of Reply:
Ryan Wood August 12, 2024

Niagara Mohawk Power Corporation d/b/a National Grid
Direct Capital Expenditures (CAPEX and COR) Complex Projects

				Corrections and Updates 6.27.2024			
Planning Portfolio	Classification	Investment Name	FY25 Forecast	FY26	FY27	FY28	FY29
Customer Conne	Mains & Svc	Gas System Reinforcement - LTUN20867 - Central Sq - State Hwy 49	$ 4,699,757	$ 500,000	$ 44,000	$ -	$ -
Customer Conne	Mains & Svc	Gas System Reinforcement - LTUN20902 - Alplaus - New GRS Riverview Rd	$ 203,923	$ 2,400,000	$ 10,800,000	$ 50,000	$ -
Customer Conne	Mains & Svc	Gas System Reinforcement - LTUN20903 - Clifton Park _ Old RT146	$ 617,061	$ 10,237,000	$ 1,230,000	$ -	$ -
Customer Conne	Mains & Svc	White Pine/Micron	$ 5,135,213	$ 46,036,000	$ 2,000,000	$ 500,000	$ -
Customer Conne	Mains & Svc	White Pine/Micron CIAC	$ (5,840,000)	$ (46,036,000)	$ (2,000,000)	$ (500,000)	$ -
Mandated	Mains & Svc	Corrosion - Alternating Current (AC) Corrosion Mitigation	$ 2,750,172	$ 11,409,075	$ 11,284,340	$ 14,302,922	$ 14,419,341
Mandated	Mains & Svc	CSC/Public Works - I-81	$ 2,044,500	$ 2,045,000	$ 2,045,000	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-51 - Cut Outs resulting from ILI results	$ 3,485,456	$ -	$ -	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-58 - Cut Outs resulting from ILI results	$ 2,087,842	$ -	$ -	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL 32 robotic ILI enable near CCC in Fulton - approx 713-feet	$ -	$ -	$ -	$ -	$ 100,000
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-16 - Taft Road Spur Partial Rel	$ 335,121	$ 140,000	$ 65,000	$ 15,000	$ 15,000
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-16 - Valve 1604 Replacement	$ 2,958	$ -	$ -	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-16 - Valve 1605 Replacement	$ 34,643	$ 25,000	$ -	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-35 - Therm City to Taunton	$ 1,798,591	$ 14,879,000	$ 180,000	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-35 - Valve 3505 Replacement	$ 2,357,444	$ 115,000	$ 50,000	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-36 Robotic ILI near Near Route 690 and WB Mason Warehouse Robotic ILI	$ -	$ -	$ -	$ 100,000	$ 100,000
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Besaw Road C082641	$ 40,497	$ -	$ -	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Chestnut to Watertown ILI (Salmon River)	$ 4,855,414	$ 200,000	$ 73,000	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Hall Road C082639	$ 286,019	$ 75,000	$ -	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Valve 3903 C082643	$ 155,786	$ 150,000	$ -	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Valve 3904 C082642	$ 63,212	$ 75,000	$ -	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Valve 3908 C082644	$ 2,583,545	$ 50,000	$ -	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Valve 3911 C082647	$ 2,292,981	$ 200,000	$ 38,000	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Valve 3912 and 3913 C082648	$ 1,595,810	$ 200,000	$ 75,000	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-39 - Valve 3914 C082650	$ 4,329,055	$ 550,000	$ 325,000	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-41A - ILI Taft Rd to Colimer Rd	$ 1,024,586	$ 8,819,000	$ 80,000	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-48 - I-81 to LeRay ILI	$ 10,860,547	$ 200,000	$ 100,000	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-49 - Rices Rd to I-81 ILI	$ 957,977	$ 75,000	$ -	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-49 - Valve 4901 Rplc	$ 29,733	$ -	$ -	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-49 - Valve at I-81 ILI C082652	$ 55,924	$ 15,000	$ 5,000	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-50	$ 1,115,311	$ 955,000	$ 3,347,000	$ 3,272,000	$ 500,000
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-55 - ILI Interconnect C082639	$ 245,729	$ -	$ -	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-55 - ILI HDD	$ 59,000	$ -	$ -	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-56 - Robotic ILI Enable from tie-in to PL 64 to Carthage GRS	$ -	$ -	$ -	$ -	$ 100,000
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-61 Robotic ILI needs stopple and communication port near tie-in to PL 15	$ -	$ -	$ -	$ -	$ 100,000
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-E12 - Hudson River Crossing - Reactive Transmission Prog	$ 12,311,180	$ 3,922,000	$ 80,000	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-E18 -ILI Enable Launcher and receiver Putnam Rd to Vley	$ 799,581	$ 1,616,000	$ 9,138,000	$ 600,000	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-E18 Pipeline ILI Enable (Mohawk River and I890 HDD)	$ 2,055,506	$ 2,000,000	$ 9,394,000	$ 500,000	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-E20 - Partial Replacement Project	$ 33,643	$ 25,000	$ -	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-E5 - ILI enable, 12-inch run approx. 20,000-ft	$ -	$ -	$ -	$ -	$ 250,000

Niagara Mohawk Power Corporation d/b/a National Grid
Direct Capital Expenditures (CAPEX and COR) Complex Projects

				Corrections and Updates 6.27.2024			
Planning Portfolio	Classification	Investment Name	FY25 Forecast	FY26	FY27	FY28	FY29
Mandated	Mains & Svc	Pipeline Integrity - IMP - PL-E8 - Robotic ILI enable 1850 ft described as shark fin	$ -	$ -	$ -	$ -	$ 250,000
Mandated	Mains & Svc	Pipeline Integrity - IVP - PL 32 Three Rivers Bridge plus Upstream and Downstream V	$ -	$ -	$ 250,000	$ 250,000	$ 1,000,000
Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Fyler Road Kirl	$ -	$ 250,000	$ 250,000	$ 500,000	$ 5,000,000
Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Orange Comm	$ 250,000	$ 500,000	$ 5,000,000	$ 61,453,226	$ 2,000,000
Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Union Street to Glenwood Ave, Oneida	$ 250,000	$ 250,000	$ 1,000,000	$ 4,578,760	$ 50,000
Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Valve 1607 to Northern Blvd	$ 500,000	$ 500,000	$ 1,000,000	$ 103,000,000	$ 100,044,011
Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections Valve 1603 to L	$ 1,129,400	$ 9,764,000	$ 133,000	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-36 - 16 Inch Replacement	$ 12,463,255	$ 598,000	$ 60,000	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-E18 - MAOP Reconfirmation	$ 1,999,646	$ 2,000,000	$ 30,000,000	$ 155,000,000	$ 148,356,026
Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-E18 - MAOP Reconfirmation - Capital portion of Pressure Testing	$ 100,000	$ -	$ 9,173,018	$ -	$ -
Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-E21 Kinderhook Creek Replacement approx 232-feet	$ -	$ -	$ -	$ 250,000	$ 250,000
Mandated	Mains & Svc	Pipeline Integrity - IVP - PL-E35 modify for ILI	$ -	$ -	$ -	$ -	$ 100,000
Mandated	Mains & Svc	Gas Reliability - RCV - LTUN12243 - Valve 1305 Near GRS 924-733	$ 104,578	$ -	$ -	$ -	$ -
Mandated	Mains & Svc	Gas Reliability - RCV - LTUN20986 - RCV--Shaker Rd	$ 330,200	$ -	$ -	$ -	$ -
Mandated	Mains & Svc	Replace Pipe on Bridges - MA&N Railroad Bridge Subsidence	$ 360,000	$ 900,000	$ 1,800,000	$ 680,000	$ -
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - 364 Walnut St (Burkle) GRS 824-211A/B	$ 129,966	$ -	$ 600,000	$ 3,000,000	$ 9,074,981
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Coffeen - GRS 824-345	$ -	$ -	$ -	$ 600,000	$ 2,000,000
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Cold Springs Rd - GRS 824-127	$ 23,000	$ -	$ -	$ -	$ -
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Collamer Rd GRS 824-170A/B	$ 247	$ 250,000	$ 450,000	$ 3,527,808	$ 85,000
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Dams Corners GRS 824-697	$ 1,436,208	$ 60,000	$ 75,000	$ -	$ -
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Harris Road GRS 824-406/407	$ 3,871,616	$ 200,000	$ 80,000	$ -	$ -
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Holcomb St GRS 824-306A/B/C	$ 304,490	$ 1,578,000	$ 11,205,000	$ 82,000	$ 45,000
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Lamphere - GRS 824-695	$ 73	$ 400,000	$ 600,000	$ 2,250,000	$ 4,528,985
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Leray -344	$ 127,760	$ -	$ 400,000	$ 2,250,000	$ 4,134,248
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Loughberry Lake GRS 924-736A/B	$ 366,579	$ 1,370,000	$ 5,579,000	$ 100,000	$ -
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - North Pole - GRS 824-340A/B	$ 128,450	$ 408,000	$ 2,566,000	$ 12,594,000	$ 359,000
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Old Campion Road GRS 824-688	$ 18,000	$ -	$ -	$ -	$ -
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Rattlesnake GRS 824-171-172	$ 39,128	$ 25,000	$ -	$ -	$ -
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Route 26 GRS 824-759	$ 2,891,423	$ 60,000	$ 75,000	$ -	$ -
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Route 3 / West Carthage GRS 824-352	$ 841,564	$ 5,824,000	$ 100,000	$ 50,000	$ -
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Shaker Road GRS 924-318	$ 7,920,527	$ 80,000	$ 15,000	$ -	$ -
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Taunton GRS 824-071A/B/C	$ 268,596	$ 800,000	$ 4,456,000	$ 80,000	$ -
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Washington & Fuller - GRS 924-313	$ 18,195	$ -	$ -	$ -	$ -
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA - Wheeler Rd (Chittenago) GRS 824-166	$ 257,150	$ 4,395,000	$ 83,000	$ -	$ -
Mandated	Meas. & Reg	Transmission Station Integrity - PHMSA/Over Pressure Protection - Burdeck St (PL-E8	$ 1,248,460	$ 6,058,000	$ 82,000	$ -	$ -
Reliability	Storage	CNG - Moreau Injection Site Upgrade	$ 24,575,682	$ 2,940,000	$ -	$ -	$ -
Reliability	Storage	CNG - LTUN21000 - Energy Transfer Site- CNG Site-2	$ 2,563,874	$ 8,000,000	$ 35,600,000	$ 2,015,000	$ -
Reliability	Mains & Svc	Gas Reliability - LTUN21012 - State Fair Blvd_ I-690	$ 194,941	$ 700,000	$ 4,462,000	$ 60,000	$ 75,000
Reliability	Mains & Svc	Gas Reliability - LTUN 21033-GRS Church St Saratoga Spring 45#_New main (FY30)	$ 100,000	$ -	$ 300,000	$ 500,000	$ 1,000,000
Reliability	Mains & Svc	Gas Reliability - LTUN12251 - East gate reliability project	$ 300,000	$ 750,000	$ 750,000	$ 1,000,000	$ 5,200,000
Reliability	Mains & Svc	Gas Reliability - LTUN12345 - Glenmont Kenwood Rd loss of GRS 340	$ 6,136,930	$ 80,000	$ 50,000	$ -	$ -

Niagara Mohawk Power Corporation d/b/a National Grid
Direct Capital Expenditures (CAPEX and COR) Complex Projects

				Corrections and Updates 6.27.2024			
Planning Portfolio	Classification	Investment Name	FY25 Forecast	FY26	FY27	FY28	FY29
Reliability	Mains & Svc	Gas Reliability - LTUN21013 - Loss of GRS in ROME	$ 413,995	$ 750,000	$ 3,434,510	$ 12,722,254	$ 123,250
Reliability	Mains & Svc	Gas Reliability - LTUN21022- GRS 924-340-B Normanskill (FY27)	$ 120,467	$ 600,000	$ 6,454,000	$ 75,000	$ 60,000
Reliability	Mains & Svc	Gas Reliability - LTUN-21032 - GRS Schenectady 32# _ New Main (FY29)	$ 99,640	$ -	$ 300,000	$ 500,000	$ 1,000,000
Reliability	Meas. & Reg	Heater Installation Program - Ballston Lake Heater Replacement GRS 924-419	$ -	$ -	$ -	$ -	$ 1,157,031
Reliability	Meas. & Reg	Heater Installation Program - Bethlehem Take Station Heater Replacement GRS 824-	$ -	$ -	$ 3,583,411	$ 5,618,690	$ -
Reliability	Meas. & Reg	Heater Installation Program - BMS Upgrades & Fuel Train Replacement	$ 204,000	$ 289,244	$ 295,029	$ 300,929	$ 306,948
Reliability	Meas. & Reg	Heater Installation Program - Boonville Take Station Heater Replacement GRS 824-30	$ -	$ -	$ -	$ 2,520,689	$ 3,909,158
Reliability	Meas. & Reg	Heater Installation Program - Collamer Road Heater Replacement GRS 824-170B	$ -	$ -	$ -	$ -	$ 1,626,348
Reliability	Meas. & Reg	Heater Installation Program - Queen Ann Heater Replacement - GRS 924-806	$ -	$ -	$ -	$ -	$ 1,896,056
Reliability	Meas. & Reg	Heater Installation Program - Rowland Street Heater Replacement GRS 924-707	$ 12,146	$ 1,157,031	$ 2,047,253	$ -	$ -
Reliability	Meas. & Reg	Heater Installation Program - Seneca Street Heater Replacement - GRS 924-437	$ -	$ -	$ -	$ 1,157,031	$ 2,188,242
Reliability	Meas. & Reg	Heater Installation Program - Vley Road Heater Replacement - GRS 924-445	$ 350	$ 1,157,031	$ 2,047,253	$ -	$ -
Reliability	Meas. & Reg	Proactive Regulator Stations - Hollywood Ave GRS 924-429	$ 80,000	$ -	$ -	$ -	$ -
Reliability	Meas. & Reg	Proactive Regulator Stations - Nelson Ave GRS 924-709	$ 69,013	$ 100,000	$ -	$ -	$ -
Reliability	Meas. & Reg	Proactive Regulator Stations - Shellstone GRS 924-815	$ -	$ -	$ -	$ -	$ -
Reliability	Meas. & Reg	Proactive Regulator Stations - W Linden St. GRS 824-641	$ 69,525	$ 10,000	$ -	$ -	$ -
Reliability	Meas. & Reg	Station Integrity - Burt St GRS 824-110	$ 133	$ 400,000	$ 600,000	$ 2,250,000	$ 9,134,354
Reliability	Meas. & Reg	Station Integrity - Delaware Ave GRS 924-402	$ 127,017	$ -	$ -	$ -	$ -
Reliability	Meas. & Reg	Station Integrity - Ellisburg GRS 824-308	$ 6,307,779	$ 350,000	$ 100,000	$ -	$ -
Reliability	Meas. & Reg	Station Integrity - Hall Road GRS 824-176	$ 303,615	$ 745,000	$ 2,250,000	$ 17,474,000	$ 200,000
Reliability	Meas. & Reg	Station Integrity - Hinmansville Retirement	$ -	$ -	$ -	$ -	$ 57,369
Reliability	Meas. & Reg	Station Integrity - Hudson GRS 924-606	$ -	$ 54,060	$ 135,304	$ 270,608	$ 487,094
Reliability	Meas. & Reg	Station Integrity - Kingdom Road GRS 824-213	$ -	$ -	$ 55,141	$ 138,010	$ 276,020
Reliability	Meas. & Reg	Station Integrity - Knowell Rd GRS 824-139	$ -	$ -	$ -	$ 56,244	$ 140,770
Reliability	Meas. & Reg	Station Integrity - Lakeland GRS 824-140	$ 52,500	$ 150,000	$ 300,000	$ 500,000	$ 3,975,863
Reliability	Meas. & Reg	Station Integrity - Sandy Creek GRS 824-216A, 216B	$ 37,883	$ -	$ -	$ -	$ -
Reliability	Meas. & Reg	Station Integrity - Taft Rd GRS 824-173	$ 320,828	$ 90,000	$ 20,000	$ -	$ -
Reliability	Meas. & Reg	Station Integrity - Tanner Road GRS 824-144	$ 240,140	$ 750,000	$ 5,763,923	$ 184,000	$ -
Reliability	Meas. & Reg	Station Integrity - Yorkville GRS 824-644	$ 1,250,287	$ 6,836,000	$ 175,000	$ -	$ -
Reliability	Meas. & Reg	Station Integrity- Shellstone GRS 924-815	$ 52,528	$ -	$ -	$ -	$ -
Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Biddlecum Rd GRS 824-230 (Inlet Replacem	$ 50,007	$ 171,000	$ 3,041,000	$ 82,000	$ -
Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Croghan GRS 824-354	$ 1,111,120	$ 577,000	$ 1,731,000	$ 82,000	$ -
Reliability	Meas. & Reg	Take Station - Over Pressure Protection - E Greenbush GRS 924-335	$ 26,164	$ -	$ -	$ -	$ -
Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Normanskill GRS 924-340	$ 626,722	$ 2,250,000	$ 9,058,000	$ 75,000	$ 60,000
Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Putnam GRS 924-450	$ 600,010	$ 25,500	$ -	$ -	$ -
Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Riverside GRS 924-351	$ 368,908	$ 1,132,000	$ 37,000	$ -	$ -
Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Therm City GRS 824-004	$ 894,703	$ 2,860,954	$ 81,600	$ -	$ -
Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Tully-Oak Hill GRS 824-164	$ 24,769	$ -	$ -	$ -	$ -
Reliability	Meas. & Reg	Take Station - Over Pressure Protection - Wolf Rd GRS 924-334	$ 2,345,162	$ 70,000	$ 30,000	$ -	$ -
Future of Heat	FOH	Future of Heat - Hydrogen Project 1 - HyGrid-Clay/Liverpool	$ -	$ -	$ -	$ -	$ -
		Total (not including CIAC payments)	**$ 158,363,067**	**$ 176,177,895**	**$ 208,086,782**	**$ 417,167,171**	**$ 325,735,095**
		Average Portfolio Cost Per Existing FTE	**$ 14,396,642.44**	**$ 16,016,172.29**	**$ 18,916,980.21**	**$ 37,924,288.28**	**$ 29,612,281.36**
		Average Portfolio Cost Per Existing and Incremental FTE	**$ 10,557,537.79**	**$ 11,745,193.01**	**$ 13,872,452.15**	**$ 27,811,144.74**	**$ 21,715,673.00**

Niagara Mohawk Power Corporation
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Cases 24-E-0322 & 24-G-0323
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Niagara Mohawk Power Corporation d/b/a National Grid
Direct Capital Expenditures (CAPEX and COR) Complex Projects

Investment Name	Actuals FY20	FY21	FY22	FY23	FY24
Customer Connections - Amazon - Kirkville, NY	$ -	$ (289,488)	$ 1,170,388	$ 100,284	$ -
Customer Connections - Amazon - Schodack, NY	$ 536,138	$ 1,457,173	$ 168,568	$ 9,999	$ -
Customer Connections - Amazon Shodack District Warehouse	$ -		$ 48,329	$ 634,975	$ (48,911)
Customer Connections - Global Foundries	$ 40,348	$ 2,573	$ (33)	$ -	
Customer Connections - Marcy NanoTech Center (MV Edge)	$ 10,542	$ (2,038)	$ 15,101	$ (231)	$ 379
Customer Connections - Marcy NanoTech Center (MV Edge) - CIAC	$ (123,160)		$ -		
Customer Connections - MV Hospital	$ (170,698)	$ (611,492)	$ 1,087,084	$ (8,187)	$ (2,123)
Customer Connections - White Pine/Micron	$ 58,596	$ 162,082	$ 145,227	$ 222,993	$ 512,946
Customer Connections - White Pine/Micron CIAC	$ -	$ -		$ (166,896)	
Gas System Reinforcement - LTUN12247 - Rexford-Rt 146-New Main and Regulator	$ 247,141	$ 2,255,599	$ 14,157,187	$ (394,774)	$ 329,376
Gas System Reinforcement - LTUN12350 - Altamont-St Rt146-New Main	$ 771,839	$ 531,268	$ 383,878	$ 10,194,352	$ 911,202
Gas System Reinforcement - LTUN12375 - Schenectady Uprate PL E36	$ 27,021	$ 120,474	$ 12,066	$ 30,297	$ -
Gas System Reinforcement - LTUN20620 - Pennellville-County Hwy 12-New Main	$ -	$ 77,958	$ 165,862	$ 3,007,829	$ 836,457
Gas System Reinforcement - LTUN20867 - Central Sq - State Hwy 49	$ -		$ -	$ 321,067	$ 373,287
Gas System Reinforcement - LTUN20902 - Alplaus - New GRS Riverview Rd	$ -		$ -	$ 24,763	$ 218,060
Gas System Reinforcement - LTUN20903 - Clifton Park _ Old RT146				$ 171,945	$ 213,963
Gas Reliability - RCV - LTUN12243 - Valve 1305 Near GRS 924-733	$ -		$ 136,533		$ 2,071,777
Pipeline Integirty - IMP - PL-32 - Expansion Joint Replacement	$ 20,882	$ 47,890	$ (584)	$ 228	$ -
Pipeline Integirty - IMP - PL-32 - Valve 3203 Fence Repl	$ -		$ 15,070		$ -
Pipeline Integrity - IMP - Integrity Management Program	$ 30,452	$ 62,462	$ -	$ 1,521	$ (118,545)
Pipeline Integrity - IMP - PL-51 - Cut Outs resulting from ILI results					$ 14,877
Pipeline Integrity - IMP - PL-58 - Cut Outs resulting from ILI results					$ 12,182
Pipeline Integrity - IMP - PL-11 - Sauquoit Creek NY Mills Washout	$ -	$ -	$ -	$ 1,348	$ 23,755
Pipeline Integrity - IMP - PL-15 - Drip and Corrosion Coupon Rem	$ (21,080)	$ (54)	$ -		
Pipeline Integrity - IMP - PL-15 - Valve 1504 (Morgan Road) Replacement	$ 10,525		$ -		
Pipeline Integrity - IMP - PL-15 - Valve 1506 (Greenway-Lowell Rd)	$ 10,438		$ -		
Pipeline Integrity - IMP - PL-16 - Taft Road Spur Partial Rel	$ -		$ 98,968	$ 358,682	$ 3,302,940
Pipeline Integrity - IMP - PL-16 - Valve 1601 Replacement	$ 227,872	$ 1,807,995	$ 16,192		
Pipeline Integrity - IMP - PL-16 - Valve 1602 Replacement (Seneca Tpk)	$ 1,145,559	$ 14,071	$ -		
Pipeline Integrity - IMP - PL-16 - Valve 1604 Replacement	$ -	$ 48,143	$ 358,364	$ 1,537,885	$ 59,192
Pipeline Integrity - IMP - PL-16 - Valve 1605 Replacement	$ -		$ -	$ 884,895	$ 1,614,815
Pipeline Integrity - IMP - PL-31 - Replacement at Jamesville Road by HDD	$ 16,323	$ 11,518	$ 12,848		
Pipeline Integrity - IMP - PL-31 - Replacement at Ravine, Segment 31-2, by HDD	$ 34,367	$ 10,214	$ 4,336		
Pipeline Integrity - IMP - PL-33 - Reactive Main Replacement - Mexico Repair				$ 168	$ 899
Pipeline Integrity - IMP - PL-35 - Therm City to Taunton	$ -		$ -	$ 122,510	$ 326,268
Pipeline Integrity - IMP - PL-35 - Therm City to Taunton Drips / Washouts	$ 3,703,005	$ 342,312	$ 6,110	$ 94,426	$ 2,534
Pipeline Integrity - IMP - PL-35 - Valve 3505 Replacement	$ -		$ 71,546	$ 84,258	$ 957,131
Pipeline Integrity - IMP - PL-39 - Besaw Road C082641	$ 33,284	$ 235,765	$ 1,878,602	$ 3,811,711	$ 139,432
Pipeline Integrity - IMP - PL-39 - Chestnut to Watertown ILI (Salmon River)	$ 114,645	$ 178,321	$ 64,459	$ 131,040	$ 630,645
Pipeline Integrity - IMP - PL-39 - Hall Road C082639	$ 92,338	$ 352,070	$ 185,625	$ 1,308,559	$ 6,675,349
Pipeline Integrity - IMP - PL-39 - Valve 3903 C082643	$ 56,160	$ 91,846	$ 93,245	$ 1,397,109	$ 5,505,964
Pipeline Integrity - IMP - PL-39 - Valve 3904 C082642	$ 36,744	$ 28,598	$ 81,374	$ 470,432	$ 1,693,737
Pipeline Integrity - IMP - PL-39 - Valve 3905 C082640	$ 34,977	$ 423,815	$ 1,502,355	$ 44,614	$ 7,056
Pipeline Integrity - IMP - PL-39 - Valve 3908 C082644	$ 32,120	$ 37,422	$ 90,727	$ 32,728	$ 420,517
Pipeline Integrity - IMP - PL-39 - Valve 3911 C082647	$ 11,243	$ 61,125	$ 89,101	$ 37,662	$ 333,106
Pipeline Integrity - IMP - PL-39 - Valve 3912 and 3913 C082648	$ 18,665	$ 21,742	$ 119,597	$ 112,477	$ 540,248
Pipeline Integrity - IMP - PL-39 - Valve 3914 C082650	$ 40,371	$ 29,898	$ 201,798	$ 146,320	$ 745,178
Pipeline Integrity - IMP - PL-41A - ILI Taft Rd to Colimer Rd	$ -		$ -	$ 187,604	$ 378,678
Pipeline Integrity - IMP - PL-43 - Holcomb Hybrid Launcher and Receiver	$ 72,641	$ 589,899	$ 3,290,537	$ 33,279	$ 3,261
Pipeline Integrity - IMP - PL-48 - I-81 to LeRay ILI	$ 233,442	$ 387,766	$ 827,081	$ 167,749	$ 850,962
Pipeline Integrity - IMP - PL-49 - Rices Rd to I-81 ILI	$ 164,906	$ 476,477	$ 308,074	$ 1,373,141	$ 9,051,367
Pipeline Integrity - IMP - PL-49 - Rices Road Valve Site (PL-49, PL-43, PL-39)	$ 117,937	$ 1,122,603	$ 3,239,633	93,583	$ 854
Pipeline Integrity - IMP - PL-49 - Valve 4901 Rplc	$ 5,777	$ 70,392	$ 436,023	$ 1,794,517	$ 18,118
Pipeline Integrity - IMP - PL-49 - Valve at I-81 ILI C082652	$ 3,370	$ 7,731	$ 6,356	$ 1,207	$ 151,251
Pipeline Integrity - IMP - PL-50	$ -		$ -		$ 200,428
Pipeline Integrity - IMP - PL-51 - ILI Kingdom RD GRS C079793	$ 543,991	$ 3,508,285	$ 75,535	$ (50,937)	$ 316
Pipeline Integrity - IMP - PL-51 - ILI Walnut & Burkle GRS	$ 164,865	$ 1,255,423	$ 45,456	$ 23,719	$ -
Pipeline Integrity - IMP - PL-52 - ILI Velasko RD GRS to Mcbride St GRS	$ 21,524	$ 775,763	$ 1,061,849	$ 355,605	$ 192,152
Pipeline Integrity - IMP - PL-55 - ILI Interconnect C082639	$ 144,122	$ 678,797	$ 2,662,605	$ 69,869	$ 309,875
Pipeline Integrity - IMP - PL-55 - ILI HDD	$ 788,486	$ 484,513	$ 1,586,053	7,774,667	$ 859,020
Pipeline Integrity - IMP - PL-55 - ILI Walnut Street GRS to Oswego Steam	$ 2,564,446	$ 905,662	$ (123,930)	(8,492)	$ -
Pipeline Integrity - IMP - PL-58 - ILI Hall Road C079791	$ 500,386	$ 2,239,814	$ 186,285	34,206	$ 329
Pipeline Integrity - IMP - PL-58 - ILI Independence Indeck	$ 447,042	$ 2,487,032	$ (12,237)	29,074	$ 68
Pipeline Integrity - IMP - PL-65 - Launcher and Receiver	$ 114,553	$ 677,649	$ 2,054,168	154,381	$ 3,203
Pipeline Integrity - IMP - PL-E12 - Hudson River Crossing - Reactive Transmission Program					$ 783,208
Pipeline Integrity - IMP - PL-E16 - Latham Ridge Rd Relocation	$ -		$ -	$ 15,748	$ 6,187
Pipeline Integrity - IMP - PL-E17 - Emergent Repair/Replace	$ 61,025		$ -		
Pipeline Integrity - IMP - PL-E18 -ILI Enable Launcher and receiver Putnam Rd to Vley Rd					$ 53,991

Pipeline Integrity - IMP - PL-E18 Pipeline ILI Enable (Mohawk River and I890 HDD)					$ 730,140.05
Pipeline Integrity - IMP - PL-E20 - King Fuel Main Relocation	$ 2,115,670		$ 2,095		
Pipeline Integrity - IMP - PL-E20 - Partial Replacement Project	$ -	$ 193,055	$ 1,882,057	9,756,895	$ 21,711
Pipeline Integrity - IMP - PL-E21 - Civil Washout Repair	$ 24,402	$ 223,707	$ 1,549		
Pipeline Integrity - IMP - PL-E36 - Launcher and Receiver	$ 39,574		$ -		
Pipeline Integrity - IMP - PL-E8 - Partial Replacement/ Relocation	$ 47,007	$ 249	$ 90,812	20,771	$ -
Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections Valve 1603 to Lakeport Rd	$ -		$ -	92,057	$ 104,087
Pipeline Integrity - IVP - PL-31 - Onondaga Creek HDD	$ 281,985	$ 52,479	$ 19,787	$ 237,794	$ 25,275
Pipeline Integrity - IVP - PL-31 - Replacement at Route 481 by HDD	$ 1,849,813	$ 4,738,701	$ (38,021)	28,242	$ -
PIpeline Integrity - IVP - PL-31 - Replacement at Route 81 by HDD	$ 74,641	$ 136,530	$ 737,848	3,619,759	$ 341,157
Pipeline Integrity - IVP - PL-34 - 8 Inch Replacement	$ 13,245,131	$ 696,310	$ 117,212	6,254	$ -
Pipeline Integrity - IVP - PL-36 - 16 Inch Replacement	$ -		$ 201,723	803,537	$ 597,683
Pipeline Integrity - IVP - PL-E13 - Stream Replacement	$ 20,968		$ -		
Pipeline Integrity - IVP - PL-E18 - MAOP Reconfirmation	$ -	$ 966	$ 1,957	$ 5,093	$ 3,269
Transmission Pipeline Washout - PL-35 Civil Repair	$ -		$ -	$ 1,702	
Transmission Station Integrity - PHMSA	$ -	$ 467,048	$ 627,515	$ 2,124,068	$ 9,230,074
Transmission Station Integrity - PHMSA - Brookview GRS 924-336	$ 1,682,981	$ 1,314,231	$ 552,525	$ 48,769	
Transmission Station Integrity - PHMSA - Chestnut St GRS 824-175,201	$ -	$ 751	$ -		
Transmission Station Integrity - PHMSA - Cold Springs Rd - GRS 824-127	$ 31,723	$ 913,814	$ 3,775,260		
Transmission Station Integrity - PHMSA - Elton Ave & Salina St GRS 824-043	$ (9,010)	$ 21,569	$ -	$ (0)	$ -
Transmission Station Integrity - PHMSA - Holcomb St GRS 824-306A/B/C	$ -		$ -		$ 10,186
Transmission Station Integrity - PHMSA - Old Campion Road GRS 824-688	$ 99	$ 75,054	$ 848,528	$ 4,170,637	
Transmission Station Integrity - PHMSA - Washington & Fuller - GRS 924-313	$ 42,273	$ 1,142,805	$ 3,587,497	$ 167,120	
Transmission Station Integrity - PHMSA/Over Pressure Protection - Burdeck St (PL-E8) GRS 924-401	$ 2,237,398	$ 1,977	$ 11,617	$ 1,028	
CNG - CNG Facility UNY	$ 563,921	$ 30,760	$ 1,163	$ 2,741	$ 58
CNG - LTUN21000 - Energy Transfer Site- CNG Site-2				$ 5,629	$ 328,156
CNG - Moreau Injection Site Upgrade	$ -		$ 2,115	$ 3,246,959	$ 4,829,236
Gas Reliability - LTUN10918 - Rotterdam-Duanesburg Rd	$ -		$ -	$ (34,048)	$ -
Gas Reliability - LTUN12251 - East gate reliability project	$ 1,170,492	$ 450,965	$ (4,501,363)		
Gas Reliability - LTUN12345 - Glenmont Kenwood Rd loss of GRS 340	$ -		$ -	$ 138,675	$ 1,403,240
Gas Reliability - LTUN13260 - Colonie Flow Control Wolf Gate	$ -		$ -		$ 59,785
Heater Installation Program - Holcomb Heater Replacement	$ -	$ 859,092	$ 1,859,427	37,856	
Heater Installation Program - Rowland Street Heater Replacement GRS 924-707	$ -		$ -	$ 79,213	$ 192,101
Heater Installation Program - Vley Road Heater Replacement - GRS 924-445	$ -		$ -	$ 78,537	$ 196,384
Main Upgrades - Water Intrusion - Temple St. - Gas Main Relocation	$ -	$ 17,812	$ 9,604	$ 55,804	$ -
Proactive Regulator Stations - 111th St. GRS 924-520	$ -		$ 5,687	$ 12,193	$ -
Proactive Regulator Stations - Floral Ave GRS 924-428	$ -		$ 199,990	$ 2,564,836	$ 124,538
Proactive Regulator Stations - Hollywood Ave GRS 924-429	$ -		$ 169,892	$ 965,142	$ 1,998,741
Proactive Regulator Stations - Nelson Ave GRS 924-709	$ -		$ 831	$ 1,041,832	$ 1,478,702
Proactive Regulator Stations - W Linden St. GRS 824-641	$ -		$ 19,879	$ 356,573	$ 1,969,225
Station Integrity	$ -		$ 56,905	$ 219	$ 26,594
Station Integrity - Alplaus - GRS 924-426	$ 42,737	$ 8,684	$ -		
Station Integrity - Delaware Ave GRS 924-402	$ -		$ 102,060	$ 1,071,554	$ 4,054,720
Station Integrity - Ellisburg GRS 824-308	$ -	$ 3,238	$ 156,415	$ 319,355	$ 1,472,586
Station Integrity - Hall Road GRS 824-176	$ 83,385	$ 3,961	$ (114,404)		$ 19,132
Station Integrity - Oneida Supply - GRS 824-709	$ 493,161	$ 2,498,624	$ 6,995	$ 1,200	$ 524
Station Integrity - Patrick Rd GRS 824-711				$ 120,360	$ 2,706
Station Integrity - Sandy Creek GRS 824-216A, 216B	$ 370	$ 171,678	$ 1,304,210	$ 5,617,875	$ 67,416
Station Integrity - Taft Rd GRS 824-173	$ -		$ -	$ 904,170	$ 3,880,872
Station Integrity - Tanner Road GRS 824-144	$ -		$ -		$ 73,963
Station Integrity - Washington Mills - GRS 824-643	$ 627,898	$ 3,267,118	$ 72,246	$ 279	$ -
Station Integrity - Yorkville GRS 824-644	$ -		$ 63,088	$ 164,384	$ 309,929
Station Integrity- Shellstone GRS 924-815			$ 251,101	$ 727,333	$ 4,389,285
Take Station - Over Pressure Protection - Biddlecum Rd GRS 824-230 (Inlet Replacement)				$ 421,004	$ 178,251
Take Station - Over Pressure Protection - Cazenovia				$ 9,374	$ 203,026
Take Station - Over Pressure Protection - Croghan GRS 824-354	$ -		$ -	$ 7,719	$ 268,181
Take Station - Over Pressure Protection - E Greenbush GRS 924-335	$ -		$ 7,388	$ 285,662	$ 974,642
Take Station - Over Pressure Protection - Normanskill GRS 924-340	$ -		$ 6,855	$ 103,264	$ 438,230
Take Station - Over Pressure Protection - Putnam GRS 924-450	$ -		$ -	$ 196,018	$ 74,991
Take Station - Over Pressure Protection - Riverside GRS 924-351	$ -		$ -	$ 2,055	$ 129,876
Take Station - Over Pressure Protection - Skaneateles				$ 57,885	$ 132,883
Take Station - Over Pressure Protection - Therm City GRS 824-004	$ -		$ -	$ 13,068	$ 44,730
Take Station - Over Pressure Protection - Troy GRS 924-330	$ -		$ 4,421	$ 97,724	$ 7,577
Take Station - Over Pressure Protection - Tully-Oak Hill GRS 824-164	$ -		$ 2,074	$ 147,050	$ 377,204
Take Station - Over Pressure Protection - Vickerman Hill GRS 824-757	$ 13,395	$ 58,417	$ 89,346	$ 875,428	$ 1,022,140
Take Station - Over Pressure Protection - Wolf Rd GRS 924-334	$ -		$ 12,439	$ 151,967	$ 972,506
Future of Heat - Geothermal UTENJA - Syracuse					$ 52,560
Future of Heat - Geothermal UTENJA - Troy					$ 22,827
Total (not including CIAC payments)	**$ 37,798,347**	**$ 40,526,667**	**$ 50,231,736**	**$ 77,873,423**	**$ 84,008,059**
				Average Portfolio Cost Per Existing FTE	**$ 7,637,096.30**

Date of Request: August 6, 2024 Request No. DPS-865
Due Date: August 16, 2024 NG Request No. NG-1064

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Sara Orsino

TO: National Grid

SUBJECT: Full Time Equivalents (FTEs) - Construction

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

Referring to National Grid Gas Infrastructure and Operations Panel Exhibit__(GIOP-5), page 1, line item "Construction":

1. Explain any risks associated with not receiving all proposed incremental FTEs.

2. The response to DPS-560 includes an acronym, "PRC", in the description of the job duties for the four construction FTEs.

    a. Define this acronym.

    b. Explain why the Company needs four FTEs to perform the task of tracking PRC numbers for the permitted work required by the Roadway Excavation Quality Assurance Act (REQAA).

    c. The REQAA became effective September 15, 2023. Have any of these four proposed FTEs been hired to date? If not, explain how the Company has been tracking PRC numbers for REQAA work without these incremental FTEs since September 15, 2023.

Response:

1. Under the recently enacted Roadway Excavation Quality Assurance Act (“REQAA”), utilities are responsible to generate/maintain/close Prevailing Rate Case (“PRC”) numbers for all permitted work performed by their contracted workforces. PRC numbers will be an item subject to audit by the New York State Department of Labor relative to

prevailing wage and certified payroll. Additionally, as a result of REQAA, there is an anticipated significant increase in the number of permits that will be needed to complete jobs that were previously performed under blanket permits or no permits at all.

The FTEs are required to generate/maintain/close PRC numbers for all permitted work performed by the Company's contracted workforce. Failure to provide funding for the required incremental FTEs subjects the Company to risks of noncompliance with REQAA regarding the accurate and timely creation, maintenance, tracking, and closeout of PRC numbers. Also, there is a risk of noncompliance during process audits conducted by the Department of Labor. Ensuring the availability of the proposed FTEs is crucial to mitigating these compliance risks and ensuring compliance with legal requirements.

2. a. The acronym PRC stands for Prevailing Rate Case. As defined by the Department of Labor "The PRC number is the Prevailing Rate Case number assigned to a public works project, covered private project, or any other project subject to prevailing wages pursuant to the Labor Law Article 8 and 9." The PRC number serves as a reference for projects subject to prevailing wages and helps ensure compliance with Department of Labor regulations.

b. The Company requires four full-time equivalents ("FTEs") to be placed in different regions. Specifically, two FTEs are needed in the Central or Syracuse area, while the other two are needed in the Eastern or Albany area. These FTEs will be responsible for handling end-to-end activities associated with the PRC number, ensuring efficient management and compliance with prevailing wage requirements.

c. As of now, none of the four proposed FTEs have been hired. The Company has been able to continue operations since the effective date of September 15, 2023 by initially completing construction projects that were permitted prior to that date. Only projects permitted after September 15, 2023, are required to adhere to prevailing wage regulations and obtain the associated PRC number.

While there have been some projects permitted after the effective date, the volume has been relatively low to date. The PRC-related activities for these projects have been managed by other groups within the Company, adding to their workload responsibilities that are not their primary focus. As the number of projects permitted after September 15, 2023, increases, these temporary resources will become overwhelmed, and the risks outlined in the response to question 1 will escalate.

Name of Respondent: Date of Reply:
Llewellyn Potter August 16, 2024

Date of Request: August 15, 2024 Request No. DPS-958
Due Date: August 26, 2024 NG Request No. NG-1209

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Andrew Timbrook

TO: National Grid

SUBJECT: Gas Capital Expenditures

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

On March 29, 2024, in Case 24-G-0183, the Company filed a petition for a special permit concerning pipeline 16 (PL-16).

1. Provide a list of all capital projects from Exhibit__(GIOP-3) that might be affected by this petition.

2. Were any capital project budgets from Exhibit__(GIOP-1) and Exhibit__(GIOP-3) forecasted using proposed activity from this petition? If so, explain which projects were forecasted.

3. Describe, for each project, the changes to scope, need, and cost if the Company's petition was approved as filed and the special permit was granted.

4. Would any additional capital projects be required if the special permit was granted? If so, provide a list of new projects, cost by fiscal year (FY), and project description.

5. Provide the additional operations and maintenance expense, if any, resulting from the permit being granted. Show a breakdown from FY25 through FY29, by FY.

Response:

1. Please see Attachment 1.

2. No, the special permit application in Case 24-G-0183 was not considered in the capital projects in Exhibit___(GIOP-1).

3. If the special permit application in Case 24-G-0183 is granted, the pipeline 16 (PL-16) capital projects included in Attachment 1 would be withdrawn.

4. No additional capital projects would be required on PL-16 if the special permit application in Case 24-G-0183 is granted.

5. Additional O&M expenses will be limited to External Corrosion Direct Assessment ("ECDA"). These costs have not been included in the rate filing as they will begin in FY30 if the special permit is approved. However, capital costs incurred for this project from inception to the Special Permit decision will be written off to expense if the capital project does not move forward. The value of these expenses to date is approximately $300,000; however, the project continues to be designed and permitted to allow for execution. As such, these costs will continue to increase as the project is developed. These costs are not included in the incremental O&M expenses contained in Exhibit ___ (GIOP-4CU).

Name of Respondent: Date of Reply:
Michael Kern August 26, 2024

Planning Portfolio	Investment Name	FY 26	FY 27	FY 28	FY 29
Mandated	Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Fyler Road Kirkville near trailer park	$ 250,000	$ 250,000	$ 500,000	$ 5,000,000
Mandated	Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Orange Commons	$ 500,000	$ 5,000,000	$ 61,453,226	$ 2,000,000
Mandated	Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Union Street to Glenwood Ave, Oneida	$ 250,000	$ 1,000,000	$ 4,578,760	$ 50,000
Mandated	Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Valve 1607 to Northern Blvd	$ 500,000	$ 1,000,000	$ 103,000,000	$ 100,044,011
Mandated	Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections Valve 1603 to Lakeport Road	$ 9,764,000	$ 133,000	$ -	$ -

Date of Request: August 15, 2024 Request No. DPS-963
Due Date: August 26, 2024 NG Request No. NG-1214

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: NYPSC - Brandon Ng

TO: National Grid

SUBJECT: Capex - Project Escalations

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

1. Referring to the Company responses to DPS-284 and Exhibit__(GIOP-1), for all Mandated and Reliability projects with total costs greater than $15 million from fiscal year 2025 through 2029 provide escalation calculation workpapers and escalation indices including but not limited to the following:

    - Pipeline Integrity - IMP - PL-35 - Therm City to Taunton
    - Pipeline Integrity - IMP - PL-E12 - Hudson River Crossing - Reactive Transmission Program
    - Pipeline Integrity - IMP - PL-E20 - Partial Replacement Project
    - Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Fyler Road Kirkville near trailer park
    - Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Orange Commons
    - Pipeline Integrity - IVP - PL-36 - 16 Inch Replacement
    - Transmission Station Integrity - PHMSA - North Pole - GRS 824-340A/B
    - CNG - Moreau Injection Site Upgrade
    - CNG - LTUN21000 - Energy Transfer Site- CNG Site-2
    - Gas Reliability - LTUN21013 - Loss of GRS in ROME
    - Station Integrity - Hall Road GRS 824-176

2. Provide all backups, links, or citations where the various Handy Whitman inflation factors were obtained for the above projects and the responses to DPS-811 and DPS-812.

Response:

1. The 11 projects calculate escalation costs based upon the estimating tool utilized at the time of estimate preparation and using the indices found in the Handy Whitman Index. For early-stage conceptual estimates, National Grid may use one of the following three available estimating tools: (1) Microsoft Access Gas Cost Book; (2) Power BI Gas Cost Book; or (3) SAGE Estimating.

    - For the Pipeline Integrity - IMP - PL-35 - Therm City to Taunton project, the Microsoft Access Gas Cost Book was utilized to calculate project and escalation costs. The Cost Book summarizes direct costs and then multiplies direct costs by an escalation factor based upon the proposed construction start year. The Cost Book software is coded to escalate direct project costs starting from Base Year 2017. National Grid uses industry accepted escalation best practices, maintains the escalation factors on an annual basis, and ensures the Cost Book Escalation factors are current. Attachment 1 shows the methodology National Grid uses to determine the escalation factors and the latest factors currently coded are in the Escalation tables of the Microsoft Access Gas Cost Book. The software has been updated since the rate case was filed and does not allow for accessing previous versions; therefore, the Company is unable to show the project specific Summary Totals page with the escalation cost totals. In addition, this project scope and cost were modified during detail design to account for scope increase.

    - For the Pipeline Integrity - IMP - PL-E12 - Hudson River Crossing - Reactive Transmission Program project, SAGE Estimating was utilized to calculate project and escalation costs. Attachment 2 shows the methodology used to determine the escalation percentage value, which was entered into SAGE Estimating to determine escalation costs.

    - For the Pipeline Integrity - IMP - PL-E20 - Partial Replacement Project, the SAGE Estimating Tool was utilized to calculate project costs. The project estimate backup documents showed a zero percent escalation costs for this Stage 4.4 project estimate. The submitted project cost estimate backup reflects costs in the same year of project construction start. The cost estimate at this stage in the project life cycle do not require escalation costs to be added because the remaining spending occurs within the same calendar year. Please be advised that this project has substantially completed field construction and the spending amount requested is based upon the Project Management's forecast amount at project completion.

    - For the Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Fyler Road Kirkville near trailer park project, SAGE Estimating was utilized to calculate project and escalation cost. Attachment 3 shows the methodology the Company used to determine the escalation percentage value, which was entered into SAGE Estimating to determine escalation costs.

    - For the Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections -

Orange Commons project, SAGE Estimating was utilized to calculate project and escalation costs. Attachment 4 shows the methodology the Company used to determine the escalation percentage value, which was entered into SAGE Estimating.

- For the Pipeline Integrity - IVP - PL-36 - 16 Inch Replacement, SAGE Estimating was utilized to calculate project and escalation cost. Attachment 5 shows the methodology the Company used to determine the escalation percentage value, which was entered into SAGE Estimating to determine escalation costs.

- For the Transmission Station Integrity - PHMSA - North Pole - GRS 824-340A/B project, Power BI Cost Book was utilized to calculate project and escalation costs. The tool calculates total project costs and then uses an escalation factor based upon the proposed project construction start date. The Tool's software is coded to escalate project costs starting from Year 2023. National Grid uses industry accepted escalation best practices, maintains the escalation factors on an annual basis, and ensures the Cost Book Escalation factors are current. Attachment 6 shows the methodology, in the excel tab named "North Pole GRS 824 340 AB," the Company used to determine escalation factors and the latest factors are currently coded in the Escalation tables of the Power BI Cost Book.

- For the CNG - Moreau Injection Site Upgrade project, SAGE Estimating was utilized to calculate project and escalation costs. Attachment 7 shows the methodology the Company used to determine escalation factors.

- For the CNG - LTUN21000 - Energy Transfer Site- CNG Site-2 project, SAGE Estimating Tool was utilized to calculate project and escalation cost. Attachment 8 shows the methodology the Company used to determine the escalation percentage value which was entered into SAGE Estimating to determine escalation costs.

- For the Gas Reliability - LTUN21013 - Loss of GRS in ROME project, Power BI Cost Book was utilized to calculate project and escalation cost. The tool calculates project cost and then uses escalation factors based upon the proposed project construction start date. The Tool's software is coded to escalate project costs starting from Year 2023. National Grid uses industry accepted escalation best practices, maintains the escalation factors on an annual basis, and ensures the Cost Book Escalation factors are current. Attachment 6 shows the methodology, in the excel tab named:" Loss of GRS Rome," the Company used to determine escalation factors and the latest factors currently coded is in the escalation tables of the Power BI Cost Book

- For the Station Integrity – Hall Road GRS 824-176 project, Power BI Cost Book and the Microsoft Access Cost Book were utilized to calculate project and escalation costs. The tool calculates project cost and then uses escalation factors to estimate cost at proposed future construction start date. The Power BI Cost Book and the Microsoft Access Cost Book software is coded to escalate project costs from Year 2023 and Year 2019, respectively. National Grid uses industry accepted escalation best practices, maintains the escalation factors on an annual basis, and ensures the Cost Book Escalation factors are current. Attachment 6, shows the methodology, in the excel tab

named “GRS 824 176 Hall Road,”, the Company used to determine escalation factors and the latest factors currently coded is in the Escalation tables of the Power BI Cost Book.

2. The Handy Whitman indices can be found in the individual project specific attachment worksheets. The individual worksheets contain escalation indices obtained from one or more of the following files Attachment 9, - Handy Whitman B1.xls file, Attachment-11, Handy Whitman G1.xls, Attachment 12, -Handy Whitman M.xls, and Attachment 10, Handy Whitman E1.xls file.

Name of Respondent: Date of Reply:
Paul Cama August 26, 2024

Microsoft Access Cost Book Methodology for Escalation Costs

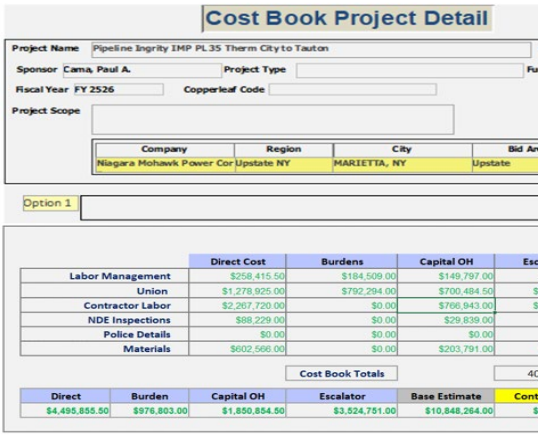
The following example demonstartes how Escalation Cost is added to a project scheduled to start in FY 2026

Cost Book Totals

1	Direct	4,495,856
2	Burden	976,803
3	Capital Overhead	1,850,855
	Sub Total	7,323,513
4	**Escalation Factor**	3,524,751
5	Base Estimate	10,848,264
6	Contingency	4,339,306
7	**Total**	15,187,570

Escalation Factor	
Year 2026	**0.784**

NOTE
Escation Factor of .784 is taken from Cell F40 of Power BI Cost Book Tab



1 2 3 4 5

ID	DNYContractorID	Escalator Value	Cumulative Escalator Value	FiscalYear	Status	CreationDate
1	13	0.00%	0.00%	FY 1516	Active	16-Jan-18
9	12	0.00%	0.00%	FY 1516	Active	16-Jan-18
17	1	0.00%	0.00%	FY 1516	Active	16-Jan-18
18	3	0.00%	0.00%	FY 1516	Active	16-Jan-18
19	14	0.00%	0.00%	FY 1516	Active	16-Jan-18
20	15	0.00%	0.00%	FY 1516	Active	16-Jan-18
21	2	0.00%	0.00%	FY 1516	Active	16-Jan-18
22	6	0.00%	0.00%	FY 1516	Active	16-Jan-18
23	8	0.00%	0.00%	FY 1516	Active	16-Jan-18
24	7	0.00%	0.00%	FY 1516	Active	16-Jan-18
25	10	0.00%	0.00%	FY 1516	Active	16-Jan-18
26	16	0.00%	0.00%	FY 1516	Active	16-Jan-18
27	4	0.00%	0.00%	FY 1516	Active	16-Jan-18
28	11	0.00%	0.00%	FY 1516	Active	16-Jan-18
29	9	0.00%	0.00%	FY 1516	Active	16-Jan-18
30	5	0.00%	0.00%	FY 1516	Active	16-Jan-18
31	17	0.00%	0.00%	FY 1516	Active	16-Jan-18
32	18	0.00%	0.00%	FY 1516	Active	16-Jan-18
33	19	0.00%	0.00%	FY 1516	Active	16-Jan-18
34	20	0.00%	0.00%	FY 1516	Active	16-Jan-18
2	13	0.00%	0.00%	FY 1617	Active	16-Jan-18
10	12	0.00%	0.00%	FY 1617	Active	16-Jan-18
35	1	0.00%	0.00%	FY 1617	Active	16-Jan-18
36	3	0.00%	0.00%	FY 1617	Active	16-Jan-18
37	14	0.00%	0.00%	FY 1617	Active	16-Jan-18
38	15	0.00%	0.00%	FY 1617	Active	16-Jan-18
39	2	0.00%	0.00%	FY 1617	Active	16-Jan-18
40	6	0.00%	0.00%	FY 1617	Active	16-Jan-18
41	8	0.00%	0.00%	FY 1617	Active	16-Jan-18
42	7	0.00%	0.00%	FY 1617	Active	16-Jan-18
43	10	0.00%	0.00%	FY 1617	Active	16-Jan-18
44	16	0.00%	0.00%	FY 1617	Active	16-Jan-18
45	4	0.00%	0.00%	FY 1617	Active	16-Jan-18
46	11	0.00%	0.00%	FY 1617	Active	16-Jan-18
47	9	0.00%	0.00%	FY 1617	Active	16-Jan-18
48	5	0.00%	0.00%	FY 1617	Active	16-Jan-18
49	17	0.00%	0.00%	FY 1617	Active	16-Jan-18
50	18	0.00%	0.00%	FY 1617	Active	16-Jan-18
51	19	0.00%	0.00%	FY 1617	Active	16-Jan-18
52	20	0.00%	0.00%	FY 1617	Active	16-Jan-18
3	13	0.00%	0.00%	FY 1718	Active	16-Jan-18
11	12	0.00%	0.00%	FY 1718	Active	16-Jan-18
54	1	0.00%	0.00%	FY 1718	Active	16-Jan-18
55	3	0.00%	0.00%	FY 1718	Active	16-Jan-18
56	14	0.00%	0.00%	FY 1718	Active	16-Jan-18
57	15	0.00%	0.00%	FY 1718	Active	16-Jan-18
58	2	0.00%	0.00%	FY 1718	Active	16-Jan-18
59	6	0.00%	0.00%	FY 1718	Active	16-Jan-18
60	8	0.00%	0.00%	FY 1718	Active	16-Jan-18
61	7	0.00%	0.00%	FY 1718	Active	16-Jan-18
62	10	0.00%	0.00%	FY 1718	Active	16-Jan-18
63	16	0.00%	0.00%	FY 1718	Active	16-Jan-18
64	4	0.00%	0.00%	FY 1718	Active	16-Jan-18
65	11	0.00%	0.00%	FY 1718	Active	16-Jan-18
66	9	0.00%	0.00%	FY 1718	Active	16-Jan-18
67	5	0.00%	0.00%	FY 1718	Active	16-Jan-18
68	17	0.00%	0.00%	FY 1718	Active	16-Jan-18
69	18	0.00%	0.00%	FY 1718	Active	16-Jan-18

70	19	0.00%	0.00%	FY 1718	Active	16-Jan-18
71	20	0.00%	0.00%	FY 1718	Active	16-Jan-18
4	13	0.00%	0.00%	FY 1819	Active	21-Feb-18
12	12	0.00%	0.00%	FY 1819	Active	21-Feb-18
72	1	0.00%	0.00%	FY 1819	Active	21-Feb-18
73	3	0.00%	0.00%	FY 1819	Active	21-Feb-18
74	14	0.00%	0.00%	FY 1819	Active	21-Feb-18
75	15	0.00%	0.00%	FY 1819	Active	21-Feb-18
76	2	0.00%	0.00%	FY 1819	Active	21-Feb-18
77	6	0.00%	0.00%	FY 1819	Active	21-Feb-18
78	8	0.00%	0.00%	FY 1819	Active	21-Feb-18
79	7	0.00%	0.00%	FY 1819	Active	21-Feb-18
80	10	0.00%	0.00%	FY 1819	Active	16-Jan-18
81	16	0.00%	0.00%	FY 1819	Active	21-Feb-18
82	4	0.00%	0.00%	FY 1819	Active	21-Feb-18
83	11	0.00%	0.00%	FY 1819	Active	21-Feb-18
84	9	0.00%	0.00%	FY 1819	Active	21-Feb-18
85	5	0.00%	0.00%	FY 1819	Active	21-Feb-18
86	17	0.00%	0.00%	FY 1819	Active	21-Feb-18
87	18	0.00%	0.00%	FY 1819	Active	21-Feb-18
88	19	0.00%	0.00%	FY 1819	Active	21-Feb-18
89	20	0.00%	0.00%	FY 1819	Active	21-Feb-18
5	13	2.40%	2.40%	FY 1920	Active	24-Jan-20
13	12	2.40%	2.40%	FY 1920	Active	24-Jan-20
90	1	2.40%	2.40%	FY 1920	Active	24-Jan-20
91	3	2.40%	2.40%	FY 1920	Active	24-Jan-20
92	14	2.40%	2.40%	FY 1920	Active	24-Jan-20
93	15	2.40%	2.40%	FY 1920	Active	24-Jan-20
94	2	2.40%	2.40%	FY 1920	Active	24-Jan-20
95	6	2.40%	2.40%	FY 1920	Active	24-Jan-20
96	8	2.40%	2.40%	FY 1920	Active	24-Jan-20
97	7	2.40%	2.40%	FY 1920	Active	24-Jan-20
98	10	2.40%	2.40%	FY 1920	Active	24-Jan-20
99	16	2.40%	2.40%	FY 1920	Active	24-Jan-20
100	4	2.40%	2.40%	FY 1920	Active	24-Jan-20
101	11	2.40%	2.40%	FY 1920	Active	24-Jan-20
102	9	2.40%	2.40%	FY 1920	Active	24-Jan-20
103	5	2.40%	2.40%	FY 1920	Active	24-Jan-20
104	17	2.40%	2.40%	FY 1920	Active	24-Jan-20
105	18	2.40%	2.40%	FY 1920	Active	24-Jan-20
106	19	2.40%	2.40%	FY 1920	Active	24-Jan-20
107	20	2.40%	2.40%	FY 1920	Active	24-Jan-20
6	13	2.45%	4.91%	FY 2021	Active	24-Jan-20
14	12	2.45%	4.91%	FY 2021	Active	24-Jan-20
109	1	2.45%	4.91%	FY 2021	Active	24-Jan-20
110	3	2.45%	4.91%	FY 2021	Active	24-Jan-20
111	14	2.45%	4.91%	FY 2021	Active	24-Jan-20
112	15	2.45%	4.91%	FY 2021	Active	24-Jan-20
113	2	2.45%	4.91%	FY 2021	Active	24-Jan-20
114	6	2.45%	4.91%	FY 2021	Active	24-Jan-20
115	8	2.45%	4.91%	FY 2021	Active	24-Jan-20
116	7	2.45%	4.91%	FY 2021	Active	24-Jan-20
117	10	2.45%	4.91%	FY 2021	Active	24-Jan-20
118	16	2.45%	4.91%	FY 2021	Active	24-Jan-20
119	4	2.45%	4.91%	FY 2021	Active	24-Jan-20
120	11	2.45%	4.91%	FY 2021	Active	24-Jan-20
121	9	2.45%	4.91%	FY 2021	Active	24-Jan-20
122	5	2.45%	4.91%	FY 2021	Active	24-Jan-20
123	17	2.45%	4.91%	FY 2021	Active	24-Jan-20

124	18	2.45%	4.91%	FY 2021	Active	24-Jan-20
125	19	2.45%	4.91%	FY 2021	Active	24-Jan-20
126	20	2.45%	4.91%	FY 2021	Active	24-Jan-20
7	13	2.30%	7.32%	FY 2122	Active	24-Jan-20
15	12	2.30%	7.32%	FY 2122	Active	24-Jan-20
127	1	2.30%	7.32%	FY 2122	Active	24-Jan-20
128	3	2.30%	7.32%	FY 2122	Active	24-Jan-20
129	14	2.30%	7.32%	FY 2122	Active	24-Jan-20
130	15	2.30%	7.32%	FY 2122	Active	24-Jan-20
131	2	2.30%	7.32%	FY 2122	Active	24-Jan-20
132	6	2.30%	7.32%	FY 2122	Active	24-Jan-20
133	8	2.30%	7.32%	FY 2122	Active	24-Jan-20
134	7	2.30%	7.32%	FY 2122	Active	24-Jan-20
135	10	2.30%	7.32%	FY 2122	Active	24-Jan-20
136	16	2.30%	7.32%	FY 2122	Active	24-Jan-20
137	4	2.30%	7.32%	FY 2122	Active	24-Jan-20
138	11	2.30%	7.32%	FY 2122	Active	24-Jan-20
139	9	2.30%	7.32%	FY 2122	Active	24-Jan-20
140	5	2.30%	7.32%	FY 2122	Active	24-Jan-20
141	17	2.30%	7.32%	FY 2122	Active	24-Jan-20
142	18	2.30%	7.32%	FY 2122	Active	24-Jan-20
143	19	2.30%	7.32%	FY 2122	Active	24-Jan-20
144	20	2.30%	7.32%	FY 2122	Active	24-Jan-20
8	13	2.00%	9.47%	FY 2223	Active	24-Jan-20
16	12	2.00%	9.47%	FY 2223	Active	24-Jan-20
145	1	2.00%	9.47%	FY 2223	Active	24-Jan-20
146	3	2.00%	9.47%	FY 2223	Active	24-Jan-20
147	14	2.00%	9.47%	FY 2223	Active	24-Jan-20
148	15	2.00%	9.47%	FY 2223	Active	24-Jan-20
149	2	2.00%	9.47%	FY 2223	Active	24-Jan-20
150	6	2.00%	9.47%	FY 2223	Active	24-Jan-20
151	8	2.00%	9.47%	FY 2223	Active	24-Jan-20
152	7	2.00%	9.47%	FY 2223	Active	24-Jan-20
153	10	2.00%	9.47%	FY 2223	Active	24-Jan-20
154	16	2.00%	9.47%	FY 2223	Active	24-Jan-20
155	4	2.00%	9.47%	FY 2223	Active	24-Jan-20
156	11	2.00%	9.47%	FY 2223	Active	24-Jan-20
157	9	2.00%	9.47%	FY 2223	Active	24-Jan-20
158	5	2.00%	9.47%	FY 2223	Active	24-Jan-20
159	17	2.00%	9.47%	FY 2223	Active	24-Jan-20
160	18	2.00%	9.47%	FY 2223	Active	24-Jan-20
161	19	2.00%	9.47%	FY 2223	Active	24-Jan-20
162	20	2.00%	9.47%	FY 2223	Active	24-Jan-20
165	20	2.00%	11.99%	FY 2324	Active	24-Jan-20
168	1	2.00%	11.99%	FY 2324	Active	24-Jan-20
170	2	2.00%	11.99%	FY 2324	Active	24-Jan-20
172	3	2.00%	11.99%	FY 2324	Active	24-Jan-20
174	4	2.00%	11.99%	FY 2324	Active	24-Jan-20
175	5	2.00%	11.99%	FY 2324	Active	24-Jan-20
176	6	2.00%	11.99%	FY 2324	Active	24-Jan-20
177	7	2.00%	11.99%	FY 2324	Active	24-Jan-20
178	8	2.00%	11.99%	FY 2324	Active	24-Jan-20
179	9	2.00%	11.99%	FY 2324	Active	24-Jan-20
180	10	2.00%	11.99%	FY 2324	Active	24-Jan-20
181	11	2.00%	11.99%	FY 2324	Active	24-Jan-20
182	12	2.00%	11.99%	FY 2324	Active	24-Jan-20
183	13	2.00%	11.99%	FY 2324	Active	24-Jan-20
184	14	2.00%	11.99%	FY 2324	Active	24-Jan-20
185	15	2.00%	11.99%	FY 2324	Active	24-Jan-20

186	16	2.00%	11.99%	FY 2324	Active	24-Jan-20
188	17	2.00%	11.99%	FY 2324	Active	24-Jan-20
190	18	2.00%	11.99%	FY 2324	Active	24-Jan-20
192	19	2.00%	11.99%	FY 2324	Active	24-Jan-20
166	20	2.00%	13.89%	FY 2425	Active	24-Jan-20
169	1	2.00%	13.89%	FY 2425	Active	24-Jan-20
171	2	2.00%	13.89%	FY 2425	Active	24-Jan-20
173	3	2.00%	13.89%	FY 2425	Active	24-Jan-20
187	16	2.00%	13.89%	FY 2425	Active	24-Jan-20
189	17	2.00%	13.89%	FY 2425	Active	24-Jan-20
191	18	2.00%	13.89%	FY 2425	Active	24-Jan-20
193	19	2.00%	13.89%	FY 2425	Active	24-Jan-20
195	15	2.00%	13.89%	FY 2425	Active	24-Jan-20
196	12	2.00%	13.89%	FY 2425	Active	24-Jan-20
197	13	2.00%	13.89%	FY 2425	Active	24-Jan-20
199	10	2.00%	13.89%	FY 2425	Active	24-Jan-20
200	11	2.00%	13.89%	FY 2425	Active	24-Jan-20
201	14	2.00%	13.89%	FY 2425	Active	24-Jan-20
202	4	2.00%	13.89%	FY 2425	Active	24-Jan-20
203	5	2.00%	13.89%	FY 2425	Active	24-Jan-20
204	6	2.00%	13.89%	FY 2425	Active	24-Jan-20
205	7	2.00%	13.89%	FY 2425	Active	24-Jan-20
206	8	2.00%	13.89%	FY 2425	Active	24-Jan-20
207	9	2.00%	13.89%	FY 2425	Active	24-Jan-20

Access Cost Book Year 2025
Chronology of Measurement & Regulation Inflation Index Numbers

Instructions for the Annual Update of Inflation and Escalation factors used in the US Gas Cost Book

Complex Estimating NYS has completed the annual update of US Gas Cost Book Inflation and Escalation Index Numbers. 6/17/2024

The annual Inflation and escalation factors are derived from the January Handy-Whitman Index, Table G-1 "Cost Trends of Gas Utility Utility Construction; North Atlantic Region", Line 30, "Meas. & Reg Stat Equipment."

The Year 2024 now reflects the actual index of 1277.

The Year 2025 has been updated with an estimated index of 1336, which represents an inflation factor of 0.046 compared to Year 2023.

This inflation factor was calculated by taking the average of the inflation factors over the last 10 years (2015 thru 2024), and subtracting out both the Highest inflation year and lowest inflation year in that time period.

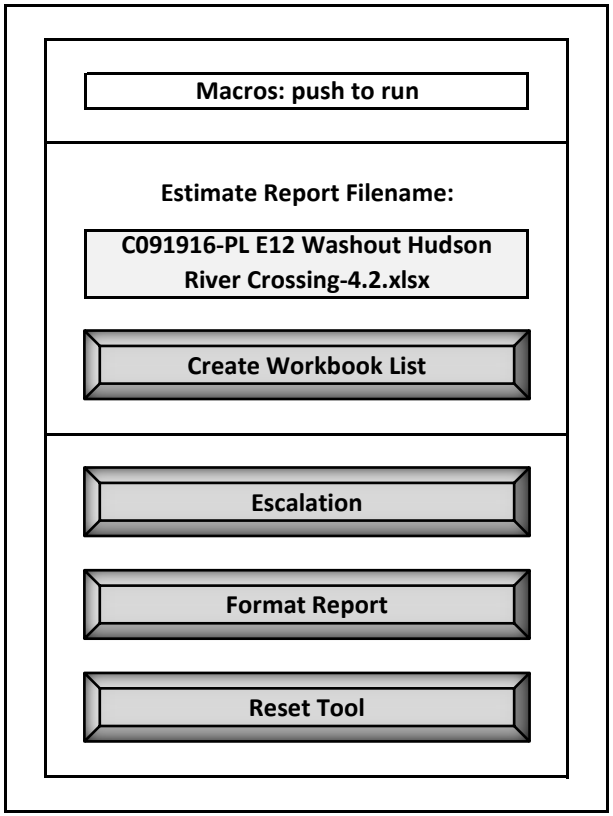
New escalation factors were then derived for the past 10 years based on the estimated 2024 Index

New Escalation factors were then derived for previous and future years using Year 2017 Price Index as the reference year. Cost book pricing is based upon Year 2017 pricing.

Table 1

	YEAR	PRICE INDEX	INFLATION FACTOR	ESCALATION FACTOR
	2010	623		
	2011	672	0.0787	
	2012	735	0.0938	
	2013	733	-0.0027	
	2014	754	0.0286	
1	2015	762	0.0106	
2	2016	742	-0.0262	
3	2017	783	0.0553	
4	2018	805	0.0281	0.028
5	2019	862	0.0708	0.101
6	2020	895	0.0383	0.143
7	2021	915	0.0223	0.169
8	2022	1117	0.2208	0.427
9	2023	1267	0.1343	0.618
10	2024	1277	0.0079	0.631
	2025	1336	0.0460	0.706
	2026	1397	0.0460	0.784
	2027	1461	0.0460	0.866
	2028	1529	0.0460	0.952
	2029	1599	0.0460	1.042
	2030	1673	0.0460	1.136

Version:		**9**
Last Updated:		Wednesday, October 9, 2019
Escalation:	1.)	Open Report tool (this file).
	2.)	Open any Excel version of a Sage Estimate Report.
	3.)	Return to this tool and navigate to the 'macros' sheet.
	4.)	Press the Create Workbook List macro button.
	5.)	Select the Estimate Report filename from the dropdown list above the button.
	6.)	Press the **Escalation** button.
	7.)	Wait for all calculations to be run.
	8.)	On the Project Summary page, manually input the correct values in the yellow cells.
	9.)	Carry over the Escalation Dollars and Escalation Percentage to Sage Estimate report, if needed.
	10.)	Save and close the Sage Estimate Report.
	11.)	Close Report tool (this file) **without** saving.


Macros: push to run
Estimate Report Filename:
C091916-PL E12 Washout Hudson River Crossing-4.2.xlsx
Create Workbook List
Escalation
Format Report
Reset Tool

Project Summary					
Project Name	**C091916-PL E12 Washout Hudson River Crossing-4.2**				
Utility	**Gas**	Project Number	**202212158132**	Estimate Number	
Project Type	**Gas Transmission**	Funding Project	**C091916**	Estimate Stage	**4.2**
Project Lead	**Herman, Seth**	Work Order	**90000234297**	Estimate Version	**1**
Estimator	**David Liers**	State	**NY**	Estimate Type	**Complex**
Company	**5210 - Niagara Mohawk Power Corp**	Fiscal year	**2025**	Last Updated	**3/13/2023**

Direct Costs	Calendar Year of Spend	CAPEX	OPEX	COR	Totals	Cost to Date
Labor - Craft	2024	112,327	-	-	112,327	
Labor - Management	2024	268,094	-	-	268,094	$ 11,000
Material - Stock	2024	57,033	-	-	57,033	
Material - Non-Stock	2024	1,141,507	-	-	1,141,507	
Subcontractor	2024	6,663,609	-	215,600	6,879,209	
Equipment	2024	10,572	-	-	10,572	
Other	2024	9,601	-	-	9,601	
	Sage Direct Cost	**8,262,743**	**-**	**215,600**	**8,478,343**	11,000

Overheads	Overhead %	CAPEX	OPEX	COR	Totals
Material Tax	7.87%	94,325	-	-	94,325
Stores Material Handling	16.00%	9,843	-	-	9,843
Overhead - Craft	49.80%	55,939	-	-	55,939
Overhead - Management	60.00%	160,856	-	-	160,856
COD	30.00%	2,572,016	-	-	2,572,016
A&G	2.90%	248,628	-	-	248,628
AFUDC	3.46%	385,721	-	-	385,721
Sage Total Cost		**11,790,072**	**-**	**215,600**	**12,005,672**

Escalation Percentage CY 2024
4.75%

Escalation Dollars		**562,983**	**-**	**7,438**	**570,421**
Totals Including Escalation		**12,353,055**	**-**	**223,038**	**12,576,093**

Contingency	30.00%	3,705,916	-	66,911	3,772,828
Estimate Total Base + Contingency		16,058,971	-	289,950	16,348,921

					Calculated Contingency Inc Contingency and Risk	
Risk Dollars P50 / EV				**-**	30%	
Risk Dollars P80 / SC				**-**	30%	

P50 Estimate Total	16,058,971	-	289,950	**16,348,921**
P80 Estimate Total	16,058,971	-	289,950	**16,348,921**

Escalation Calculator

Estimate Date: 3/13/2023 **Project Type:** Gas Transmission

Direct Cost Categories	Calendar Year of Spend	Estimated Spend	Cost to Date	Escalated Estimated Spend	Escalation Value	Escalation Percent
Labor - Craft	2024	$ 112,326.64	$ -	$ 116,201.91	$ 3,875.27	3.45%
Labor - Management	2024	$ 268,094.00	$ 11,000.00	$ 277,906.42	$ 9,812.42	3.66%
Material - Stock	2024	$ 57,033.10	$ -	$ 63,934.11	$ 6,901.01	12.10%
Material - Non-Stock	2024	$ 1,141,507.00	$ -	$ 1,279,629.35	$ 138,122.35	12.10%
Subcontractor	2024	$ 6,879,208.60	$ -	$ 7,116,541.30	$ 237,332.70	3.45%
Equipment	2024	$ 10,572.39	$ -	$ 11,059.78	$ 487.39	4.61%
Other	2024	$ 9,601.00	$ -	$ 9,932.23	$ 331.23	3.45%
Direct Total		$ 8,478,342.73	$ 11,000.00	$ 8,875,205.09	$ 396,862.36	4.68%

Escalated Direct Costs					
	Calendar Year of Spend	CAPEX	OPEX	COR	Total
Labor - Craft	2024	$ 116,202	$ -	$ -	$ 116,202
Labor - Management	2024	$ 277,906	$ -	$ -	$ 277,906
Material - Stock	2024	$ 63,934	$ -	$ -	$ 63,934
Material - Non-Stock	2024	$ 1,279,629	$ -	$ -	$ 1,279,629
Subcontractor	2024	$ 6,893,503	$ -	$ 223,038	$ 7,116,541
Equipment	2024	$ 11,060	$ -	$ -	$ 11,060
Other	2024	$ 9,932	$ -	$ -	$ 9,932

Escalated Indirect Costs					
	Calendar Year of Spend	CAPEX	OPEX	COR	Total
Material Tax	2024	$ 105,738	$ -	$ -	$ 105,738
Stores Material Handling	2024	$ 11,035	$ -	$ -	$ 11,035
Overhead - Craft	2024	$ 57,869	$ -	$ -	$ 57,869
Overhead - Management	2024	$ 166,744	$ -	$ -	$ 166,744
COD	2024	$ 2,694,860	$ -	$ -	$ 2,694,860
A&G	2024	$ 260,503	$ -	$ -	$ 260,503

AFUDC	2024	$ 404,139	$ -	$ -	$ 404,139

Total Estimate (Direct + Indirect Costs)				
	CAPEX	**OPEX**	**COR**	**Total**
Estimate Value (CY 2023)	$ 11,790,072	$ -	$ 215,600	**$ 12,005,672**
Estimate Value Including Escalation (CY 2024)	$ 12,353,055	$ -	$ 223,038	**$ 12,576,093**
Estimate Value Including Escalation (CY 2025)	$ 12,954,281	$ -	$ 230,733	**$ 13,185,014**
Estimate Value Including Escalation (CY 2026)	$ 13,597,340	$ -	$ 238,693	**$ 13,836,033**

Escalation Percentage CY 2024	**4.75%**

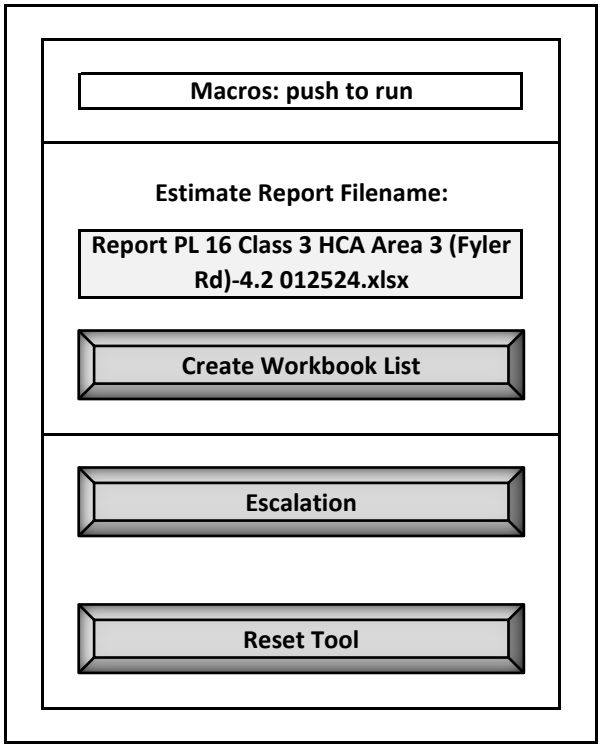
Bus Unit	Indirect Cost	Cost Index Current	Cost Index Forecast	Current Escalation	Escalation Percentage	Source	SageCostGroup	Last Update	EscalateYesNo
Electric	Craft Labor	705	778	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Craft	Jan-22	Yes
Electric	Distribution Materials - Stock	909	1088	0.0656	6.56%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 7-9, 11-19, 22-24)	Material - Stock	Jan-22	Yes
Electric	Transmission Materials - Stock	676	804	0.0631	6.31%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 8, 14-17, 19-21)	Material - Stock	Jan-22	Yes
Electric	Distribution Materials - Non-Stock	909	1088	0.0656	6.56%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 7-9, 11-19, 22-24)	Material - Non-Stock	Jan-22	Yes
Electric	Transmission Materials - Non-Stock	676	804	0.0631	6.31%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 8, 14-17, 19-21)	Material - Non-Stock	Jan-22	Yes
Electric	Equipment Rental	600	683	0.0461	4.61%	Handy Whitman: Construction Equipmt (M) 3-year average (Line 50)	Equipment	Jan-22	Yes
Electric	Craft Supervision	705	778	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Management	Jan-22	Yes
Electric	Engineering			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Electric	Project Management			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Electric	Vendor	811	951	0.0575	5.75%	Handy Whitman: Total Transmission Plant (Line 33)	Subcontractor	Jan-22	Yes
Electric	Other	811	951	0.0575	5.75%	Handy Whitman: Total Transmission Plant Line 33	Other	Jan-22	Yes
Gas	Craft Labor	778	804.841	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Craft	Jan-22	Yes
Gas	Distribution Materials - Stock	1307	1465.6698	0.1214	12.14%	Handy Whitman: Distribution Plant Mains Steel 3-year average (Line 44)	Material - Stock	Jan-22	Yes
Gas	Transmission Materials - Stock	952	1066.8112	0.1206	12.06%	Handy Whitman: Transmission Plant Mains 3-year average (Line 27)	Material - Stock	Jan-22	Yes
Gas	Distribution Materials - Non-Stock	1307	1465.6698	0.1214	12.14%	Handy Whitman: Distribution Plant Mains Steel 3-year average (Line 44)	Material - Non-Stock	Jan-22	Yes
Gas	Transmission Materials - Non-Stock	952	1066.8112	0.1206	12.06%	Handy Whitman: Transmission Plant Mains 3-year average (Line 27)	Material - Non-Stock	Jan-22	Yes
Gas	Equipment	683	714.4863	0.0461	4.61%	Handy Whitman: Construction Equipmt (M) 3-year average (Line 50)	Equipment	Jan-22	Yes
Gas	Craft Supervision	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Labor - Management	Jan-22	Yes
Gas	Engineering			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Gas	Project Management			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Gas	Vendor	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Subcontractor	Jan-22	Yes
Gas	Other	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Other	Jan-22	Yes

Year
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032

Escalation is based on the Jan 22 Handy Whitman Indices
Updated **7/18/2022**

Electric Revised **8/5/2022** Average Materials

Version:		**9**
Last Updated:		Wednesday, October 9, 2019
Escalation:	1.)	Open Report tool (this file).
	2.)	Open any Excel version of a Sage Estimate Report.
	3.)	Return to this tool and navigate to the 'macros' sheet.
	4.)	Press the Create Workbook List macro button.
	5.)	Select the Estimate Report filename from the dropdown list above the button.
	6.)	Press the **Escalation** button.
	7.)	Wait for all calculations to be run.
	8.)	On the Project Summary page, manually input the correct values in the yellow cells.
	9.)	Carry over the Escalation Dollars and Escalation Percentage to Sage Estimate report, if needed.
	10.)	Save and close the Sage Estimate Report.
	11.)	Close Report tool (this file) **without** saving.


Macros: push to run
Estimate Report Filename:
Report PL 16 Class 3 HCA Area 3 (Fyler Rd)-4.2 012524.xlsx
Create Workbook List
Escalation
Reset Tool

Project Summary					
Project Name	**PL 16 Class 3 HCA Area 3 (Fyler Rd)**				
Utility	**Gas**	Project Number	**202311098139**	Estimate Number	
Project Type	**Gas Transmission**	Funding Project	**TBD**	Estimate Stage	**4.2**
Project Lead	**Conklin, Kevin**	Work Order	**TBD**	Estimate Version	**1**
Estimator	**Sheridan, Peter**	State	**NY**	Estimate Type	**Complex**
Company	**5210 - Niagara Mohawk Power Corp**	Fiscal year	**2028**	Last Updated	**1/4/2024**

Direct Costs	Calendar Year of Spend	CAPEX	OPEX	COR	Totals	Cost to Date
Labor - Craft	2027	236,746	-	22,212	258,958	$ -
Labor - Management	2027	441,656	-	-	441,656	$ -
Material - Stock	2027	24,565	-	-	24,565	$ -
Material - Non-Stock	2027	3,500,864	-	-	3,500,864	$ -
Subcontractor	2027	19,074,427	-	10,400	19,084,827	$ -
Equipment	2027	44,589	-	3,797	48,385	$ -
Other	2027	65,000	-	-	65,000	$ -
	Sage Direct Cost	**23,387,847**	**-**	**36,409**	**23,424,256**	-

Overheads	Overhead %	CAPEX	OPEX	COR	Totals
Material Tax	7.87%	277,451	-	-	277,451
Stores Material Handling	16.00%	4,240	-	-	4,240
Overhead - Craft	49.05%	116,124	-	10,895	127,019
Overhead - Management	61.15%	270,073	-	-	270,073
COD	37.09%	8,898,529	-	-	8,898,529
A&G	3.25%	779,689	-	-	779,689
AFUDC	-	-	-	-	-
	Sage Total Cost	**33,733,952**	**-**	**47,304**	**33,781,256**

Escalation Percentage CY 2027
21.45%

Escalation Dollars		**7,239,350**	**-**	**7,072**	**7,246,422**
Totals Including Escalation		**40,973,303**	**-**	**54,376**	**41,027,678**

Contingency	30.00%	12,291,991	-	16,313	12,308,303
	Estimate Total Base + Contingency	53,265,293	-	70,688	53,335,982

					Calculated Contingency Inc Contingency and Risk	
Risk Dollars P50 / EV				**-**	30%	
Risk Dollars P80 / SC				**-**	30%	

P50 Estimate Total	53,265,293	-	70,688	**53,335,982**
P80 Estimate Total	53,265,293	-	70,688	**53,335,982**

Escalation Calculator

Estimate Date: 12/3/2023 **Project Type:** Gas Transmission

^^ **Manually changed date for escalation**

Direct Cost Categories	Calendar Year of Spend	Estimated Spend	Cost to Date	Escalated Estimated Spend	Escalation Value	Escalation Percent
Labor - Craft	2027	$ 258,958.17	$ -	$ 296,586.65	$ 37,628.48	14.53%
Labor - Management	2027	$ 441,656.32	$ -	$ 513,041.82	$ 71,385.50	16.16%
Material - Stock	2027	$ 24,565.04	$ -	$ 38,791.80	$ 14,226.76	57.91%
Material - Non-Stock	2027	$ 3,500,864.28	$ -	$ 5,528,377.93	$ 2,027,513.65	57.91%
Subcontractor	2027	$ 19,084,826.64	$ -	$ 21,857,988.81	$ 2,773,162.17	14.53%
Equipment	2027	$ 48,385.25	$ -	$ 57,943.64	$ 9,558.39	19.75%
Other	2027	$ 65,000.00	$ -	$ 74,444.97	$ 9,444.97	14.53%
Direct Total		$ 23,424,255.70	$ -	$ 28,367,175.63	$ 4,942,919.93	21.10%

Escalated Direct Costs

	Calendar Year of Spend	CAPEX	OPEX	COR	Total
Labor - Craft	2027	$ 271,147	$ -	$ 25,440	$ 296,587
Labor - Management	2027	$ 513,042	$ -	$ -	$ 513,042
Material - Stock	2027	$ 38,792	$ -	$ -	$ 38,792
Material - Non-Stock	2027	$ 5,528,378	$ -	$ -	$ 5,528,378
Subcontractor	2027	$ 21,846,078	$ -	$ 11,911	$ 21,857,989
Equipment	2027	$ 53,397	$ -	$ 4,547	$ 57,944
Other	2027	$ 74,445	$ -	$ -	$ 74,445

Escalated Indirect Costs

	Calendar Year of Spend	CAPEX	OPEX	COR	Total
Material Tax	2027	$ 438,136	$ -	$ -	$ 438,136
Stores Material Handling	2027	$ 6,695	$ -	$ -	$ 6,695
Overhead - Craft	2027	$ 132,998	$ -	$ 12,478	$ 145,476
Overhead - Management	2027	$ 313,725	$ -	$ -	$ 313,725
COD	2027	$ 10,809,355	$ -	$ -	$ 10,809,355
A&G	2027	$ 947,115	$ -	$ -	$ 947,115

AFUDC	2027	$ -	$ -	$ -	$ -

Total Estimate (Direct + Indirect Costs)				
	CAPEX	OPEX	COR	Total
Estimate Value (CY 2023)	$ 33,733,952	$ -	$ 47,304	**$ 33,781,256**
Estimate Value Including Escalation (CY 2027)	$ 40,973,303	$ -	$ 54,376	**$ 41,027,678**
Estimate Value Including Escalation (CY 2028)	$ 43,121,834	$ -	$ 56,304	**$ 43,178,139**
Estimate Value Including Escalation (CY 2029)	$ 45,433,002	$ -	$ 58,302	**$ 45,491,304**

Escalation Percentage CY 2027	**21.45%**

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
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Bus Unit	Indirect Cost	Cost Index Current	Cost Index Forecast	Current Escalation	Escalation Percentage	Source	SageCostGroup	Last Update	EscalateYesNo
Electric	Craft Labor	705	778	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Craft	Jan-22	Yes
Electric	Distribution Materials - Stock	909	1088	0.0656	6.56%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 7-9, 11-19, 22-24)	Material - Stock	Jan-22	Yes
Electric	Transmission Materials - Stock	676	804	0.0631	6.31%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 8, 14-17, 19-21)	Material - Stock	Jan-22	Yes
Electric	Distribution Materials - Non-Stock	909	1088	0.0656	6.56%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 7-9, 11-19, 22-24)	Material - Non-Stock	Jan-22	Yes
Electric	Transmission Materials - Non-Stock	676	804	0.0631	6.31%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 8, 14-17, 19-21)	Material - Non-Stock	Jan-22	Yes
Electric	Equipment Rental	600	683	0.0461	4.61%	Handy Whitman: Construction Equipmt (M) 3-year average (Line 50)	Equipment	Jan-22	Yes
Electric	Craft Supervision	705	778	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Management	Jan-22	Yes
Electric	Engineering			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Electric	Project Management			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Electric	Vendor	811	951	0.0575	5.75%	Handy Whitman: Total Transmission Plant (Line 33)	Subcontractor	Jan-22	Yes
Electric	Other	811	951	0.0575	5.75%	Handy Whitman: Total Transmission Plant Line 33	Other	Jan-22	Yes
Gas	Craft Labor	778	804.841	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Craft	Jan-22	Yes
Gas	Distribution Materials - Stock	1307	1465.6698	0.1214	12.14%	Handy Whitman: Distribution Plant Mains Steel 3-year average (Line 44)	Material - Stock	Jan-22	Yes
Gas	Transmission Materials - Stock	952	1066.8112	0.1206	12.06%	Handy Whitman: Transmission Plant Mains 3-year average (Line 27)	Material - Stock	Jan-22	Yes
Gas	Distribution Materials - Non-Stock	1307	1465.6698	0.1214	12.14%	Handy Whitman: Distribution Plant Mains Steel 3-year average (Line 44)	Material - Non-Stock	Jan-22	Yes
Gas	Transmission Materials - Non-Stock	952	1066.8112	0.1206	12.06%	Handy Whitman: Transmission Plant Mains 3-year average (Line 27)	Material - Non-Stock	Jan-22	Yes
Gas	Equipment	683	714.4863	0.0461	4.61%	Handy Whitman: Construction Equipmt (M) 3-year average (Line 50)	Equipment	Jan-22	Yes
Gas	Craft Supervision	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Labor - Management	Jan-22	Yes
Gas	Engineering			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Gas	Project Management			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Gas	Vendor	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Subcontractor	Jan-22	Yes
Gas	Other	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Other	Jan-22	Yes

Year
2024
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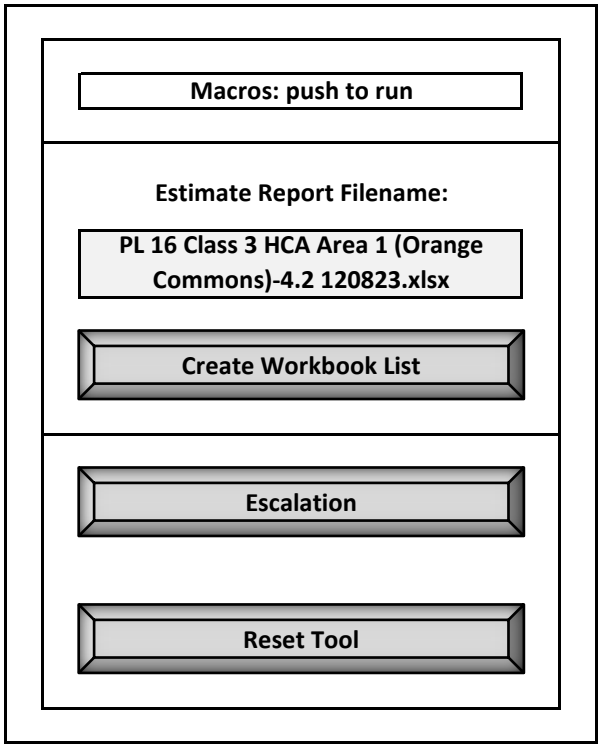
2033

Escalation is based on the Jan 22 Handy Whitman Indices
Updated **7/18/2022**

Electric Revised **8/5/2022** Average Materials

Version:		**9**
Last Updated:		Wednesday, October 9, 2019
Escalation:	1.)	Open Report tool (this file).
	2.)	Open any Excel version of a Sage Estimate Report.
	3.)	Return to this tool and navigate to the 'macros' sheet.
	4.)	Press the Create Workbook List macro button.
	5.)	Select the Estimate Report filename from the dropdown list above the button.
	6.)	Press the **Escalation** button.
	7.)	Wait for all calculations to be run.
	8.)	On the Project Summary page, manually input the correct values in the yellow cells.
	9.)	Carry over the Escalation Dollars and Escalation Percentage to Sage Estimate report, if needed.
	10.)	Save and close the Sage Estimate Report.
	11.)	Close Report tool (this file) **without** saving.


Macros: push to run
Estimate Report Filename:
PL 16 Class 3 HCA Area 1 (Orange Commons)-4.2 120823.xlsx
Create Workbook List
Escalation
Reset Tool

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
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Project Summary					
Project Name	**PL 16 Class 3 HCA Area 1 (Orange Commons)-4.2 - Copy**				
Utility	**Gas**	Project Number	**202311098139**	Estimate Number	
Project Type	**Gas Transmission**	Funding Project	**CXXXXXX**	Estimate Stage	**4.2**
Project Lead	**Conklin, Kevin**	Work Order	**TBD**	Estimate Version	**1**
Estimator	**Sheridan, Peter**	State	**NY**	Estimate Type	**Complex**
Company	**5210 - Niagara Mohawk Power Corp**	Fiscal year	**2028**	Last Updated	**12/8/2023**

Direct Costs	Calendar Year of Spend	CAPEX	OPEX	COR	Totals	Cost to Date
Labor - Craft	2027	258,958	-	-	258,958	
Labor - Management	2027	460,687	-	-	460,687	
Material - Stock	2027	24,565	-	-	24,565	
Material - Non-Stock	2027	5,561,137	-	-	5,561,137	
Subcontractor	2027	22,293,557	-	10,400	22,303,957	
Equipment	2027	48,385	-	-	48,385	
Other	2027	65,000	-	-	65,000	
	Sage Direct Cost	**28,712,290**	**-**	**10,400**	**28,722,690**	-

Overheads	Overhead %	CAPEX	OPEX	COR	Totals
Material Tax	7.87%	439,595	-	-	439,595
Stores Material Handling	16.00%	4,240	-	-	4,240
Overhead - Craft	49.05%	127,019	-	-	127,019
Overhead - Management	61.15%	281,710	-	-	281,710
COD	37.09%	10,941,971	-	-	10,941,971
A&G	3.25%	958,735	-	-	958,735
AFUDC	-	-	-	-	-
	Sage Total Cost	**41,465,560**	**-**	**10,400**	**41,475,960**

Escalation Percentage CY 2027
23.43%

Escalation Dollars		**9,716,925**	**-**	**1,511**	**9,718,436**
Totals Including Escalation		**51,182,485**	**-**	**11,911**	**51,194,396**

Contingency	30.00%	15,354,745	-	3,573	15,358,319
Estimate Total Base + Contingency		66,537,230	-	15,485	66,552,715

					Calculated Contingency Inc Contingency and Risk	
Risk Dollars P50 / EV				-	30%	
Risk Dollars P80 / SC				-	30%	

P50 Estimate Total	66,537,230	-	15,485	**66,552,715**
P80 Estimate Total	66,537,230	-	15,485	**66,552,715**

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
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Escalation Calculator

Estimate Date: 12/8/2023 **Project Type:** Gas Transmission

Direct Cost Categories	Calendar Year of Spend	Estimated Spend	Cost to Date	Escalated Estimated Spend	Escalation Value	Escalation Percent
Labor - Craft	2027	$ 258,958.17	$ -	$ 296,586.65	$ 37,628.48	14.53%
Labor - Management	2027	$ 460,687.36	$ -	$ 535,148.88	$ 74,461.52	16.16%
Material - Stock	2027	$ 24,565.04	$ -	$ 38,791.80	$ 14,226.76	57.91%
Material - Non-Stock	2027	$ 5,561,137.01	$ -	$ 8,781,850.62	$ 3,220,713.61	57.91%
Subcontractor	2027	$ 22,303,957.12	$ -	$ 25,544,882.04	$ 3,240,924.92	14.53%
Equipment	2027	$ 48,385.25	$ -	$ 57,943.64	$ 9,558.39	19.75%
Other	2027	$ 65,000.00	$ -	$ 74,444.97	$ 9,444.97	14.53%
Direct Total		$ 28,722,689.95	$ -	$ 35,329,648.59	$ 6,606,958.64	23.00%

Escalated Direct Costs

	Calendar Year of Spend	CAPEX	OPEX	COR	Total
Labor - Craft	2027	$ 296,587	$ -	$ -	$ 296,587
Labor - Management	2027	$ 535,149	$ -	$ -	$ 535,149
Material - Stock	2027	$ 38,792	$ -	$ -	$ 38,792
Material - Non-Stock	2027	$ 8,781,851	$ -	$ -	$ 8,781,851
Subcontractor	2027	$ 25,532,971	$ -	$ 11,911	$ 25,544,882
Equipment	2027	$ 57,944	$ -	$ -	$ 57,944
Other	2027	$ 74,445	$ -	$ -	$ 74,445

Escalated Indirect Costs

	Calendar Year of Spend	CAPEX	OPEX	COR	Total
Material Tax	2027	$ 694,185	$ -	$ -	$ 694,185
Stores Material Handling	2027	$ 6,695	$ -	$ -	$ 6,695
Overhead - Craft	2027	$ 145,476	$ -	$ -	$ 145,476
Overhead - Management	2027	$ 327,244	$ -	$ -	$ 327,244
COD	2027	$ 13,507,612	$ -	$ -	$ 13,507,612
A&G	2027	$ 1,183,537	$ -	$ -	$ 1,183,537

AFUDC	2027	$ -	$ -	$ -	$ -

Total Estimate (Direct + Indirect Costs)				
	CAPEX	OPEX	COR	Total
Estimate Value (CY 2023)	$ 41,465,560	$ -	$ 10,400	**$ 41,475,960**
Estimate Value Including Escalation (CY 2027)	$ 51,182,485	$ -	$ 11,911	**$ 51,194,396**
Estimate Value Including Escalation (CY 2028)	$ 54,109,531	$ -	$ 12,322	**$ 54,121,853**
Estimate Value Including Escalation (CY 2029)	$ 57,277,634	$ -	$ 12,747	**$ 57,290,381**

Escalation Percentage CY 2027	**23.43%**

Bus Unit	Indirect Cost	Cost Index Current	Cost Index Forecast	Current Escalation	Escalation Percentage	Source	SageCostGroup	Last Update	EscalateYesNo
Electric	Craft Labor	705	778	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Craft	Jan-22	Yes
Electric	Distribution Materials - Stock	909	1088	0.0656	6.56%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 7-9, 11-19, 22-24)	Material - Stock	Jan-22	Yes
Electric	Transmission Materials - Stock	676	804	0.0631	6.31%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 8, 14-17, 19-21)	Material - Stock	Jan-22	Yes
Electric	Distribution Materials - Non-Stock	909	1088	0.0656	6.56%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 7-9, 11-19, 22-24)	Material - Non-Stock	Jan-22	Yes
Electric	Transmission Materials - Non-Stock	676	804	0.0631	6.31%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 8, 14-17, 19-21)	Material - Non-Stock	Jan-22	Yes
Electric	Equipment Rental	600	683	0.0461	4.61%	Handy Whitman: Construction Equipmt (M) 3-year average (Line 50)	Equipment	Jan-22	Yes
Electric	Craft Supervision	705	778	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Management	Jan-22	Yes
Electric	Engineering			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Electric	Project Management			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Electric	Vendor	811	951	0.0575	5.75%	Handy Whitman: Total Transmission Plant (Line 33)	Subcontractor	Jan-22	Yes
Electric	Other	811	951	0.0575	5.75%	Handy Whitman: Total Transmission Plant Line 33	Other	Jan-22	Yes
Gas	Craft Labor	778	804.841	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Craft	Jan-22	Yes
Gas	Distribution Materials - Stock	1307	1465.6698	0.1214	12.14%	Handy Whitman: Distribution Plant Mains Steel 3-year average (Line 44)	Material - Stock	Jan-22	Yes
Gas	Transmission Materials - Stock	952	1066.8112	0.1206	12.06%	Handy Whitman: Transmission Plant Mains 3-year average (Line 27)	Material - Stock	Jan-22	Yes
Gas	Distribution Materials - Non-Stock	1307	1465.6698	0.1214	12.14%	Handy Whitman: Distribution Plant Mains Steel 3-year average (Line 44)	Material - Non-Stock	Jan-22	Yes
Gas	Transmission Materials - Non-Stock	952	1066.8112	0.1206	12.06%	Handy Whitman: Transmission Plant Mains 3-year average (Line 27)	Material - Non-Stock	Jan-22	Yes
Gas	Equipment	683	714.4863	0.0461	4.61%	Handy Whitman: Construction Equipmt (M) 3-year average (Line 50)	Equipment	Jan-22	Yes
Gas	Craft Supervision	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Labor - Management	Jan-22	Yes
Gas	Engineering			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Gas	Project Management			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Gas	Vendor	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Subcontractor	Jan-22	Yes
Gas	Other	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Other	Jan-22	Yes

Year
2023
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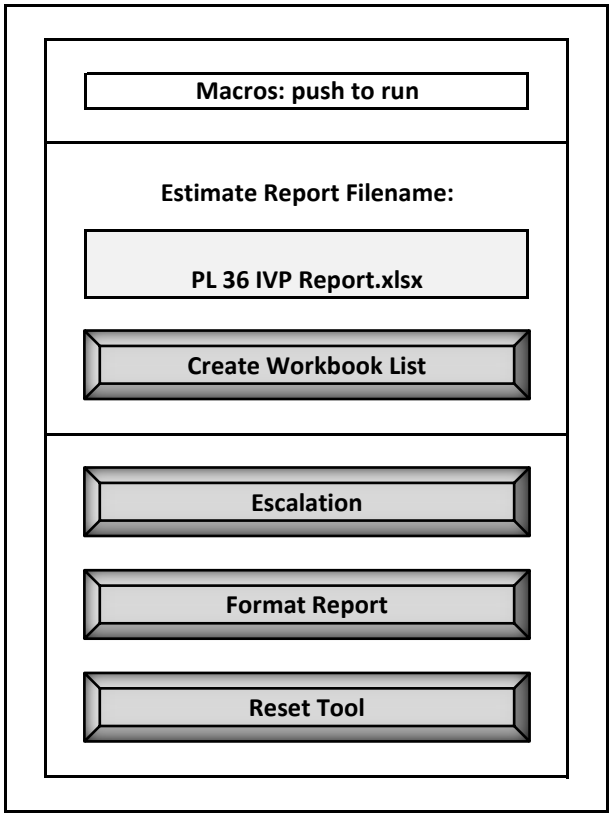
Escalation is based on the Jan 22 Handy Whitman Indices
Updated **7/18/2022**

Electric Revised **8/5/2022** Average Materials

Version:		**9**
Last Updated:		Wednesday, October 9, 2019
Escalation:	1.)	Open Report tool (this file).
	2.)	Open any Excel version of a Sage Estimate Report.
	3.)	Return to this tool and navigate to the 'macros' sheet.
	4.)	Press the Create Workbook List macro button.
	5.)	Select the Estimate Report filename from the dropdown list above the button.
	6.)	Press the **Escalation** button.
	7.)	Wait for all calculations to be run.
	8.)	On the Project Summary page, manually input the correct values in the yellow cells.
	9.)	Carry over the Escalation Dollars and Escalation Percentage to Sage Estimate report, if needed.
	10.)	Save and close the Sage Estimate Report.
	11.)	Close Report tool (this file) **without** saving.


Macros: push to run
Estimate Report Filename:
PL 36 IVP Report.xlsx
Create Workbook List
Escalation
Format Report
Reset Tool

Project Summary					
Project Name	**C087287-PL 36 IVP Onondaga Blvd-4.3**				
Utility	**Gas**	Project Number	**202102238121**	Estimate Number	
Project Type	**Gas Transmission**	Funding Project	**C087287**	Estimate Stage	**4.3**
Project Lead	**Arcuri, Vincent**	Work Order	**90000219970**	Estimate Version	**1**
Estimator	**Coppola, Brian**	State	**NY**	Estimate Type	**Complex**
Company	**5210 - Niagara Mohawk Power Corp**	Fiscal year	**2024**	Last Updated	**12/8/2022**

Direct Costs	Calendar Year of Spend	CAPEX	OPEX	COR	Totals	Cost to Date
Labor - Craft	2024	45,474	-	-	45,474	$ 3,645
Labor - Management	2024	94,310	-	-	94,310	$ 40,000
Material - Stock	2024	14,257	-	-	14,257	
Material - Non-Stock	2023	567,540	-	-	567,540	
Subcontractor	2024	7,902,570	-	13,822	7,916,392	$ 161,337
Equipment	2024	7,672	-	-	7,672	$ -
Other	2023	43,545	-	-	43,545	$ 5,581
	Sage Direct Cost	**8,675,369**	**-**	**13,822**	**8,689,191**	210,563

Overheads	Overhead %	CAPEX	OPEX	COR	Totals
Material Tax	7.87%	45,787	-	-	45,787
Stores Material Handling	19.00%	2,922	-	-	2,922
Overhead - Craft	57.55%	26,170	-	-	26,170
Overhead - Management	65.65%	61,915	-	-	61,915
COD	43.00%	3,770,414	-	-	3,770,414
A&G	4.28%	375,288	-	-	375,288
AFUDC	6.14%	772,928	-	-	772,928
	Sage Total Cost	**13,730,793**	**-**	**13,822**	**13,744,615**

Escalation Percentage CY 2024
7.22%

Escalation Dollars		**991,611**	**-**	**950**	**992,561**
Totals Including Escalation		**14,722,404**	**-**	**14,772**	**14,737,176**

Contingency	5.00%	736,120	-	739	736,859
Estimate Total Base + Contingency		15,458,524	-	15,511	15,474,035

					Calculated Contingency Inc Contingency and Risk	
Risk Dollars P50 / EV				-	5%	
Risk Dollars P80 / SC				-	5%	

P50 Estimate Total	15,458,524	-	15,511	**15,474,035**
P80 Estimate Total	15,458,524	-	15,511	**15,474,035**

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Cases 24-E-0322 & 24-G-0323
DPS-963 Attachment 5
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Escalation Calculator

Estimate Date: 12/8/2022 **Project Type:** Gas Transmission

Direct Cost Categories	Calendar Year of Spend	Estimated Spend	Cost to Date	Escalated Estimated Spend	Escalation Value	Escalation Percent
Labor - Craft	2024	$ 45,474.20	$ 3,645.00	$ 48,410.20	$ 2,936.00	6.46%
Labor - Management	2024	$ 94,310.00	$ 40,000.00	$ 98,534.78	$ 4,224.78	4.48%
Material - Stock	2024	$ 14,256.88	$ -	$ 17,915.78	$ 3,658.90	25.66%
Material - Non-Stock	2023	$ 567,540.47	$ -	$ 636,212.87	$ 68,672.40	12.10%
Subcontractor	2024	$ 7,916,392.16	$ 161,337.00	$ 8,460,721.42	$ 544,329.26	6.88%
Equipment	2024	$ 7,672.12	$ -	$ 8,395.79	$ 723.67	9.43%
Other	2023	$ 43,545.00	$ 5,581.00	$ 44,854.76	$ 1,309.76	3.01%
Direct Total		$ 8,689,190.83	$ 210,563.00	$ 9,315,045.60	$ 625,854.77	7.20%

Escalated Direct Costs

	Calendar Year of Spend	CAPEX	OPEX	COR	Total
Labor - Craft	2024	$ 48,410	$ -	$ -	$ 48,410
Labor - Management	2024	$ 98,535	$ -	$ -	$ 98,535
Material - Stock	2024	$ 17,916	$ -	$ -	$ 17,916
Material - Non-Stock	2023	$ 636,213	$ -	$ -	$ 636,213
Subcontractor	2024	$ 8,445,949	$ -	$ 14,772	$ 8,460,721
Equipment	2024	$ 8,396	$ -	$ -	$ 8,396
Other	2023	$ 44,855	$ -	$ -	$ 44,855

Escalated Indirect Costs

	Calendar Year of Spend	CAPEX	OPEX	COR	Total
Material Tax	2024	$ 51,480	$ -	$ -	$ 51,480
Stores Material Handling	2023	$ 3,672	$ -	$ -	$ 3,672
Overhead - Craft	2024	$ 27,860	$ -	$ -	$ 27,860
Overhead - Management	2024	$ 64,688	$ -	$ -	$ 64,688
COD	2024	$ 4,043,243	$ -	$ -	$ 4,043,243
A&G	2024	$ 402,444	$ -	$ -	$ 402,444

AFUDC	2024	$ 828,744	$ -	$ -	$ 828,744

Total Estimate (Direct + Indirect Costs)				
	CAPEX	OPEX	COR	Total
Estimate Value (CY 2022)	$ 13,730,793	$ -	$ 13,822	**$ 13,744,615**
Estimate Value Including Escalation (CY 2024)	$ 14,722,404	$ -	$ 14,772	**$ 14,737,176**
Estimate Value Including Escalation (CY 2025)	$ 15,459,306	$ -	$ 15,272	**$ 15,474,578**
Estimate Value Including Escalation (CY 2026)	$ 16,100,536	$ -	$ 15,789	**$ 16,116,325**

Escalation Percentage CY 2024	**7.22%**

Bus Unit	Indirect Cost	Cost Index Current	Cost Index Forecast	Current Escalation	Escalation Percentage	Source	SageCostGroup	Last Update	EscalateYesNo
Electric	Craft Labor	705	778	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Craft	Jan-22	Yes
Electric	Distribution Materials - Stock	909	1088	0.0656	6.56%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 7-9, 11-19, 22-24)	Material - Stock	Jan-22	Yes
Electric	Transmission Materials - Stock	676	804	0.0631	6.31%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 8, 14-17, 19-21)	Material - Stock	Jan-22	Yes
Electric	Distribution Materials - Non-Stock	909	1088	0.0656	6.56%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 7-9, 11-19, 22-24)	Material - Non-Stock	Jan-22	Yes
Electric	Transmission Materials - Non-Stock	676	804	0.0631	6.31%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 8, 14-17, 19-21)	Material - Non-Stock	Jan-22	Yes
Electric	Equipment Rental	600	683	0.0461	4.61%	Handy Whitman: Construction Equipmt (M) 3-year average (Line 50)	Equipment	Jan-22	Yes
Electric	Craft Supervision	705	778	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Management	Jan-22	Yes
Electric	Engineering			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Electric	Project Management			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Electric	Vendor	811	951	0.0575	5.75%	Handy Whitman: Total Transmission Plant (Line 33)	Subcontractor	Jan-22	Yes
Electric	Other	811	951	0.0575	5.75%	Handy Whitman: Total Transmission Plant Line 33	Other	Jan-22	Yes
Gas	Craft Labor	778	804.841	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Craft	Jan-22	Yes
Gas	Distribution Materials - Stock	1307	1465.6698	0.1214	12.14%	Handy Whitman: Distribution Plant Mains Steel 3-year average (Line 44)	Material - Stock	Jan-22	Yes
Gas	Transmission Materials - Stock	952	1066.8112	0.1206	12.06%	Handy Whitman: Transmission Plant Mains 3-year average (Line 27)	Material - Stock	Jan-22	Yes
Gas	Distribution Materials - Non-Stock	1307	1465.6698	0.1214	12.14%	Handy Whitman: Distribution Plant Mains Steel 3-year average (Line 44)	Material - Non-Stock	Jan-22	Yes
Gas	Transmission Materials - Non-Stock	952	1066.8112	0.1206	12.06%	Handy Whitman: Transmission Plant Mains 3-year average (Line 27)	Material - Non-Stock	Jan-22	Yes
Gas	Equipment	683	714.4863	0.0461	4.61%	Handy Whitman: Construction Equipmt (M) 3-year average (Line 50)	Equipment	Jan-22	Yes
Gas	Craft Supervision	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Labor - Management	Jan-22	Yes
Gas	Engineering			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Gas	Project Management			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Gas	Vendor	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Subcontractor	Jan-22	Yes
Gas	Other	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Other	Jan-22	Yes

Year
2022
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Escalation is based on the Jan 22 Handy Whitman Indices
Updated **7/18/2022**

Electric Revised **8/5/2022** Average Materials

Power BI Cost Book Year 2023
Chronology of Measurement & Regulation Inflation Index Numbers

Instructions for the Annual Update of Inflation and Escalation factors used in the US Gas Cost Book

Complex Estimating NYS has completed the annual update of US Gas Cost Book Inflation and Escalation Index Numbers.

The annual Inflation and escalation factors are derived from the January Handy-Whitman Index, Table G-1 "Cost Trends of Gas Utility Utility Construction; North Atlantic Region", Line 30, "Meas. & Reg Stat Equipment."

This inflation factor was calculated by taking the average of the inflation factors over the previous 5 years 2019, 2020, 2021, 2022 and 2023

New escalation factors were then derived for the future years based on the 2023 Index

Cost book pricing is based upon Year 2023 pricing.

YEAR	PRICE INDEX	INFLATION FACTOR	ESCALATION FACTOR
2017	783	0.055	-
2018	805	0.028	-
2019	862	0.071	-
2020	895	0.038	-
2021	915	0.022	-
2022	1117	0.221	-
2023	1267	0.134	0.13
2024	1390	0.097	0.10
2025	1525	0.097	0.20
2026	1673	0.097	0.32
2027	1835	0.097	0.45
2028	2013	0.097	0.59
2029	2208	0.097	0.74
2030	2422	0.097	0.91
2031	2657	0.097	1.10
2032	2915	0.097	1.30
2033	3198	0.097	1.52
2034	3508	0.097	1.77
2035	3848	0.097	2.04
2036	4221	0.097	2.33
2037	4631	0.097	2.66
2038	5080	0.097	3.01
2039	5573	0.097	3.40
2040	6113	0.097	3.83
2041	6706	0.097	4.29
2042	7357	0.097	4.81
2043	8071	0.097	5.37
2044	8854	0.097	5.99
2045	9712	0.097	6.67
2046	10654	0.097	7.41
2047	11688	0.097	8.22
2048	12822	0.097	9.12
2049	14065	0.097	10.10
2050	15430	0.097	11.18
2051	16926	0.097	12.36
2052	18568	0.097	13.66
2053	20369	0.097	15.08
2054	22345	0.097	16.64
2055	24513	0.097	18.35
2056	26890	0.097	20.22

Power BI Cost Book Year 2024
Chronology of Measurement & Regulation Inflation Index Numbers

Instructions for the Annual Update of Inflation and Escalation factors used in the US Gas Cost Book

Complex Estimating NYS has completed the annual update of US Gas Cost Book Inflation and Escalation Index Numbers. 4/9/2024

The annual Inflation and escalation factors are derived from the January Handy-Whitman Index, Table G-1 "Cost Trends of Gas Utility Utility Construction; North Atlantic Region", Line 30, "Meas. & Reg Stat Equipment."

The Year 2023 now reflects the actual index of 1267.

The Year 2024 has been updated with an estimated index of 1316, which represents an inflation factor of 0.044 compared to Year 2023.

This inflation factor was calculated by taking the average of the inflation factors over the last 10 years (2014 thru 2023), and subtracting out both the High and low number.

New escalation factors were then derived for the past 10 years based on the estimated 2024 Index

New Escalation factors were then derived for previous and future years using Year 2023 as the reference year.

10Yr Avg

Table 1

YEAR	PRICE INDEX	INFLATION FACTOR	ESCALATION FACTOR
2010	623		
2011	672	0.079	
2012	735	0.094	
2013	733	-0.003	
2014	754	0.029	
2015	762	0.011	
2016	742	-0.026	
2017	783	0.055	
2018	805	0.028	
2019	862	0.071	
2020	895	0.038	
2021	915	0.022	
2022	1117	0.221	
2023	1267	0.134	
2024	1316	0.039	0.039
2025	1367	0.039	0.079
2026	1420	0.039	0.121
2027	1475	0.039	0.164
2028	1533	0.039	0.210
2029	1592	0.039	0.257
2030	1654	0.039	0.305
2031	1718	0.039	0.356
2032	1785	0.039	0.409

Power BI Cost Book Year 2025
Chronology of Measurement & Regulation Inflation Index Numbers

Instructions for the Annual Update of Inflation and Escalation factors used in the US Gas Cost Book

Complex Estimating NYS has completed the annual update of US Gas Cost Book Inflation and Escalation Index Numbers. 6/17/2024

The annual Inflation and escalation factors are derived from the January Handy-Whitman Index, Table G-1 "Cost Trends of Gas Utility Utility Construction; North Atlantic Region", Line 30, "Meas. & Reg Stat Equipment."

The Year 2024 now reflects the actual index of 1277.

The Year 2025 has been updated with an estimated index of 1336, which represents an inflation factor of 0.046 compared to Year 2024.

This inflation factor was calculated by taking the average of the inflation factors over the last 10 years (2015 thru 2024), and subtracting out both the Highest inflation rate year and lowest inflation rate year.

New escalation factors were then derived for the future 10 years based on the estimated 2024 Index

New Escalation factors were then derived for previous and future years using Year 2023 Price Index as the reference year. Cost book pricing is based upon Year 2023 pricing.

Table 1

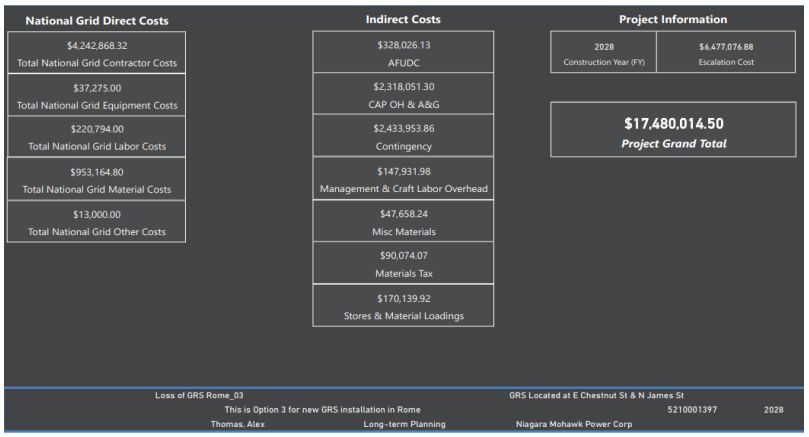
10Yr Avg	YEAR	PRICE INDEX	INFLATION FACTOR	ESCALATION FACTOR
	2010	623		
	2011	672	0.079	
	2012	735	0.094	
	2013	733	-0.003	
	2014	754	0.029	
1	2015	762	0.011	
2	2016	742	-0.026	
3	2017	783	0.055	
4	2018	805	0.028	
5	2019	862	0.071	
6	2020	895	0.038	
7	2021	915	0.022	
8	2022	1117	0.221	
9	2023	1267	0.134	
10	2024	1277	0.008	0.008
	2025	1336	0.046	0.054
	2026	1397	0.046	0.103
	2027	1461	0.046	0.153
	2028	1529	0.046	0.207
	2029	1599	0.046	0.262
	2030	1673	0.046	0.320
	2031	1749	0.046	0.381
	2032	1830	0.046	0.444

Loss of GRS Rome Project

NG Direct Cost		
	$	4,242,868.32
	$	37,275.00
	$	220,794.00
	$	953,164.80
	$	13,000.00
Indirect Cost		
	$	328,026.13
	$	2,318,051.30
	$	2,433,953.86
	$	147,931.98
	$	47,658.24
	$	90,074.07
	$	170,139.92
Project To	$	11,002,937.62
Escalation	$	6,477,076.88
Total Proj	$	17,480,014.50

Escalation Factor	**0.588668**

NOTE
Escation Factor of .588667964 is taken from Cell D31 of Power BI Cost Book Year 2023 tab



Cost Book Totals

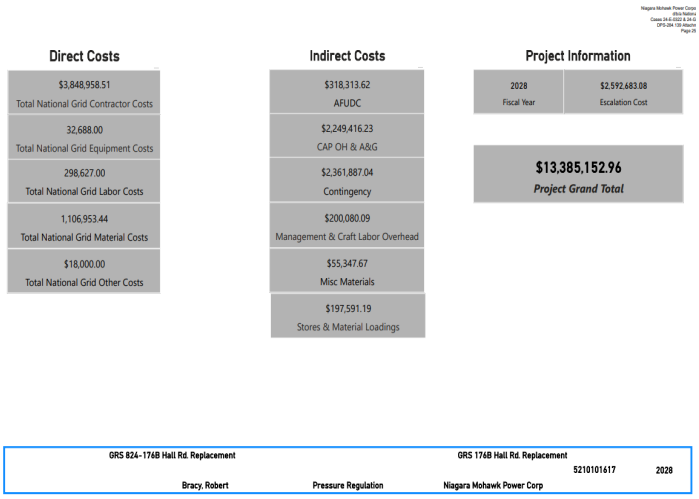
1	Direct	$ 5,465,181.65
2	Burden	$ 397,671.28
3	Capital Overhead	$ 2,249,416.23
	Sub Total	$ 8,112,269.16
4	**Escalation Factor**	$ 2,592,683.08
5	Base Estimate	$ 10,704,952.24
6	Contingency	$ 2,361,887.04
7	AFUDC	$ 318,313.62
8		
7	**Total**	$ 13,385,152.9

Escalation Factor	0.320

NOTE
Escation Factor of .32 is taken from Cell D29 of Power BI Cost Book Year 2023 tab

$ 13,385,152.96
$ 12,928,572.48

$ 456,580.48



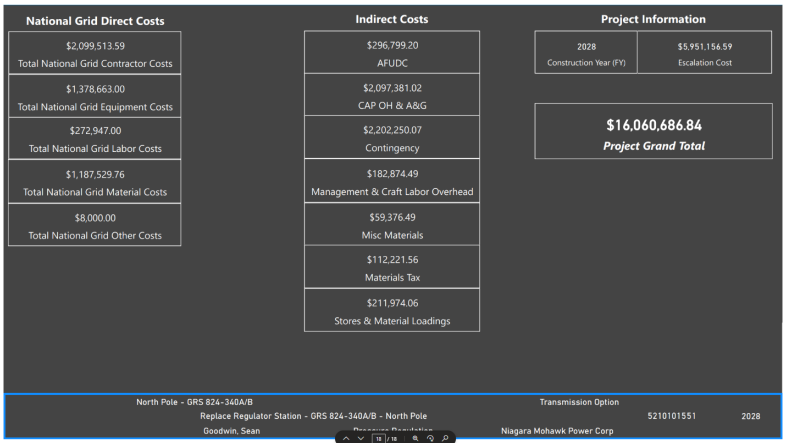
North Pole GRS 824 340 AB Project

NG Direct Cost		
	$	2,099,513.59
	$	1,378,663.00
	$	272,947.00
	$	1,187,529.76
	$	8,000.00
Indirect Cost		
	$	296,799.20
	$	2,097,381.02
	$	2,202,250.07
	$	182,874.49
	$	59,376.49
	$	112,221.56
	$	211,974.00
Project Totals	$	10,109,530.18
Escalation	$	5,951,156.55
Total Project	$	16,060,686.73

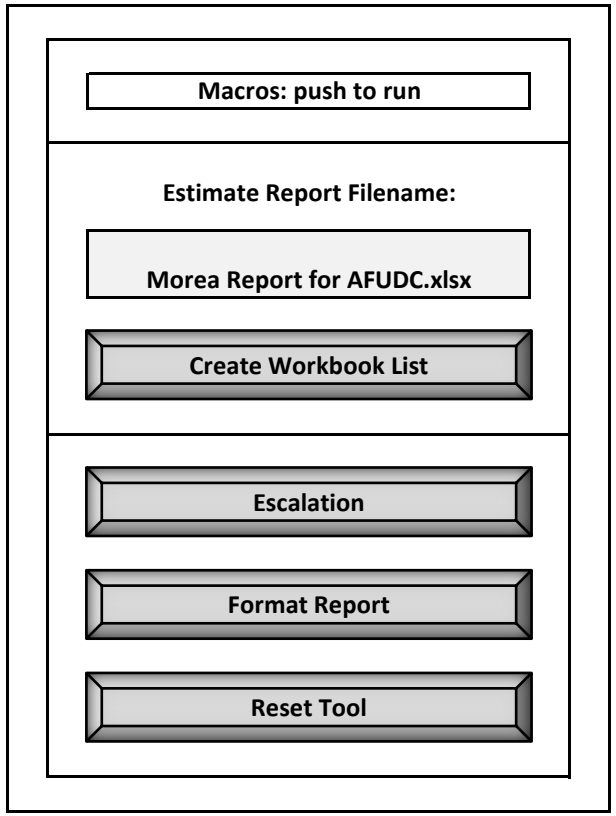
Escalation Factor	**0.588667964**

NOTE
Escation Factor of .588667964 is taken from Cell D31 of Power BI Cost Book Year 2023 tab

Niagara Mohawk Power Corpor
d/b/a National
Cases 24-E-0322 & 24-G
DPS-284.67 Attachm
Page 10 o



Version:		**9**
Last Updated:		Wednesday, October 9, 2019
Escalation:	1.)	Open Report tool (this file).
	2.)	Open any Excel version of a Sage Estimate Report.
	3.)	Return to this tool and navigate to the 'macros' sheet.
	4.)	Press the Create Workbook List macro button.
	5.)	Select the Estimate Report filename from the dropdown list above the button.
	6.)	Press the **Escalation** button.
	7.)	Wait for all calculations to be run.
	8.)	On the Project Summary page, manually input the correct values in the yellow cells.
	9.)	Carry over the Escalation Dollars and Escalation Percentage to Sage Estimate report, if needed.
	10.)	Save and close the Sage Estimate Report.
	11.)	Close Report tool (this file) **without** saving.


Macros: push to run
Estimate Report Filename:
Morea Report for AFUDC.xlsx
Create Workbook List
Escalation
Format Report
Reset Tool

Niagara Mohawk Power Corporatio
d/b/a National Gri
Cases 24-E-0322 & 24-G-032
DPS-963 Attachment
Page 3 of

Project Summary					
Project Name	**C089514-Moreau CNG Off Loading Facility Upgrade-4.3**				
Utility	**Gas**	Project Number	**202203038127**	Estimate Number	
Project Type	**LNG and CNG**	Funding Project	**C089514**	Estimate Stage	**4.3**
Project Lead	**Pollert, Fred**	Work Order	**90000226074**	Estimate Version	**1**
Estimator	**Buckley, Patrick**	State	**NY**	Estimate Type	**Complex**
Company	**5210 - Niagara Mohawk Power Corp**	Fiscal year	**2025**	Last Updated	**8/3/2023**

Direct Costs	Calendar Year of Spend	CAPEX	OPEX	COR	Totals	Cost to Date
Labor - Craft	2024	116,275	-	-	116,275	$ 11,775
Labor - Management	2024	411,704	-	-	411,704	$ 74,384
Material - Stock	2024	25,416	-	-	25,416	
Material - Non-Stock	2024	1,210,222	-	-	1,210,222	
Subcontractor	2024	15,552,137	-	240,493	15,792,631	$ 1,983,268
Equipment	2024	54,917	-	-	54,917	$ 96
Other	2024	852,566	-	-	852,566	$ 101,031
	Sage Direct Cost	**18,223,237**	**-**	**240,493**	**18,463,730**	2,170,554

Overheads	Overhead %	CAPEX	OPEX	COR	Totals
Material Tax	7.87%	97,245	-	-	97,245
Stores Material Handling	16.00%	4,387	-	-	4,387
Overhead - Craft	49.05%	57,033	-	-	57,033
Overhead - Management	61.15%	251,757	-	-	251,757
COD	37.10%	6,596,174	-	-	6,596,174
A&G	3.25%	577,957	-	-	577,957
AFUDC	6.58%	1,659,714	-	-	1,659,714
	Sage Total Cost	**27,467,503**	**-**	**240,493**	**27,707,996**

Escalation Percentage CY 2024
3.68%

Escalation Dollars		**1,012,888**	**-**	**7,255**	**1,020,143**
Totals Including Escalation		**28,480,390**	**-**	**247,749**	**28,728,139**
Contingency	-	-	-	-	-
Estimate Total Base + Contingency		28,480,390	-	247,749	28,728,139

					Calculated Contingency Inc Contingency and Risk	
Risk Dollars P50 / EV				**-**		
Risk Dollars P80 / SC				**-**		

P50 Estimate Total	28,480,390	-	247,749	**28,728,139**
P80 Estimate Total	28,480,390	-	247,749	**28,728,139**

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
DPS-963 Attachment 7
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Escalation Calculator

Estimate Date: 8/3/2023 **Project Type:** LNG and CNG

Direct Cost Categories	Calendar Year of Spend	Estimated Spend	Cost to Date	Escalated Estimated Spend	Escalation Value	Escalation Percent
Labor - Craft	2024	$ 116,274.70	$ 11,775.00	$ 119,879.94	$ 3,605.24	3.10%
Labor - Management	2024	$ 411,704.00	$ 74,384.00	$ 424,578.38	$ 12,874.38	3.13%
Material - Stock	2024	$ 25,415.54	$ -	$ 28,490.82	$ 3,075.28	12.10%
Material - Non-Stock	2024	$ 1,210,221.91	$ -	$ 1,356,658.76	$ 146,436.85	12.10%
Subcontractor	2024	$ 15,792,630.69	$ 1,983,268.00	$ 16,269,053.70	$ 476,423.01	3.02%
Equipment	2024	$ 54,916.94	$ 96.00	$ 57,444.19	$ 2,527.25	4.60%
Other	2024	$ 852,566.20	$ 101,031.00	$ 878,494.16	$ 25,927.96	3.04%
Direct Total		$ 18,463,729.98	$ 2,170,554.00	$ 19,134,599.95	$ 670,869.97	3.63%

Escalated Direct Costs

	Calendar Year of Spend	CAPEX	OPEX	COR	Total
Labor - Craft	2024	$ 119,880	$ -	$ -	$ 119,880
Labor - Management	2024	$ 424,578	$ -	$ -	$ 424,578
Material - Stock	2024	$ 28,491	$ -	$ -	$ 28,491
Material - Non-Stock	2024	$ 1,356,659	$ -	$ -	$ 1,356,659
Subcontractor	2024	$ 16,021,305	$ -	$ 247,749	$ 16,269,054
Equipment	2024	$ 57,444	$ -	$ -	$ 57,444
Other	2024	$ 878,494	$ -	$ -	$ 878,494

Escalated Indirect Costs

	Calendar Year of Spend	CAPEX	OPEX	COR	Total
Material Tax	2024	$ 109,011	$ -	$ -	$ 109,011
Stores Material Handling	2024	$ 4,917	$ -	$ -	$ 4,917
Overhead - Craft	2024	$ 58,801	$ -	$ -	$ 58,801
Overhead - Management	2024	$ 259,630	$ -	$ -	$ 259,630
COD	2024	$ 6,840,873	$ -	$ -	$ 6,840,873
A&G	2024	$ 599,397	$ -	$ -	$ 599,397

AFUDC	2024	$ 1,720,910	$ -	$ -	$ 1,720,910

Total Estimate (Direct + Indirect Costs)				
	CAPEX	OPEX	COR	Total
Estimate Value (CY 2023)	$ 27,467,503	$ -	$ 240,493	**$ 27,707,996**
Estimate Value Including Escalation (CY 2024)	$ 28,480,390	$ -	$ 247,749	**$ 28,728,139**
Estimate Value Including Escalation (CY 2025)	$ 29,549,286	$ -	$ 255,254	**$ 29,804,540**
Estimate Value Including Escalation (CY 2026)	$ 30,678,658	$ -	$ 263,018	**$ 30,941,676**

Escalation Percentage CY 2024	**3.68%**

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
DPS-963 Attachment 7
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Bus Unit	Indirect Cost	Cost Index Current	Cost Index Forecast	Current Escalation	Escalation Percentage	Source	SageCostGroup	Last Update	EscalateYesNo
Electric	Craft Labor	705	778	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Craft	Jan-22	Yes
Electric	Distribution Materials - Stock	909	1088	0.0656	6.56%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 7-9, 11-19, 22-24)	Material - Stock	Jan-22	Yes
Electric	Transmission Materials - Stock	676	804	0.0631	6.31%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 8, 14-17, 19-21)	Material - Stock	Jan-22	Yes
Electric	Distribution Materials - Non-Stock	909	1088	0.0656	6.56%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 7-9, 11-19, 22-24)	Material - Non-Stock	Jan-22	Yes
Electric	Transmission Materials - Non-Stock	676	804	0.0631	6.31%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 8, 14-17, 19-21)	Material - Non-Stock	Jan-22	Yes
Electric	Equipment Rental	600	683	0.0461	4.61%	Handy Whitman: Construction Equipmt (M) 3-year average (Line 50)	Equipment	Jan-22	Yes
Electric	Craft Supervision	705	778	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Management	Jan-22	Yes
Electric	Engineering			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Electric	Project Management			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Electric	Vendor	811	951	0.0575	5.75%	Handy Whitman: Total Transmission Plant (Line 33)	Subcontractor	Jan-22	Yes
Electric	Other	811	951	0.0575	5.75%	Handy Whitman: Total Transmission Plant Line 33	Other	Jan-22	Yes
Gas	Craft Labor	778	804.841	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Craft	Jan-22	Yes
Gas	Distribution Materials - Stock	1307	1465.6698	0.1214	12.14%	Handy Whitman: Distribution Plant Mains Steel 3-year average (Line 44)	Material - Stock	Jan-22	Yes
Gas	Transmission Materials - Stock	952	1066.8112	0.1206	12.06%	Handy Whitman: Transmission Plant Mains 3-year average (Line 27)	Material - Stock	Jan-22	Yes
Gas	Distribution Materials - Non-Stock	1307	1465.6698	0.1214	12.14%	Handy Whitman: Distribution Plant Mains Steel 3-year average (Line 44)	Material - Non-Stock	Jan-22	Yes
Gas	Transmission Materials - Non-Stock	952	1066.8112	0.1206	12.06%	Handy Whitman: Transmission Plant Mains 3-year average (Line 27)	Material - Non-Stock	Jan-22	Yes
Gas	Equipment	683	714.4863	0.0461	4.61%	Handy Whitman: Construction Equipmt (M) 3-year average (Line 50)	Equipment	Jan-22	Yes
Gas	Craft Supervision	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Labor - Management	Jan-22	Yes
Gas	Engineering			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Gas	Project Management			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Gas	Vendor	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Subcontractor	Jan-22	Yes
Gas	Other	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Other	Jan-22	Yes

Year
2023
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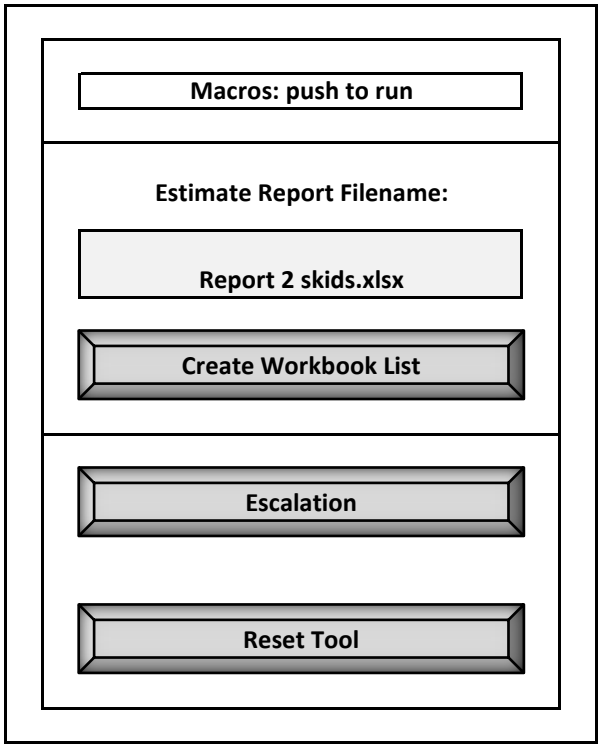
2032

Escalation is based on the Jan 22 Handy Whitman Indices
Updated **7/18/2022**

Electric Revised **8/5/2022** Average Materials

Version:		**9**
Last Updated:		Wednesday, October 9, 2019
Escalation:	1.)	Open Report tool (this file).
	2.)	Open any Excel version of a Sage Estimate Report.
	3.)	Return to this tool and navigate to the 'macros' sheet.
	4.)	Press the Create Workbook List macro button.
	5.)	Select the Estimate Report filename from the dropdown list above the button.
	6.)	Press the **Escalation** button.
	7.)	Wait for all calculations to be run.
	8.)	On the Project Summary page, manually input the correct values in the yellow cells.
	9.)	Carry over the Escalation Dollars and Escalation Percentage to Sage Estimate report, if needed.
	10.)	Save and close the Sage Estimate Report.
	11.)	Close Report tool (this file) **without** saving.


Macros: push to run
Estimate Report Filename:
Report 2 skids.xlsx
Create Workbook List
Escalation
Reset Tool

Project Summary					
Project Name	**C090091-UNY Energy Transfer Site 2 Troy Rev1 (2 skids)-4.2**				
Utility	**Gas**	Project Number	**202210288131**	Estimate Number	
Project Type	**LNG and CNG**	Funding Project	**C090091**	Estimate Stage	**4.2**
Project Lead	**Syed Farrukh**	Work Order	**90000229748**	Estimate Version	**1**
Estimator	**Coppola, Brian**	State	**NY**	Estimate Type	**Complex**
Company	**5210 - Niagara Mohawk Power Corp**	Fiscal year	**2026**	Last Updated	**10/31/2023**

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
DPS-963 Attachment 8
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Direct Costs	Calendar Year of Spend	CAPEX	OPEX	COR	Totals	Cost to Date
Labor - Craft	2025	304,360	-	-	304,360	$ 8,141
Labor - Management	2025	445,115	-	-	445,115	
Material - Stock	2025	159,029	-	-	159,029	
Material - Non-Stock	2025	1,268,617	-	-	1,268,617	
Subcontractor	2024	20,975,052	-	-	20,975,052	$ 12,846
Equipment	2025	87,762	-	-	87,762	$ 518
Other	2025	1,236,250	-	-	1,236,250	$ 189
	Sage Direct Cost	**24,476,186**	**-**	**-**	**24,476,186**	21,694

Overheads	Overhead %	CAPEX	OPEX	COR	Totals
Material Tax	7.87%	112,356	-	-	112,356
Stores Material Handling	16.00%	27,447	-	-	27,447
Overhead - Craft	49.05%	149,288	-	-	149,288
Overhead - Management	61.15%	272,188	-	-	272,188
COD	37.09%	8,827,608	-	-	8,827,608
A&G	3.25%	773,475	-	-	773,475
AFUDC	-	-	-	-	-
	Sage Total Cost	**34,638,548**	**-**	**-**	**34,638,548**

Escalation Percentage CY 2025
5.20%

Escalation Dollars		**1,799,573**	**-**	**-**	**1,799,573**
Totals Including Escalation		**36,438,121**	**-**	**-**	**36,438,121**

Contingency	30.00%	10,931,436	-	-	10,931,436
Estimate Total Base + Contingency		47,369,557	-	-	47,369,557

					Calculated Contingency Inc Contingency and Risk	
Risk Dollars P50 / EV				-	30%	
Risk Dollars P80 / SC				-	30%	

P50 Estimate Total	47,369,557	-	-	**47,369,557**
P80 Estimate Total	47,369,557	-	-	**47,369,557**

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
DPS-963 Attachment 8
Page 5 of 7

Escalation Calculator

Estimate Date: 10/31/2023 **Project Type:** LNG and CNG

Direct Cost Categories	Calendar Year of Spend	Estimated Spend	Cost to Date	Escalated Estimated Spend	Escalation Value	Escalation Percent
Labor - Craft	2025	$ 304,359.62	$ 8,141.00	$ 325,151.28	$ 20,791.66	6.83%
Labor - Management	2025	$ 445,115.40	$ -	$ 479,740.94	$ 34,625.54	7.78%
Material - Stock	2025	$ 159,029.31	$ -	$ 199,842.75	$ 40,813.44	25.66%
Material - Non-Stock	2025	$ 1,268,617.10	$ -	$ 1,594,196.26	$ 325,579.16	25.66%
Subcontractor	2024	$ 20,975,052.36	$ 12,846.00	$ 21,698,248.48	$ 723,196.12	3.45%
Equipment	2025	$ 87,761.71	$ 518.00	$ 95,990.99	$ 8,229.28	9.38%
Other	2025	$ 1,236,250.00	$ 189.00	$ 1,323,009.43	$ 86,759.43	7.02%
Direct Total		$ 24,476,185.50	$ 21,694.00	$ 25,716,180.13	$ 1,239,994.63	5.07%

Escalated Direct Costs

	Calendar Year of Spend	CAPEX	OPEX	COR	Total
Labor - Craft	2025	$ 325,151	$ -	$ -	$ 325,151
Labor - Management	2025	$ 479,741	$ -	$ -	$ 479,741
Material - Stock	2025	$ 199,843	$ -	$ -	$ 199,843
Material - Non-Stock	2025	$ 1,594,196	$ -	$ -	$ 1,594,196
Subcontractor	2024	$ 21,698,248	$ -	$ -	$ 21,698,248
Equipment	2025	$ 95,991	$ -	$ -	$ 95,991
Other	2025	$ 1,323,009	$ -	$ -	$ 1,323,009

Escalated Indirect Costs

	Calendar Year of Spend	CAPEX	OPEX	COR	Total
Material Tax	2025	$ 141,191	$ -	$ -	$ 141,191
Stores Material Handling	2025	$ 34,491	$ -	$ -	$ 34,491
Overhead - Craft	2025	$ 159,487	$ -	$ -	$ 159,487
Overhead - Management	2025	$ 293,362	$ -	$ -	$ 293,362
COD	2025	$ 9,280,273	$ -	$ -	$ 9,280,273
A&G	2025	$ 813,137	$ -	$ -	$ 813,137

AFUDC	2025	$ -	$ -	$ -	$ -

Total Estimate (Direct + Indirect Costs)				
	CAPEX	OPEX	COR	Total
Estimate Value (CY 2023)	$ 34,638,548	$ -	$ -	**$ 34,638,548**
Estimate Value Including Escalation (CY 2025)	$ 36,438,121	$ -	$ -	**$ 36,438,121**
Estimate Value Including Escalation (CY 2026)	$ 37,938,638	$ -	$ -	**$ 37,938,638**
Estimate Value Including Escalation (CY 2027)	$ 39,520,078	$ -	$ -	**$ 39,520,078**

Escalation Percentage CY 2025	**5.20%**

Bus Unit	Indirect Cost	Cost Index Current	Cost Index Forecast	Current Escalation	Escalation Percentage	Source	SageCostGroup	Last Update	EscalateYesNo
Electric	Craft Labor	705	778	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Craft	Jan-22	Yes
Electric	Distribution Materials - Stock	909	1088	0.0656	6.56%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 7-9, 11-19, 22-24)	Material - Stock	Jan-22	Yes
Electric	Transmission Materials - Stock	676	804	0.0631	6.31%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 8, 14-17, 19-21)	Material - Stock	Jan-22	Yes
Electric	Distribution Materials - Non-Stock	909	1088	0.0656	6.56%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 7-9, 11-19, 22-24)	Material - Non-Stock	Jan-22	Yes
Electric	Transmission Materials - Non-Stock	676	804	0.0631	6.31%	Handy Whitman: M Utility Plant Materials 3-year average (Lines 8, 14-17, 19-21)	Material - Non-Stock	Jan-22	Yes
Electric	Equipment Rental	600	683	0.0461	4.61%	Handy Whitman: Construction Equipmt (M) 3-year average (Line 50)	Equipment	Jan-22	Yes
Electric	Craft Supervision	705	778	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Management	Jan-22	Yes
Electric	Engineering			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Electric	Project Management			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Electric	Vendor	811	951	0.0575	5.75%	Handy Whitman: Total Transmission Plant (Line 33)	Subcontractor	Jan-22	Yes
Electric	Other	811	951	0.0575	5.75%	Handy Whitman: Total Transmission Plant Line 33	Other	Jan-22	Yes
Gas	Craft Labor	778	804.841	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor - 3-year average (Line 17)	Labor - Craft	Jan-22	Yes
Gas	Distribution Materials - Stock	1307	1465.6698	0.1214	12.14%	Handy Whitman: Distribution Plant Mains Steel 3-year average (Line 44)	Material - Stock	Jan-22	Yes
Gas	Transmission Materials - Stock	952	1066.8112	0.1206	12.06%	Handy Whitman: Transmission Plant Mains 3-year average (Line 27)	Material - Stock	Jan-22	Yes
Gas	Distribution Materials - Non-Stock	1307	1465.6698	0.1214	12.14%	Handy Whitman: Distribution Plant Mains Steel 3-year average (Line 44)	Material - Non-Stock	Jan-22	Yes
Gas	Transmission Materials - Non-Stock	952	1066.8112	0.1206	12.06%	Handy Whitman: Transmission Plant Mains 3-year average (Line 27)	Material - Non-Stock	Jan-22	Yes
Gas	Equipment	683	714.4863	0.0461	4.61%	Handy Whitman: Construction Equipmt (M) 3-year average (Line 50)	Equipment	Jan-22	Yes
Gas	Craft Supervision	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Labor - Management	Jan-22	Yes
Gas	Engineering			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Gas	Project Management			0.0400	4.00%	National Grid's Last Years Pay Increase Percentage	Labor - Management	Jan-22	Yes
Gas	Vendor	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Subcontractor	Jan-22	Yes
Gas	Other	754	780.013	0.0345	3.45%	Handy Whitman: Heavy Construction Trades Labor 3-year average (Line 17)	Other	Jan-22	Yes

Year
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032

Escalation is based on the Jan 22 Handy Whitman Indices
Updated **7/18/2022**

Electric Revised **8/5/2022** Average Materials

B-1

COST TRENDS OF BUILDING CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST TRENDS OF BUILDING CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST TRENDS OF BUILDING CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION, MATERIAL, AND LABOR	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927
1	**Building Construction**																
2	Reinf. Conc. Bldg. Construction	8	8	8	8	12	18	19	19	20	15	14	17	17	17	17	16
3	Brick Building Construction	8	8	8	9	11	15	17	19	21	17	16	18	19	18	18	18
4	Structural Steel Erected	9	9	9	8	16	29	26	22	22	16	15	19	19	17	17	16
5	Reinf. Concrete (Ready-Mix)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Reinf. Concrete (Plant-Mix)	7	7	7	8	10	13	16	17	18	14	14	15	17	17	16	16
7																	
8	**Building Material**																
9	Ready-Mix Concrete	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Lumber for Reinf. Concrete	7	7	7	7	9	13	19	19	20	14	13	15	19	19	15	15
11	Steel Bars for Reinf. Concrete	15	15	15	17	34	47	37	35	37	24	22	28	29	27	25	24
12	Common Brick	10	10	10	14	16	19	20	27	34	31	30	33	30	28	28	28
13	Concrete Block	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14																	
15	**Labor**																
16	Building Trades Labor	6	6	6	6	6	7	8	10	11	11	11	12	13	14	15	15
17	Heavy Constr. Trades Labor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Labor for Reinf. Concrete	5	5	5	5	5	6	8	10	11	9	9	10	11	11	11	11
19	Common Labor	4	4	4	4	5	5	8	10	11	9	8	9	9	9	9	9
20	Electricians	5	5	5	6	6	6	8	9	10	11	11	11	12	13	14	14
21	Pipefitters	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	Plumbers	6	6	6	6	6	7	8	9	9	11	11	12	12	13	14	14
23																	

COST INDEX NUMBERS

Line	CONSTRUCTION, MATERIAL, AND LABOR	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
1	**Building Construction**																
2	Reinf. Conc. Bldg. Construction	20	20	24	28	32	34	35	37	38	40	42	44	48	52	53	55
3	Brick Building Construction	21	21	24	28	32	34	35	37	38	39	41	42	46	49	50	52
4	Structural Steel Erected	20	20	24	30	37	39	41	43	43	47	48	50	59	66	67	67
5	Reinf. Concrete (Ready-Mix)	-	-	-	-	-	-	-	-	35	37	39	41	43	46	48	50
6	Reinf. Concrete (Plant-Mix)	20	21	24	27	30	31	32	34	35	36	38	40	42	44	45	47
7																	
8	**Building Material**																
9	Ready-Mix Concrete	33	33	35	39	44	45	46	47	49	50	54	57	60	63	66	66
10	Lumber for Reinf. Concrete	23	23	29	33	38	34	37	37	38	36	39	42	44	45	44	47
11	Steel Bars for Reinf. Concrete	28	28	30	34	37	43	45	47	48	51	53	56	61	68	70	72
12	Common Brick	23	27	31	33	38	42	43	47	47	48	50	51	52	53	54	54
13	Concrete Block	-	-	-	-	-	56	58	62	63	63	62	67	69	70	69	73
14																	
15	**Labor**																
16	Building Trades Labor	18	19	21	23	26	27	28	31	31	33	34	36	37	39	41	43
17	Heavy Constr. Trades Labor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Labor for Reinf. Concrete	15	16	18	22	24	25	26	27	29	30	32	33	35	37	39	41
19	Common Labor	13	14	17	19	21	23	24	25	27	28	30	31	33	35	37	40
20	Electricians	19	19	20	23	25	27	28	30	32	33	34	35	37	38	41	42
21	Pipefitters	-	-	-	-	-	26	27	28	29	31	32	33	35	35	39	41
22	Plumbers	18	18	19	22	25	27	28	29	30	32	34	35	37	38	40	41
23																	

COST INDEX NUMBERS

Line	CONSTRUCTION, MATERIAL, AND LABOR	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
1	**Building Construction**																
2	Reinf. Conc. Bldg. Construction	134	139	150	167	184	190	189	196	211	222	229	234	246	258	262	257
3	Brick Building Construction	130	136	148	164	183	192	197	206	217	225	233	239	252	265	271	272
4	Structural Steel Erected	153	154	170	193	225	227	202	202	225	240	249	255	272	286	286	261
5	Reinf. Concrete (Ready-Mix)	124	131	140	154	166	176	191	201	210	220	225	229	238	244	251	260
6	Reinf. Concrete (Plant-Mix)	122	130	139	154	160	167	177	187	196	204	209	0	220	230	232	238
7																	
8	**Building Material**																
9	Ready-Mix Concrete	126	133	143	163	185	207	226	227	235	248	245	252	254	244	250	255
10	Lumber for Reinf. Concrete	106	118	130	148	139	138	135	143	144	140	140	146	143	148	147	145
11	Steel Bars for Reinf. Concrete	145	147	166	206	215	216	203	190	198	202	205	205	227	232	222	199
12	Common Brick	130	136	159	190	232	247	255	257	256	246	258	270	292	320	320	316
13	Concrete Block	116	120	139	185	210	228	260	260	262	278	285	287	285	301	288	288
14																	
15	**Labor**																
16	Building Trades Labor	122	129	135	143	152	164	184	199	212	221	229	234	245	256	268	285
17	Heavy Constr. Trades Labor	123	131	137	146	155	165	184	199	210	220	229	233	244	255	264	279
18	Labor for Reinf. Concrete	122	130	137	147	157	166	184	198	210	220	227	232	242	253	262	277
19	Common Labor	124	133	141	152	163	172	190	204	214	223	231	234	243	254	265	280
20	Electricians	124	129	135	143	150	164	186	207	224	234	239	244	261	271	280	298
21	Pipefitters	122	131	135	143	154	170	192	207	219	228	236	242	248	263	276	290
22	Plumbers	122	131	136	141	152	168	191	205	217	226	235	241	242	257	279	294
23																	

Line	CONSTRUCTION, MATERIAL, AND LABOR	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943
1	**Building Construction**																
2	Reinf. Conc. Bldg. Construction	16	16	15	14	12	13	15	15	15	16	16	16	17	18	20	20
3	Brick Building Construction	18	17	17	16	14	14	16	16	16	17	17	17	17	19	20	20
4	Structural Steel Erected	16	16	15	13	11	12	14	15	15	17	15	15	15	19	20	20
5	Reinf. Concrete (Ready-Mix)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Reinf. Concrete (Plant-Mix)	16	16	15	14	12	13	15	15	15	17	17	17	17	18	19	19
7																	
8	**Building Material**																
9	Ready-Mix Concrete	-	-	-	-	-	-	32	32	32	33	33	32	31	31	32	33
10	Lumber for Reinf. Concrete	15	15	14	12	10	12	16	13	13	15	15	15	16	19	21	22
11	Steel Bars for Reinf. Concrete	24	25	22	20	20	21	24	23	25	31	29	28	27	28	28	28
12	Common Brick	25	23	20	20	19	19	22	20	20	20	20	20	20	21	22	22
13	Concrete Block	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14																	
15	**Labor**																
16	Building Trades Labor	15	15	15	15	14	12	13	13	13	15	15	15	16	17	18	18
17	Heavy Constr. Trades Labor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Labor for Reinf. Concrete	11	11	10	10	9	9	11	11	11	12	13	13	14	14	14	15
19	Common Labor	9	9	9	9	8	6	8	9	9	10	10	11	11	12	12	13
20	Electricians	14	15	15	16	16	14	14	14	15	16	16	17	17	18	19	19
21	Pipefitters	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	Plumbers	14	15	15	15	13	13	14	14	14	15	16	16	17	17	18	18
23																	

Line	CONSTRUCTION, MATERIAL, AND LABOR	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
1	**Building Construction**																
2	Reinf. Conc. Bldg. Construction	55	54	55	55	57	58	59	62	65	70	75	84	91	100	121	134
3	Brick Building Construction	53	52	53	54	56	57	59	61	64	68	74	84	91	100	118	127
4	Structural Steel Erected	66	62	62	62	63	63	65	66	69	74	77	83	89	100	140	161
5	Reinf. Concrete (Ready-Mix)	51	52	53	54	55	57	59	61	64	69	77	88	94	100	111	119
6	Reinf. Concrete (Plant-Mix)	49	48	50	51	52	53	56	58	61	66	73	83	91	100	108	115
7																	
8	**Building Material**																
9	Ready-Mix Concrete	66	66	66	65	64	64	65	65	68	73	82	91	94	100	112	123
10	Lumber for Reinf. Concrete	47	39	41	40	39	38	41	42	46	53	53	63	75	100	93	91
11	Steel Bars for Reinf. Concrete	72	72	72	72	74	81	82	81	81	81	84	91	91	100	157	156
12	Common Brick	56	56	56	57	58	58	60	62	65	65	68	78	84	100	123	126
13	Concrete Block	68	70	70	70	70	67	70	72	75	77	81	90	98	100	109	113
14																	
15	**Labor**																
16	Building Trades Labor	45	46	48	50	52	54	56	59	62	68	76	87	96	100	108	115
17	Heavy Constr. Trades Labor	-	45	47	48	50	53	56	58	61	67	76	86	96	100	107	116
18	Labor for Reinf. Concrete	43	45	47	49	51	53	56	58	62	67	77	88	96	100	108	116
19	Common Labor	42	44	45	47	49	52	55	58	61	66	75	88	97	100	109	117
20	Electricians	43	45	48	49	51	53	55	57	60	64	72	82	91	100	108	117
21	Pipefitters	41	44	45	45	48	50	52	55	57	62	70	85	97	100	107	114
22	Plumbers	43	44	46	48	49	51	53	56	58	64	71	86	96	100	107	114
23																	

Line	CONSTRUCTION, MATERIAL, AND LABOR	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005 Jan. 1	2005 Jul. 1
1	**Building Construction**															
2	Reinf. Conc. Bldg. Construction	262	279	298	305	311	322	324	330	342	354	363	371	403	415	422
3	Brick Building Construction	278	290	304	310	315	328	337	345	359	372	383	391	414	425	431
4	Structural Steel Erected	260	278	305	317	325	334	336	344	360	372	375	385	433	443	452
5	Reinf. Concrete (Ready-Mix)	268	279	291	296	304	312	320	327	336	350	364	372	389	402	409
6	Reinf. Concrete (Plant-Mix)	247	265	281	279	286	298	296	299	304	316	324	328	351	364	373
7																
8	**Building Material**															
9	Ready-Mix Concrete	257	262	270	281	295	286	301	307	315	332	350	356	344	351	371
10	Lumber for Reinf. Concrete	150	193	227	196	206	218	186	182	168	179	164	153	182	182	215
11	Steel Bars for Reinf. Concrete	194	212	234	236	236	250	246	229	225	224	221	243	296	348	360
12	Common Brick	315	310	313	315	311	335	369	384	412	426	426	427	429	429	439
13	Concrete Block	288	263	262	258	258	285	306	332	354	365	381	384	394	406	406
14																
15	**Labor**															
16	Building Trades Labor	296	307	318	326	331	344	353	362	376	392	412	424	442	458	458
17	Heavy Constr. Trades Labor	291	300	311	319	325	337	348	358	372	386	402	411	430	446	446
18	Labor for Reinf. Concrete	289	297	308	314	320	333	343	354	366	382	400	407	426	439	439
19	Common Labor	293	303	315	315	327	338	349	359	376	389	400	407	421	428	428
20	Electricians	309	324	336	343	353	365	377	390	401	416	441	454	475	497	497
21	Pipefitters	305	317	323	335	342	352	361	374	388	409	423	435	470	488	488
22	Plumbers	305	320	330	339	348	355	363	368	385	405	425	438	455	469	469
23																

COST TRENDS OF BUILDING CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST TRENDS OF BUILDING CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS																COST INDEX NUMBERS													
2006		2007		2008		2009		2010		2011		2012		2013		2022		2023		2024		2025		2026		2027		2028		2029	
Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1
431	436	446	472	493	501	505	486	497	498	515	515	524	527	537	534	802	794	712	770										
441	443	457	472	492	497	506	494	506	507	521	518	530	532	542	539	850	848	934	968										
462	471	480	534	550	563	555	509	511	511	531	532	538	542	558	553	946	886	726	837										
414	418	434	446	469	476	484	484	500	506	516	517	525	526	527	527	707	730	707	723										
374	376	382	394	413	422	429	428	443	446	457	457	464	467	470	468	664	706	651	686										
371	379	382	425	425	425	429	430	430	437	431	439	441	441	436	436	554	632	597	631										
195	195	150	164	157	162	162	159	158	149	147	152	150	165	170	168	405	579	347	445										
324	361	380	420	398	490	334	326	358	416	417	406	393	391	365	356	781	767	578	631										
439	439	457	457	460	460	460	453	453	453	453	434	448	451	458	452	1198	1198	2053	2053										
428	450	460	386	390	390	390	390	443	432	430	432	428	428	445	445	553	633	654	755										
478	478	499	499	527	527	550	550	572	572	590	590	607	607	619	619	779	779	798	798										
459	459	483	483	517	517	542	542	564	564	584	584	596	596	605	605	778	778	795	795										
452	452	476	476	512	512	541	541	562	562	579	579	591	591	598	598	762	762	779	779										
436	436	475	475	510	510	550	550	572	572	590	590	604	604	604	604	801	801	814	814										
512	512	543	543	564	564	582	582	615	615	632	632	665	665	674	674	848	848	872	872										
514	514	526	526	566	566	590	590	607	607	642	642	658	658	668	668	843	843	860	860										
502	502	520	520	545	545	580	580	597	597	610	610	623	623	634	634	813	813	837	837										

2014		2015		2016		2017		2018		2019		2020		2021		2030		2031		2032		2033		2034		2035		2036		2037	
Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1
546	549	557	549	552	558	569	576	589	611	611	605	617	613	653	723																
550	552	585	580	586	589	604	608	633	647	647	643	664	662	692	735																

561	567	568	555	549	556	561	569	579	617	618	604	609	594	652	762
541	543	556	554	564	567	581	585	602	609	611	608	625	629	650	685
482	482	497	490	497	505	519	527	541	561	553	551	565	568	599	666
441	452	455	461	471	471	481	485	488	488	489	488	492	514	521	537
174	170	188	182	178	204	222	240	244	309	255	249	243	259	330	525
363	373	368	326	288	307	316	349	342	393	413	381	333	325	342	609
449	449	617	617	618	618	636	637	725	725	709	709	757	757	765	765
444	499	505	485	483	429	427	411	411	443	429	461	462	461	463	504
636	636	646	646	660	660	678	678	696	696	707	707	732	732	755	755
620	620	640	640	659	659	673	673	696	696	705	705	732	732	754	754
616	616	633	633	651	651	666	666	690	690	693	693	723	723	745	745
620	620	644	644	661	661	674	674	705	705	712	712	750	750	777	777
691	691	702	702	724	724	731	731	753	753	775	775	787	787	815	815
694	694	704	704	717	717	738	738	755	755	768	768	780	780	796	796
655	655	668	668	674	674	696	696	716	716	734	734	751	751	776	776

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COST TRENDS OF BUILDING CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST TRENDS OF BUILDING CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST TRENDS OF BUILDING CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST TRENDS OF BUILDING CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION, MATERIAL, AND LABOR	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927
1	**Building Construction**																
2	Reinf. Conc. Bldg. Construction	8	8	8	8	12	18	19	19	20	15	14	17	17	17	17	16
3	Brick Building Construction	8	8	8	9	11	15	17	19	21	17	16	18	19	18	18	18
4	Structural Steel Erected	9	9	9	8	16	29	26	22	22	16	15	19	19	17	17	16
5	Reinf. Concrete (Ready-Mix)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Reinf. Concrete (Plant-Mix)	7	7	7	8	10	13	16	17	18	14	14	15	17	17	16	16
7																	
8	**Building Material**																
9	Ready-Mix Concrete	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Lumber for Reinf. Concrete	7	7	7	7	9	13	19	19	20	14	13	15	19	19	15	15
11	Steel Bars for Reinf. Concrete	15	15	15	17	34	47	37	35	37	24	22	28	29	27	25	24
12	Common Brick	10	10	10	14	16	19	20	27	34	31	30	33	30	28	28	28
13	Concrete Block	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14																	
15	**Labor**																
16	Building Trades Labor	6	6	6	6	6	7	8	10	11	11	11	12	13	14	15	15
17	Heavy Constr. Trades Labor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Labor for Reinf. Concrete	5	5	5	5	5	6	8	10	11	9	9	10	11	11	11	11
19	Common Labor	4	4	4	4	5	5	8	10	11	9	8	9	9	9	9	9
20	Electricians	5	5	5	6	6	6	8	9	10	11	11	11	12	13	14	14
21	Pipefitters	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	Plumbers	6	6	6	6	6	7	8	9	9	11	11	12	12	13	14	14
23																	

COST INDEX NUMBERS

Line	CONSTRUCTION, MATERIAL, AND LABOR	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943
1	**Building Construction**																
2	Reinf. Conc. Bldg. Construction	16	16	15	14	12	13	15	15	15	16	16	16	17	18	20	20
3	Brick Building Construction	18	17	17	16	14	14	16	16	16	17	17	17	17	19	20	20
4	Structural Steel Erected	16	16	15	13	11	12	14	15	15	17	15	15	15	19	20	20
5	Reinf. Concrete (Ready-Mix)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Reinf. Concrete (Plant-Mix)	16	16	15	14	12	13	15	15	15	17	17	17	18	19	19	
7																	
8	**Building Material**																
9	Ready-Mix Concrete	-	-	-	-	-	-	32	32	32	33	33	32	31	31	32	33
10	Lumber for Reinf. Concrete	15	15	14	12	10	12	16	13	13	15	15	15	16	19	21	22
11	Steel Bars for Reinf. Concrete	24	25	22	20	20	21	24	23	25	31	29	28	27	28	28	28
12	Common Brick	25	23	20	20	19	19	22	20	20	20	20	20	20	21	22	22
13	Concrete Block	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14																	
15	**Labor**																
16	Building Trades Labor	15	15	15	15	14	12	13	13	13	15	15	15	16	17	18	18
17	Heavy Constr. Trades Labor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Labor for Reinf. Concrete	11	11	10	10	9	9	11	11	11	12	13	13	14	14	14	15
19	Common Labor	9	9	9	9	8	6	8	9	9	10	10	11	11	12	12	13
20	Electricians	14	15	15	16	16	14	14	14	15	16	16	17	17	18	19	19
21	Pipefitters	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	Plumbers	14	15	15	15	13	13	14	14	14	15	16	16	17	17	18	18
23																	

COST INDEX NUMBERS

Line	CONSTRUCTION, MATERIAL, AND LABOR	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
1	**Building Construction**																
2	Reinf. Conc. Bldg. Construction	20	20	24	28	32	34	35	37	38	40	42	44	48	52	53	55
3	Brick Building Construction	21	21	24	28	32	34	35	37	38	39	41	42	46	49	50	52
4	Structural Steel Erected	20	20	24	30	37	39	41	43	43	47	48	50	59	66	67	67
5	Reinf. Concrete (Ready-Mix)	-	-	-	-	-	-	-	-	35	37	39	41	43	46	48	50
6	Reinf. Concrete (Plant-Mix)	20	21	24	27	30	31	32	34	35	36	38	40	42	44	45	47
7																	
8	**Building Material**																
9	Ready-Mix Concrete	33	33	35	39	44	45	46	47	49	50	54	57	60	63	66	66
10	Lumber for Reinf. Concrete	23	23	29	33	38	34	37	37	38	36	39	42	44	45	44	47
11	Steel Bars for Reinf. Concrete	28	28	30	34	37	43	45	47	48	51	53	56	61	68	70	72
12	Common Brick	23	27	31	33	38	42	43	47	47	48	50	51	52	53	54	54
13	Concrete Block	-	-	-	-	-	56	58	62	63	63	62	67	69	70	69	73
14																	
15	**Labor**																
16	Building Trades Labor	18	19	21	23	26	27	28	31	31	33	34	36	37	39	41	43
17	Heavy Constr. Trades Labor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Labor for Reinf. Concrete	15	16	18	22	24	25	26	27	29	30	32	33	35	37	39	41
19	Common Labor	13	14	17	19	21	23	24	25	27	28	30	31	33	35	37	40
20	Electricians	14	19	20	23	25	27	28	30	32	33	34	35	37	38	41	42
21	Pipefitters	-	-	-	-	-	26	27	28	29	31	32	33	35	35	39	41
22	Plumbers	18	18	19	22	25	27	28	29	30	32	34	35	37	38	40	41
23																	

COST INDEX NUMBERS

Line	CONSTRUCTION, MATERIAL, AND LABOR	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
1	**Building Construction**																
2	Reinf. Conc. Bldg. Construction	55	54	55	55	57	58	59	62	65	70	75	84	91	100	121	134
3	Brick Building Construction	53	52	53	54	56	57	59	61	64	68	74	84	91	100	118	127
4	Structural Steel Erected	66	62	62	62	63	63	65	66	69	74	77	83	89	100	140	161
5	Reinf. Concrete (Ready-Mix)	51	52	53	54	55	57	59	61	64	69	77	88	94	100	111	119
6	Reinf. Concrete (Plant-Mix)	49	48	50	51	52	53	56	58	61	66	73	83	91	100	108	115
7																	
8	**Building Material**																
9	Ready-Mix Concrete	66	66	66	65	64	64	65	65	68	73	82	91	94	100	112	123
10	Lumber for Reinf. Concrete	47	39	41	40	39	38	41	42	46	53	53	63	75	100	93	91
11	Steel Bars for Reinf. Concrete	72	72	72	74	81	82	81	81	81	84	91	91	100	157	156	194
12	Common Brick	56	56	56	57	58	58	60	62	65	65	68	78	84	100	123	126
13	Concrete Block	68	70	70	70	70	67	70	72	75	77	81	90	98	100	109	113
14																	
15	**Labor**																
16	Building Trades Labor	45	46	48	50	52	54	56	59	62	68	76	87	96	100	108	115
17	Heavy Constr. Trades Labor	-	45	47	48	50	53	56	58	61	67	76	86	96	100	107	116
18	Labor for Reinf. Concrete	43	45	47	49	51	53	56	58	62	67	77	88	96	100	108	116
19	Common Labor	42	44	45	47	49	52	55	58	61	66	75	88	97	100	109	117
20	Electricians	43	45	48	49	51	53	55	57	60	64	72	82	91	100	108	117
21	Pipefitters	41	44	45	45	48	50	52	55	57	62	70	85	97	100	107	114
22	Plumbers	43	44	46	48	49	51	53	56	58	64	71	86	96	100	107	114
23																	

COST INDEX NUMBERS

Line	CONSTRUCTION, MATERIAL, AND LABOR	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
1	**Building Construction**																
2	Reinf. Conc. Bldg. Construction	139	150	167	184	190	189	196	211	222	229	234	246	258	262	257	
3	Brick Building Construction	136	148	164	183	192	197	206	217	225	233	239	252	265	271	272	
4	Structural Steel Erected	154	170	193	225	227	202	202	225	240	249	255	272	286	286	261	
5	Reinf. Concrete (Ready-Mix)	131	140	154	166	176	191	201	210	220	225	229	238	244	251	260	
6	Reinf. Concrete (Plant-Mix)	130	139	154	160	167	177	187	196	204	209	212	220	230	232	238	
7																	
8	**Building Material**																
9	Ready-Mix Concrete	133	143	163	185	207	226	227	235	248	245	252	254	244	250	255	
10	Lumber for Reinf. Concrete	118	130	148	139	138	135	143	144	140	140	146	143	148	147	145	
11	Steel Bars for Reinf. Concrete	147	166	206	215	216	203	190	198	202	205	205	227	232	222	199	
12	Common Brick	136	159	190	232	247	255	257	256	246	258	270	292	320	320	316	
13	Concrete Block	120	139	185	210	228	260	260	262	278	285	287	285	301	288	288	
14																	
15	**Labor**																
16	Building Trades Labor	129	135	143	152	164	184	199	212	221	229	234	245	256	268	285	
17	Heavy Constr. Trades Labor	131	137	146	155	165	184	199	210	220	229	233	244	255	264	279	
18	Labor for Reinf. Concrete	130	137	147	157	166	184	198	210	220	227	232	242	253	262	277	
19	Common Labor	133	141	152	163	172	190	204	214	223	231	234	243	254	265	280	
20	Electricians	131	135	143	154	170	192	207	219	228	236	242	248	263	276	290	
21	Pipefitters	131	136	141	152	168	191	205	217	226	235	241	242	257	279	294	
22	Plumbers	131	136	141	152	168	191	205	217	226	235	241	242	257	279	294	
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COST INDEX NUMBERS

Line	CONSTRUCTION, MATERIAL, AND LABOR	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001 Jan. 1	2001 Jul. 1	2002 Jan. 1	2002 Jul. 1	2003 Jan. 1	2003 Jul. 1
1	**Building Construction**															
2	Reinf. Conc. Bldg. Construction	262	279	298	305	311	322	324	330	342	345	357	358	364	364	363
3	Brick Building Construction	278	290	304	310	315	328	337	345	359	364	374	377	384	385	385
4	Structural Steel Erected	260	278	305	317	325	334	336	344	360	363	373	377	373	375	373
5	Reinf. Concrete (Ready-Mix)	268	279	291	296	304	312	320	327	336	340	351	357	366	367	368
6	Reinf. Concrete (Plant-Mix)	247	265	281	279	286	298	296	299	304	305	321	316	328	322	323
7																
8	**Building Material**															
9	Ready-Mix Concrete	257	262	270	281	295	286	301	307	315	321	328	351	346	355	357
10	Lumber for Reinf. Concrete	150	193	227	196	206	218	186	182	168	158	199	159	173	149	144
11	Steel Bars for Reinf. Concrete	194	212	234	236	236	250	246	229	225	218	230	218	223	220	239
12	Common Brick	315	310	313	315	311	335	369	384	412	424	427	427	426	426	427
13	Concrete Block	288	263	262	258	258	285	306	332	354	360	362	377	381	383	383
14																
15	**Labor**															
16	Building Trades Labor	296	307	318	326	331	344	353	362	376	384	392	401	413	419	419
17	Heavy Constr. Trades Labor	291	300	311	319	325	337	348	358	372	377	387	393	405	406	406
18	Labor for Reinf. Concrete	289	297	308	314	320	333	343	354	366	373	382	390	403	402	402
19	Common Labor	293	303	315	315	327	338	349	359	376	380	391	394	402	403	403
20	Electricians	309	324	336	343	353	365	377	390	401	407	412	431	442	449	449
21	Pipefitters	305	317	323	335	342	352	361	374	388	399	410	417	425	425	425
22	Plumbers	305	320	330	339	348	355	363	368	385	395	406	412	427	434	434
23																

COST INDEX NUMBERS

Line	CONSTRUCTION, MATERIAL, AND LABOR	2004 Jan. 1	2004 Jul. 1	2005 Jan. 1	2005 Jul. 1	2006 Jan. 1	2006 Jul. 1	2007 Jan. 1	2007 Jul. 1	2008 Jan. 1	2008 Jul. 1	2009 Jan. 1	2009 Jul. 1	2010 Jan. 1	2010 Jul. 1	2011 Jan. 1	2011 Jul. 1	2012 Jan. 1	2012 Jul. 1	2013 Jan. 1	2013 Jul. 1	2014 Jan. 1	2014 Jul. 1	2015 Jan. 1	2015 Jul. 1	2016 Jan. 1	2016 Jul. 1	2017 Jan. 1	2017 Jul. 1	2018 Jan. 1	2018 Jul. 1	2019 Jan. 1	2019 Jul. 1
1	**Building Construction**																																
2	Reinf. Conc. Bldg. Construction	394	402	415	422	431	436	446	472	493	501	505	486	497	498	515	515	524	527	537	534	546	549	557									
3	Brick Building Construction	407	412	425	431	441	443	457	472	492	497	506	494	506	507	521	518	530	532	542	539	550	552	585									
4	Structural Steel Erected	419	434	443	452	462	471	480	534	550	563	555	509	511	511	531	532	538	542	558	553	561	567	568									
5	Reinf. Concrete (Ready-Mix)	386	383	402	409	414	418	434	446	469	476	484	484	500	506	516	517	525	526	527	527	541	543	556									
6	Reinf. Concrete (Plant-Mix)	345	348	364	373	374	376	382	394	413	422	429	428	443	446	457	457	464	467	470	468	482	482	497									
7																																	
8	**Building Material**																																
9	Ready-Mix Concrete	355	334	351	371	371	379	382	425	425	425	429	430	430	437	431	439	441	441	436	436	441	452	455									
10	Lumber for Reinf. Concrete	175	186	182	215	195	195	150	164	157	162	162	159	158	149	147	152	150	165	170	168	174	170	188									
11	Steel Bars for Reinf. Concrete	275	280	348	360	324	361	380	420	398	490	334	326	358	416	417	406	393	391	365	356	363	373	368									
12	Common Brick	427	429	429	439	439	439	457	457	460	460	460	453	453	453	453	434	448	451	458	452	449	449	617									
13	Concrete Block	388	390	406	406	428	450	460	386	390	390	390	390	443	432	430	432	428	428	445	445	444	499	505									
14																																	
15	**Labor**																																
16	Building Trades Labor	437	437	458	458	478	478	499	499	527	527	550	550	572	572	590	590	607	607	619	619	636	636	646									
17	Heavy Constr. Trades Labor	424	424	446	446	459	459	483	483	517	517	542	542	564	564	584	584	596	596	605	605	620	620	640									
18	Labor for Reinf. Concrete	422	422	439	439	452	452	476	476	512	512	541	541	562	562	579	579	591	591	598	598	616	616	633									
19	Common Labor	418	418	428	428	436	436	475	475	510	510	550	550	572	572	590	590	604	604	604	604	620	620	644									
20	Electricians	464	464	488	488	514	514	526	526	566	566	590	590	607	607	642	642	665	665	674	674	691	691	702									
21	Pipefitters	464	464	488	488	514	514	526	526	566	566	590	590	607	607	642	642	658	658	668	668	694	694	704									
22	Plumbers	450	450	469	469	502	502	520	520	545	545	580	580	597	597	610	610	623	623	634	634	655	655	668									
23																																	

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 24-G-0323
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COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	ERC	912	913	914	915	916	917	918	919	920	921	922	923	924	925
1	Total Plant-All Steam Generation		10	10	10	10	13	15	18	19	21	19	18	18	19	19
2	Total Plant-All Steam & Nuclear Gen.		-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Total Plant-All Steam & Hydro Gen.		-	-	-	10	12	15	18	19	21	20	19	19	19	19
4																
5	**Steam Production Plant**															
6	Total Steam Production Plant		8	8	8	9	11	15	18	18	25	19	17	18	19	18
7	Structures & Improvements-Indoor	311	-	-	-	9	11	16	17	18	20	18	18	18	19	18
8	Structures & Improvements-Semi-Outdoor	311	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Boiler Plant Equipment-Coal Fired	312	8	8	8	8	10	16	19	17	18	16	14	15	17	16
10	Boiler Plant Equipment-Gas Fired	312	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Boiler Plant Piping Installed		10	10	10	8	11	18	19	20	18	18	16	17	18	18
12	Turbogenerator Units	314	9	9	9	9	13	14	17	19	22	23	20	19	19	19
13	Accessory Electrical Equipment	315	14	14	14	14	16	18	21	26	27	27	26	26	26	26
14	Misc. Power Plant Equipment	316	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15																
16	**Nuclear Production Plant**															
17	Total Nuclear Production Plant		-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Structures & Improvements	321	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Reactor Plant Equipment	322	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20																
21	**Hydro Production Plant**															
22	Total Hydraulic Production Plant		-	-	-	8	9	13	14	15	16	16	15	15	16	16
23	Structures & Improvements	331	-	-	-	9	11	16	17	18	20	18	18	18	19	18
24	Reservoirs, Dams & Waterways	332	-	-	-	7	9	13	15	15	17	17	16	16	17	16
25	Water Wheels, Turbines & Generators	333	-	-	-	7	9	11	12	13	14	13	12	12	12	12
26																
27	**Other Production Plant**															
28	Total Other Production Plant		-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	Fuel Holders, Producers & Accessories	342	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	Gas Turbogenerators	344	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31																
32	**Transmission Plant**															
33	Total Transmission Plant		11	11	10	11	13	16	19	20	22	21	20	20	20	20
34	Station Equipment	353	15	15	15	15	17	20	25	27	30	30	28	28	29	29
35	Towers & Fixtures	354	8	8	8	8	11	15	16	16	16	16	15	15	16	16
36	Poles & Fixtures	355	6	6	6	6	7	8	12	14	15	13	12	13	13	13
37	Overhead Conductors & Devices	356	15	14	13	13	21	23	27	28	29	21	20	21	21	22
38	Underground Conduit	357	6	7	7	7	8	10	14	16	17	16	15	16	16	15
39	Underground Conductors & Devices	358	12	11	10	11	16	18	21	22	23	18	18	21	20	20
40																
41	**Distribution Plant**															
42	Total Distribution Plant		11	11	11	11	13	15	19	20	22	21	20	20	20	20
43	Station Equipment	362	15	15	16	16	17	20	25	27	30	30	28	28	29	29
44	Poles, Towers & Fixtures	364	6	6	6	6	7	9	10	11	13	14	13	13	14	14
45	Overhead Conductors & Devices	365	12	11	10	11	17	19	22	23	23	17	16	17	17	18
46	Underground Conduit	366	8	8	8	8	9	12	16	18	20	19	17	18	18	18
47	Underground Conductors & Devices	367	12	11	11	11	16	19	22	23	24	19	19	22	21	21
48	Line Transformers	368	42	42	42	42	42	45	61	64	68	70	62	60	62	61
49	Pad Mounted Transformers	368	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	Services-Overhead	369	11	10	9	10	14	17	20	21	21	15	14	16	16	16
51	Services-Underground	369	10	10	11	12	14	17	20	22	22	18	16	17	17	18
52	Meters Installed	370	31	31	31	31	31	35	39	44	46	49	46	44	43	42
53	Street Lighting-Overhead	373	-	-	-	-	-	-	-	-	-	-	-	-	22	22
54	Mast Arms & Luminaires Installed	373	-	-	-	-	-	-	-	-	-	-	-	-	-	-
55	Street Lighting-Underground	373	-	-	-	-	-	-	-	-	-	-	-	-	23	23
56																

COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	ERC	926	927	928	929	930	931	932	933	934	935	936	937	938	939
1	Total Plant-All Steam Generation		18	18	18	19	18	18	17	17	19	19	19	21	21	21
2	Total Plant-All Steam & Nuclear Gen.		-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Total Plant-All Steam & Hydro Gen.		19	19	19	20	19	19	18	18	19	19	20	22	22	22
4																
5	**Steam Production Plant**															
6	Total Steam Production Plant		18	18	18	19	19	18	17	17	19	19	20	22	22	22
7	Structures & Improvements-Indoor	311	18	18	18	18	17	16	15	15	16	16	16	18	18	18
8	Structures & Improvements-Semi-Outdoor	311	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Boiler Plant Equipment-Coal Fired	312	16	16	16	16	16	15	14	14	16	16	17	19	19	19
10	Boiler Plant Equipment-Gas Fired	312	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Boiler Plant Piping Installed		18	19	19	19	19	19	17	16	16	16	16	18	18	18
12	Turbogenerator Units	314	19	19	19	22	23	22	21	22	25	26	26	29	30	30
13	Accessory Electrical Equipment	315	26	26	26	27	27	26	25	25	27	27	28	30	30	31
14	Misc. Power Plant Equipment	316	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15																
16	**Nuclear Production Plant**															
17	Total Nuclear Production Plant		-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Structures & Improvements	321	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Reactor Plant Equipment	322	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20																
21	**Hydro Production Plant**															
22	Total Hydraulic Production Plant		16	16	16	16	16	15	14	14	15	15	16	17	17	17
23	Structures & Improvements	331	18	18	18	18	17	16	15	15	16	16	16	18	18	18
24	Reservoirs, Dams & Waterways	332	17	17	17	17	17	16	14	14	15	15	15	17	17	17
25	Water Wheels, Turbines & Generators	333	12	12	13	14	14	14	13	13	14	16	16	17	18	19
26																
27	**Other Production Plant**															
28	Total Other Production Plant		-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	Fuel Holders, Producers & Accessories	342	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	Gas Turbogenerators	344	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31																
32	**Transmission Plant**															
33	Total Transmission Plant		20	20	20	22	20	20	19	19	20	21	22	23	23	23
34	Station Equipment	353	30	29	29	31	30	29	28	29	32	32	33	35	36	36
35	Towers & Fixtures	354	16	16	16	16	16	16	14	14	15	15	16	17	17	17
36	Poles & Fixtures	355	13	12	12	12	12	12	11	10	12	12	12	14	14	15
37	Overhead Conductors & Devices	356	22	21	23	25	21	19	17	18	21	21	22	23	22	22
38	Underground Conduit	357	15	15	15	15	15	15	13	11	14	15	15	16	17	17
39	Underground Conductors & Devices	358	20	19	21	23	19	19	18	19	20	20	22	24	22	23
40																
41	**Distribution Plant**															
42	Total Distribution Plant		20	20	20	21	20	20	19	19	20	20	20	22	22	22
43	Station Equipment	362	28	27	26	27	27	27	26	26	28	28	29	31	31	32
44	Poles, Towers & Fixtures	364	14	13	13	13	14	13	12	12	13	13	13	15	15	15
45	Overhead Conductors & Devices	365	17	17	18	20	17	16	14	15	17	17	17	19	18	18
46	Underground Conduit	366	17	18	18	18	17	17	16	13	16	17	17	18	20	20
47	Underground Conductors & Devices	367	21	20	22	24	20	20	18	20	21	21	23	25	23	24
48	Line Transformers	368	57	53	52	56	55	53	51	53	54	55	55	59	61	61
49	Pad Mounted Transformers	368	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	Services-Overhead	369	16	15	17	18	15	14	13	14	15	15	16	17	17	17
51	Services-Underground	369	19	18	18	18	17	17	15	15	17	17	18	21	20	20
52	Meters Installed	370	42	42	42	42	42	42	42	44	46	48	48	48	48	48
53	Street Lighting-Overhead	373	21	20	22	22	22	21	20	21	22	22	23	24	24	23
54	Mast Arms & Luminaires Installed	373	-	-	-	-	-	-	-	-	-	-	-	-	-	-
55	Street Lighting-Underground	373	23	21	23	23	24	24	24	24	25	25	25	26	26	27
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COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

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COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	ERC	940	941	942	943	944	945	946	947	948	949	950	951	952	953
1	Total Plant-All Steam Generation		22	23	24	24	24	24	29	33	36	38	40	44	45	48
2	Total Plant-All Steam & Nuclear Gen.		-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Total Plant-All Steam & Hydro Gen.		22	23	24	24	25	25	28	33	37	38	40	43	44	47
4																
5	**Steam Production Plant**															
6	Total Steam Production Plant		22	24	24	24	24	24	28	32	36	39	40	44	44	46
7	Structures & Improvements-Indoor	311	18	19	20	21	21	22	24	28	32	35	36	38	38	39
8	Structures & Improvements-Semi-Outdoor	311	-	-	-	-	-	-	-	-	-	38	38	38	39	41
9	Boiler Plant Equipment-Coal Fired	312	20	21	21	21	21	21	24	27	32	35	37	41	42	43
10	Boiler Plant Equipment-Gas Fired	312	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Boiler Plant Piping Installed		19	20	20	21	21	20	23	26	28	29	32	35	36	37
12	Turbogenerator Units	314	30	30	30	30	30	30	35	42	45	47	47	52	52	55
13	Accessory Electrical Equipment	315	32	32	32	32	31	32	37	43	44	46	49	56	57	60
14	Misc. Power Plant Equipment	316	-	-	-	-	-	-	-	-	-	37	39	40	43	44
15																
16	**Nuclear Production Plant**															
17	Total Nuclear Production Plant		-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Structures & Improvements	321	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Reactor Plant Equipment	322	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20																
21	**Hydro Production Plant**															
22	Total Hydraulic Production Plant		18	19	17	20	21	21	24	28	32	33	35	36	38	40
23	Structures & Improvements	331	18	19	20	21	21	22	24	28	32	35	36	38	38	39
24	Reservoirs, Dams & Waterways	332	17	18	20	20	20	21	23	27	31	32	34	35	36	38
25	Water Wheels, Turbines & Generators	333	20	21	22	23	23	23	26	31	34	35	37	41	43	46
26																
27	**Other Production Plant**															
28	Total Other Production Plant		-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	Fuel Holders, Producers & Accessories	342	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	Gas Turbogenerators	344	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31																
32	**Transmission Plant**															
33	Total Transmission Plant		24	25	25	25	25	26	29	34	38	39	42	46	48	50
34	Station Equipment	353	36	37	37	37	35	35	39	46	49	52	56	63	65	68
35	Towers & Fixtures	354	18	19	20	20	20	21	23	27	30	32	34	36	38	40
36	Poles & Fixtures	355	15	16	17	18	19	22	23	28	30	31	32	35	37	39
37	Overhead Conductors & Devices	356	23	24	26	27	27	28	33	38	40	40	42	46	48	50
38	Underground Conduit	357	17	18	19	19	20	21	24	27	31	32	33	35	37	38
39	Underground Conductors & Devices	358	23	26	27	27	27	27	32	37	44	47	51	62	64	63
40																
41	**Distribution Plant**															
42	Total Distribution Plant		23	24	25	25	26	26	29	34	37	39	41	44	45	48
43	Station Equipment	362	33	33	33	33	32	34	39	44	46	48	50	55	56	59
44	Poles, Towers & Fixtures	364	16	17	18	19	21	22	23	28	31	32	33	35	36	38
45	Overhead Conductors & Devices	365	19	19	21	21	22	22	26	30	32	32	34	37	39	40
46	Underground Conduit	366	21	21	22	23	23	23	26	29	33	34	36	38	39	40
47	Underground Conductors & Devices	367	24	27	28	28	28	28	33	39	46	50	53	65	67	67
48	Line Transformers	368	61	63	62	58	58	58	65	81	84	87	91	103	103	109
49	Pad Mounted Transformers	368	-	-	-	-	-	-	-	-	-	102	102	102	102	102
50	Services-Overhead	369	17	18	19	20	21	21	25	28	30	30	32	35	37	39
51	Services-Underground	369	21	24	24	25	26	26	30	34	37	38	39	44	45	45
52	Meters Installed	370	48	49	49	49	49	49	54	61	65	70	70	70	70	73
53	Street Lighting-Overhead	373	24	25	26	26	27	27	30	36	39	42	44	48	50	51
54	Mast Arms & Luminaires Installed	373	-	-	-	-	-	-	-	-	-	-	-	-	-	-
55	Street Lighting-Underground	373	27	27	28	28	30	30	32	39	42	43	42	46	46	47
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COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	ERC	954	955	956	957	958	959	960	961	962	963	964	965	966	967
1	Total Plant-All Steam Generation		49	50	55	58	59	61	60	59	60	60	62	64	66	68
2	Total Plant-All Steam & Nuclear Gen.		-	-	-	-	-	-	-	-	-	-	-	63	65	68
3	Total Plant-All Steam & Hydro Gen.		48	49	54	57	58	59	59	59	59	60	61	63	65	68
4																
5	**Steam Production Plant**															
6	Total Steam Production Plant		48	49	56	61	63	64	64	62	62	62	63	64	66	68
7	Structures & Improvements-Indoor	311	41	43	46	49	50	52	53	53	54	55	56	57	59	61
8	Structures & Improvements-Semi-Outdoor	311	43	45	50	55	56	58	58	56	57	57	58	60	62	63
9	Boiler Plant Equipment-Coal Fired	312	45	47	53	59	61	64	64	64	64	64	66	67	69	71
10	Boiler Plant Equipment-Gas Fired	312	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Boiler Plant Piping Installed		40	42	47	51	53	56	58	59	59	60	60	61	63	66
12	Turbogenerator Units	314	57	58	68	75	80	79	75	69	68	67	68	69	70	72
13	Accessory Electrical Equipment	315	62	62	66	70	73	72	67	58	59	58	60	65	66	71
14	Misc. Power Plant Equipment	316	46	47	50	53	56	57	58	59	60	60	62	63	65	68
15																
16	**Nuclear Production Plant**															
17	Total Nuclear Production Plant		-	-	-	-	-	-	-	-	-	-	-	64	66	69
18	Structures & Improvements	321	-	-	-	-	-	-	-	-	-	-	-	60	62	64
19	Reactor Plant Equipment	322	-	-	-	-	-	-	-	-	-	-	-	65	67	70
20																
21	**Hydro Production Plant**															
22	Total Hydraulic Production Plant		41	43	47	50	52	54	55	55	56	57	59	60	63	65
23	Structures & Improvements	331	41	43	46	49	50	52	53	53	54	55	56	57	59	61
24	Reservoirs, Dams & Waterways	332	40	41	44	47	49	51	52	53	55	56	57	59	61	64
25	Water Wheels, Turbines & Generators	333	47	49	56	62	65	66	66	65	64	65	66	67	69	71
26																
27	**Other Production Plant**															
28	Total Other Production Plant		-	-	-	-	-	-	-	-	-	-	71	72	74	81
29	Fuel Holders, Producers & Accessories	342	-	-	-	-	-	-	-	-	-	-	61	62	64	66
30	Gas Turbogenerators	344	-	-	-	-	-	-	-	-	-	-	74	74	77	85
31																
32	**Transmission Plant**															
33	Total Transmission Plant		51	53	57	58	60	60	60	58	58	58	61	64	66	70
34	Station Equipment	353	69	70	77	81	84	83	77	69	68	64	68	72	74	78
35	Towers & Fixtures	354	41	42	45	48	50	52	53	54	56	57	59	62	65	68
36	Poles & Fixtures	355	40	41	44	47	48	49	51	51	53	54	55	57	60	62
37	Overhead Conductors & Devices	356	53	56	61	65	64	62	63	63	64	59	63	66	69	71
38	Underground Conduit	357	40	41	44	47	49	50	51	53	55	56	58	60	62	64
39	Underground Conductors & Devices	358	65	68	66	58	58	60	61	60	60	61	65	71	72	74
40																
41	**Distribution Plant**															
42	Total Distribution Plant		49	50	53	54	56	56	57	57	58	58	60	62	64	67
43	Station Equipment	362	61	62	68	72	74	74	72	67	68	66	68	70	71	76
44	Poles, Towers & Fixtures	364	39	40	44	46	47	48	50	50	52	53	54	57	59	61
45	Overhead Conductors & Devices	365	42	45	49	49	48	50	51	51	53	54	56	59	61	65
46	Underground Conduit	366	42	43	46	48	50	52	54	55	57	58	60	61	62	64
47	Underground Conductors & Devices	367	68	71	70	61	61	63	64	63	63	64	69	75	76	78
48	Line Transformers	368	112	112	115	121	118	114	112	108	98	93	93	95	95	98
49	Pad Mounted Transformers	368	102	102	102	102	102	102	99	95	94	95	90	90	93	96
50	Services-Overhead	369	39	42	45	43	43	45	47	47	48	49	51	54	57	61
51	Services-Underground	369	44	44	46	45	43	44	42	42	45	46	48	52	57	60
52	Meters Installed	370	74	71	74	78	80	82	83	82	82	82	82	82	82	83
53	Street Lighting-Overhead	373	54	54	57	62	65	65	64	64	64	65	66	67	68	72
54	Mast Arms & Luminaires Installed	373	-	57	64	70	70	66	66	66	65	65	67	68	72	71
55	Street Lighting-Underground	373	51	53	54	59	61	61	62	60	60	61	61	62	67	74
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Line	CONSTRUCTION AND EQUIPMENT	ERC	968	969	970	971	972	973	974	975	976	977	978	979	980	981
1	Total Plant-All Steam Generation		71	74	80	87	93	100	118	137	144	153	162	178	194	210
2	Total Plant-All Steam & Nuclear Gen.		70	74	80	88	93	100	119	136	143	152	161	176	192	209
3	Total Plant-All Steam & Hydro Gen.		70	74	81	87	93	100	118	137	144	152	161	177	193	209
4																
5	**Steam Production Plant**															
6	Total Steam Production Plant		70	74	79	87	95	100	118	136	144	155	167	184	200	218
7	Structures & Improvements-Indoor	311	64	68	75	84	92	100	117	127	130	137	148	163	181	191
8	Structures & Improvements-Semi-Outdoor	311	66	71	77	85	92	100	123	137	137	142	153	170	190	198
9	Boiler Plant Equipment-Coal Fired	312	73	76	81	88	95	100	120	140	151	162	175	192	210	229
10	Boiler Plant Equipment-Gas Fired	312	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Boiler Plant Piping Installed		68	71	77	88	97	100	112	124	134	146	160	177	191	209
12	Turbogenerator Units	314	72	75	80	89	98	100	111	127	140	153	164	181	197	219
13	Accessory Electrical Equipment	315	74	77	82	88	94	100	117	135	144	155	161	174	188	207
14	Misc. Power Plant Equipment	316	71	75	80	87	94	100	115	128	136	147	158	174	189	212
15																
16	**Nuclear Production Plant**															
17	Total Nuclear Production Plant		71	75	81	88	95	100	113	127	136	146	155	170	185	201
18	Structures & Improvements	321	67	73	79	87	93	100	113	123	130	137	146	160	174	186
19	Reactor Plant Equipment	322	72	76	83	89	96	100	113	128	139	147	157	171	187	204
20																
21	**Hydro Production Plant**															
22	Total Hydraulic Production Plant		68	73	79	86	94	100	115	128	135	143	153	170	186	199
23	Structures & Improvements	331	64	68	75	84	92	100	117	127	130	137	148	163	181	191
24	Reservoirs, Dams & Waterways	332	67	72	78	86	94	100	115	127	133	139	148	164	179	189
25	Water Wheels, Turbines & Generators	333	73	78	83	88	95	100	114	130	143	157	170	188	207	231
26																
27	**Other Production Plant**															
28	Total Other Production Plant		86	88	93	97	99	100	109	133	146	159	166	179	193	211
29	Fuel Holders, Producers & Accessories	342	68	74	81	88	96	100	114	129	140	150	164	179	195	211
30	Gas Turbogenerators	344	89	92	95	98	100	100	107	133	147	161	168	181	194	213
31																
32	**Transmission Plant**															
33	Total Transmission Plant		72	76	82	88	92	100	122	140	147	156	161	175	194	209
34	Station Equipment	353	80	83	87	89	92	100	125	148	152	162	172	185	201	217
35	Towers & Fixtures	354	71	77	82	88	94	100	122	139	141	146	159	174	194	206
36	Poles & Fixtures	355	64	69	74	80	86	100	125	142	142	146	154	169	184	201
37	Overhead Conductors & Devices	356	71	77	88	97	98	100	117	146	167	178	168	180	203	219
38	Underground Conduit	357	67	72	79	89	96	100	111	122	131	140	150	163	176	188
39	Underground Conductors & Devices	358	71	76	80	80	90	100	135	136	138	149	148	176	212	231
40																
41	**Distribution Plant**															
42	Total Distribution Plant		70	74	81	87	92	100	118	136	142	149	156	173	186	202
43	Station Equipment	362	81	83	87	89	92	100	122	139	144	155	164	174	189	204
44	Poles, Towers & Fixtures	364	63	68	74	81	87	100	123	142	143	148	157	176	191	207
45	Overhead Conductors & Devices	365	68	74	85	93	96	100	115	143	162	171	165	178	197	213
46	Underground Conduit	366	66	70	78	87	94	100	111	121	127	135	144	158	169	180
47	Underground Conductors & Devices	367	74	80	85	86	97	100	125	129	133	141	148	182	206	208
48	Line Transformers	368	103	99	100	101	99	100	109	130	134	145	154	163	163	190
49	Pad Mounted Transformers	368	98	94	95	97	99	100	103	105	107	118	130	137	157	184
50	Services-Overhead	369	64	70	81	89	95	100	108	120	128	136	145	158	175	186
51	Services-Underground	369	64	68	73	77	86	100	115	107	112	116	124	134	160	176
52	Meters Installed	370	86	89	93	98	99	100	107	124	133	138	142	146	144	160
53	Street Lighting-Overhead	373	74	79	86	91	96	100	121	147	155	165	180	200	217	238
54	Mast Arms & Luminaires Installed	373	71	75	88	93	96	100	117	137	151	165	178	195	217	242
55	Street Lighting-Underground	373	71	75	86	92	97	100	120	147	157	168	183	204	220	239
56																

Forumlas for combining data into a single year cell are hidden between July of the correpsonding year and January of the following year.

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COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	ERC	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
1	Total Plant-All Steam Generation		222	230	239	244	248	253	272	286	295	303	308	319	330	341
2	Total Plant-All Steam & Nuclear Gen.		221	230	238	243	247	252	271	285	294	302	307	317	329	340
3	Total Plant-All Steam & Hydro Gen.		221	229	238	243	247	252	270	285	294	302	307	317	329	340
4																
5	**Steam Production Plant**															
6	Total Steam Production Plant		230	238	248	256	260	267	285	299	308	315	323	335	347	358
7	Structures & Improvements-Indoor	311	198	206	218	225	233	239	251	265	271	274	281	294	307	316
8	Structures & Improvements-Semi-Outdoor	311	197	203	218	230	237	243	256	267	272	268	274	286	303	313
9	Boiler Plant Equipment-Coal Fired	312	241	248	258	267	272	281	299	313	327	336	344	355	364	375
10	Boiler Plant Equipment-Gas Fired	312	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Boiler Plant Piping Installed		227	226	231	237	240	252	276	289	290	297	303	311	315	327
12	Turbogenerator Units	314	232	245	254	258	257	263	281	294	300	308	314	325	340	352
13	Accessory Electrical Equipment	315	235	247	248	253	256	258	294	312	322	333	346	359	368	385
14	Misc. Power Plant Equipment	316	233	246	258	270	275	283	298	312	324	334	344	357	374	384
15																
16	**Nuclear Production Plant**															
17	Total Nuclear Production Plant		217	227	235	242	244	252	268	280	288	295	302	312	324	334
18	Structures & Improvements	321	197	206	216	224	227	233	241	250	257	262	269	281	294	299
19	Reactor Plant Equipment	322	220	229	236	243	248	259	275	289	296	303	309	317	326	337
20																
21	**Hydro Production Plant**															
22	Total Hydraulic Production Plant		208	217	229	237	243	248	260	270	274	279	286	297	309	318
23	Structures & Improvements	331	198	206	218	225	233	239	251	265	271	274	281	294	307	316
24	Reservoirs, Dams & Waterways	332	197	206	217	227	234	238	248	255	258	262	270	282	295	302
25	Water Wheels, Turbines & Generators	333	245	256	266	272	273	278	298	311	318	331	332	341	350	360
26																
27	**Other Production Plant**															
28	Total Other Production Plant		228	235	239	243	247	264	308	333	341	348	356	362	355	361
29	Fuel Holders, Producers & Accessories	342	226	228	235	244	251	259	275	291	300	307	313	321	328	336
30	Gas Turbogenerators	344	230	236	240	243	247	268	317	343	350	358	365	370	359	363
31																
32	**Transmission Plant**															
33	Total Transmission Plant		221	228	234	240	245	248	271	286	301	311	316	327	342	355
34	Station Equipment	353	231	235	242	248	250	259	272	288	305	310	320	331	347	360
35	Towers & Fixtures	354	210	218	233	245	252	258	270	280	287	283	288	301	318	328
36	Poles & Fixtures	355	216	224	235	240	245	248	272	294	307	331	348	358	379	390
37	Overhead Conductors & Devices	356	226	245	240	242	244	235	307	318	321	334	318	330	343	370
38	Underground Conduit	357	205	213	223	230	235	240	259	276	280	286	291	301	311	315
39	Underground Conductors & Devices	358	245	250	249	244	267	271	288	313	365	411	421	427	431	441
40																
41	**Distribution Plant**															
42	Total Distribution Plant		215	223	229	234	237	239	257	272	280	287	290	298	307	317
43	Station Equipment	362	221	225	230	235	238	245	269	290	308	312	314	320	331	347
44	Poles, Towers & Fixtures	364	221	227	236	243	248	249	263	276	286	303	319	331	350	362
45	Overhead Conductors & Devices	365	225	241	248	250	252	250	301	315	318	330	322	338	352	375
46	Underground Conduit	366	191	206	219	225	230	235	255	281	282	283	286	295	307	313
47	Underground Conductors & Devices	367	207	211	213	220	231	235	244	261	272	281	285	290	294	305
48	Line Transformers	368	206	210	213	215	217	215	219	228	231	232	237	239	244	240
49	Pad Mounted Transformers	368	184	187	206	209	217	239	264	280	286	297	297	306	308	309
50	Services-Overhead	369	198	206	226	227	228	232	257	274	276	284	285	294	306	320
51	Services-Underground	369	177	197	204	188	183	195	211	229	232	226	225	226	236	243
52	Meters Installed	370	187	201	204	207	212	212	201	192	193	209	208	212	203	200
53	Street Lighting-Overhead	373	255	258	272	284	283	271	278	289	298	311	322	337	353	368
54	Mast Arms & Luminaires Installed	373	256	264	284	296	289	279	284	299	309	324	337	348	369	381
55	Street Lighting-Underground	373	259	261	275	286	287	273	280	290	300	312	323	339	352	366
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COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005 Jan. 1	2005 Jul. 1	2006 Jan. 1	2006 Jul. 1	2007 Jan. 1	2007 Jul. 1
1	Total Plant-All Steam Generation	347	355	362	367	382	395	406	413	438	459	466	485	499	527	538
2	Total Plant-All Steam & Nuclear Gen.	345	353	360	365	380	392	404	410	436	456	463	483	497	524	535
3	Total Plant-All Steam & Hydro Gen.	345	353	360	365	380	392	404	410	435	455	462	482	496	523	535
4																
5	**Steam Production Plant**															
6	Total Steam Production Plant	365	376	383	390	412	425	438	446	469	489	493	505	515	532	546
7	Structures & Improvements-Indoor	321	331	336	342	362	378	389	393	421	443	447	456	465	481	495
8	Structures & Improvements-Semi-Outdoor	321	331	336	341	355	366	374	383	413	427	434	444	452	465	496
9	Boiler Plant Equipment-Coal Fired	382	392	400	407	430	448	459	461	484	505	509	523	530	543	554
10	Boiler Plant Equipment-Gas Fired	-	-		-	-	-	-	-	-	-	-	-	-	-	-
11	Boiler Plant Piping Installed	334	339	345	351	363	376	385	390	426	464	468	486	491	498	497
12	Turbogenerator Units	358	370	376	382	403	408	424	442	457	476	473	482	494	510	515
13	Accessory Electrical Equipment	397	407	416	428	459	484	508	517	546	581	591	611	633	685	707
14	Misc. Power Plant Equipment	390	402	411	423	445	460	471	474	506	535	538	555	562	566	570
15																
16	**Nuclear Production Plant**															
17	Total Nuclear Production Plant	340	349	354	360	378	391	403	410	431	454	457	469	479	495	501
18	Structures & Improvements	306	315	319	323	340	354	366	368	386	403	410	417	425	435	440
19	Reactor Plant Equipment	342	349	355	361	376	386	395	401	426	451	452	466	474	489	492
20																
21	**Hydro Production Plant**															
22	Total Hydraulic Production Plant	325	334	336	337	347	355	363	369	388	401	405	412	418	431	451
23	Structures & Improvements	321	331	336	342	362	378	389	393	421	443	447	456	465	481	495
24	Reservoirs, Dams & Waterways	309	317	318	318	326	336	344	350	373	388	394	400	405	413	439
25	Water Wheels, Turbines & Generators	367	379	385	388	398	394	397	406	404	405	403	411	422	442	449
26																
27	**Other Production Plant**															
28	Total Other Production Plant	372	378	391	405	435	429	436	443	444	443	450	459	471	530	543
29	Fuel Holders, Producers & Accessories	344	354	364	370	382	392	402	408	439	467	473	481	490	506	512
30	Gas Turbogenerators	376	381	393	409	407	418	434	440	435	426	434	442	453	518	530
31																
32	**Transmission Plant**															
33	Total Transmission Plant	359	368	377	379	396	409	417	420	453	474	486	509	523	549	564
34	Station Equipment	361	368	379	385	409	425	433	432	470	494	506	526	543	580	598
35	Towers & Fixtures	333	347	357	366	378	390	402	413	439	451	456	469	473	485	514
36	Poles & Fixtures	407	421	426	421	425	440	450	456	475	493	509	516	528	546	549
37	Overhead Conductors & Devices	376	382	394	368	392	410	410	412	445	469	495	545	576	609	622
38	Underground Conduit	322	331	341	350	359	370	384	391	423	454	454	467	472	501	496
39	Underground Conductors & Devices	447	452	456	465	466	462	468	476	521	541	558	599	603	617	623
40																
41	**Distribution Plant**															
42	Total Distribution Plant	322	327	334	337	346	356	368	375	399	419	428	455	473	513	521
43	Station Equipment	348	356	368	373	379	387	392	398	438	463	471	496	511	550	570
44	Poles, Towers & Fixtures	372	383	389	394	401	412	427	435	453	472	476	486	495	519	520
45	Overhead Conductors & Devices	383	392	403	393	416	436	447	458	489	514	537	576	601	637	652
46	Underground Conduit	319	329	337	347	359	371	389	395	414	435	438	460	463	490	489
47	Underground Conductors & Devices	312	315	321	329	336	335	339	343	369	396	407	435	440	522	529
48	Line Transformers	236	227	232	234	235	243	252	255	268	282	290	327	367	416	423
49	Pad Mounted Transformers	322	327	330	332	335	351	364	370	454	497	546	566	656	694	824
50	Services-Overhead	323	329	336	340	349	359	369	378	401	419	426	449	448	478	479
51	Services-Underground	244	247	244	244	255	258	267	272	281	291	304	345	382	369	365
52	Meters Installed	204	218	225	218	216	243	276	297	323	315	315	318	323	329	336
53	Street Lighting-Overhead	386	396	400	406	413	425	452	476	491	509	517	534	600	626	636
54	Mast Arms & Luminaires Installed	405	415	413	415	420	429	439	448	466	491	505	531	561	583	594
55	Street Lighting-Underground	385	395	400	408	417	430	461	490	503	519	526	541	619	649	660
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COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	2008 Jan. 1	2008 Jul. 1	2009 Jan. 1	2009 Jul. 1	2010 Jan. 1	2010 Jul. 1	2011 Jan. 1	2011 Jul. 1	2012 Jan. 1	2012 Jul. 1	2013 Jan. 1	2013 Jul. 1	2014 Jan. 1	2014 Jul. 1
1	Total Plant-All Steam Generation	576	592	604	588	605	614	628	643	657	663	684	678	687	697
2	Total Plant-All Steam & Nuclear Gen.	572	588	600	584	601	610	624	640	653	660	681	674	683	693
3	Total Plant-All Steam & Hydro Gen.	572	588	600	584	601	610	624	639	652	659	679	673	682	692
4															
5	**Steam Production Plant**														
6	Total Steam Production Plant	567	596	594	578	593	604	615	631	643	645	676	653	660	672
7	Structures & Improvements-Indoor	517	545	553	539	555	561	574	587	602	605	623	614	628	637
8	Structures & Improvements-Semi-Outdoor	521	533	539	516	528	530	541	545	553	554	562	559	569	573
9	Boiler Plant Equipment-Coal Fired	574	601	609	595	608	615	629	644	655	658	689	665	670	685
10	Boiler Plant Equipment-Gas Fired	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Boiler Plant Piping Installed	525	563	584	568	569	580	602	615	636	639	650	641	656	662
12	Turbogenerator Units	531	576	534	508	523	546	548	569	574	570	619	574	576	587
13	Accessory Electrical Equipment	745	769	805	823	852	869	897	923	967	988	1022	1023	1039	1063
14	Misc. Power Plant Equipment	588	625	633	624	633	640	661	671	695	703	718	712	716	730
15															
16	**Nuclear Production Plant**														
17	Total Nuclear Production Plant	518	545	541	531	546	556	566	581	592	595	631	603	609	620
18	Structures & Improvements	456	471	475	467	481	485	490	498	505	508	524	513	519	527
19	Reactor Plant Equipment	505	534	531	521	533	541	552	570	578	579	626	585	592	602
20															
21	**Hydro Production Plant**														
22	Total Hydraulic Production Plant	468	486	487	480	491	497	508	513	519	519	535	523	532	534
23	Structures & Improvements	517	545	553	539	555	561	574	587	602	605	623	614	628	637
24	Reservoirs, Dams & Waterways	457	466	470	465	475	478	492	495	501	502	507	505	515	517
25	Water Wheels, Turbines & Generators	462	500	488	476	487	504	501	508	511	504	552	508	510	511
26															
27	**Other Production Plant**														
28	Total Other Production Plant	594	616	635	667	687	700	697	717	765	781	804	799	817	834
29	Fuel Holders, Producers & Accessories	532	567	577	560	566	566	582	592	610	614	623	617	635	645
30	Gas Turbogenerators	588	609	627	667	688	702	693	714	767	785	808	803	822	838
31															
32	**Transmission Plant**														
33	Total Transmission Plant	604	629	642	610	636	638	654	669	675	682	696	695	704	712
34	Station Equipment	620	642	658	657	681	687	705	721	734	742	761	753	760	772
35	Towers & Fixtures	538	540	553	531	544	545	561	563	576	576	595	585	593	600
36	Poles & Fixtures	580	589	608	612	630	610	617	619	637	640	645	647	645	647
37	Overhead Conductors & Devices	670	730	737	537	615	621	611	661	611	618	629	643	647	653
38	Underground Conduit	521	555	576	559	570	575	590	596	626	627	625	623	648	646
39	Underground Conductors & Devices	801	838	844	855	856	849	913	917	935	966	978	1000	1029	1040
40															
41	**Distribution Plant**														
42	Total Distribution Plant	575	576	602	591	609	617	634	649	667	679	689	701	714	720
43	Station Equipment	594	617	631	636	662	673	693	705	722	734	742	751	767	773
44	Poles, Towers & Fixtures	536	549	570	570	589	587	591	594	613	617	622	624	626	628
45	Overhead Conductors & Devices	698	743	759	646	710	722	734	776	758	769	790	805	822	835
46	Underground Conduit	513	521	545	544	546	549	564	566	590	591	590	590	604	606
47	Underground Conductors & Devices	568	600	665	657	618	625	662	675	718	741	728	756	752	765
48	Line Transformers	608	513	540	563	592	617	630	648	672	687	729	746	785	802
49	Pad Mounted Transformers	648	764	736	674	681	660	663	719	725	725	726	705	709	693
50	Services-Overhead	501	510	524	491	521	528	554	571	569	571	577	579	596	604
51	Services-Underground	362	363	342	343	350	372	412	429	459	477	484	486	485	444
52	Meters Installed	340	341	346	346	361	362	355	354	355	358	362	365	372	373
53	Street Lighting-Overhead	649	680	748	760	787	736	749	772	792	806	800	808	771	773
54	Mast Arms & Luminaires Installed	585	595	718	714	728	741	746	761	790	809	794	809	728	731
55	Street Lighting-Underground	680	716	778	795	826	755	772	797	816	829	824	831	803	804
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COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	2015 Jan. 1	2015 Jul. 1	2016 Jan. 1	2016 Jul. 1	2017 Jan. 1	2017 Jul. 1	2018 Jan. 1	2018 Jul. 1	2019 Jan. 1	2019 Jul. 1	2020 Jan. 1	2020 Jul. 1	2021 Jan. 1	2021 Jul. 1
1	Total Plant-All Steam Generation	708	717	726	729	739	738	757	772	793	793	803	823	840	880
2	Total Plant-All Steam & Nuclear Gen.	704	714	723	726	736	734	753	768	789	790	799	819	837	876
3	Total Plant-All Steam & Hydro Gen.	703	711	720	723	733	733	752	767	787	787	797	816	834	873
4															
5	**Steam Production Plant**														
6	Total Steam Production Plant	682	700	707	714	726	711	726	745	760	760	753	779	809	861
7	Structures & Improvements-Indoor	648	653	662	666	679	679	695	714	726	723	729	741	774	827
8	Structures & Improvements-Semi-Outdoor	581	574	577	581	590	596	611	631	634	626	640	632	669	727
9	Boiler Plant Equipment-Coal Fired	693	713	720	727	735	718	727	744	758	761	755	777	796	835
10	Boiler Plant Equipment-Gas Fired	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Boiler Plant Piping Installed	664	668	673	677	694	692	700	720	740	737	750	754	772	808
12	Turbogenerator Units	595	631	634	646	662	626	640	663	682	679	638	694	728	802
13	Accessory Electrical Equipment	1095	1107	1135	1136	1161	1173	1212	1236	1279	1278	1309	1358	1419	1464
14	Misc. Power Plant Equipment	736	740	740	743	757	756	768	790	809	806	825	836	852	921
15															
16	**Nuclear Production Plant**														
17	Total Nuclear Production Plant	628	654	661	669	682	658	671	689	706	706	700	726	754	805
18	Structures & Improvements	534	538	543	547	556	551	564	578	584	581	585	594	618	669
19	Reactor Plant Equipment	605	646	654	664	676	633	642	659	678	681	674	695	716	758
20															
21	**Hydro Production Plant**														
22	Total Hydraulic Production Plant	543	550	554	561	572	563	573	586	595	595	593	607	631	675
23	Structures & Improvements	648	653	662	666	679	679	695	714	726	723	729	741	774	827
24	Reservoirs, Dams & Waterways	526	521	526	532	543	549	559	570	576	575	584	583	605	648
25	Water Wheels, Turbines & Generators	516	563	561	573	582	522	529	541	556	561	522	584	609	647
26															
27	**Other Production Plant**														
28	Total Other Production Plant	854	858	880	894	916	931	957	977	1005	1011	1035	1069	1108	1128
29	Fuel Holders, Producers & Accessories	650	653	660	665	676	672	681	703	717	724	729	740	762	812
30	Gas Turbogenerators	859	863	886	903	926	944	970	990	1019	1027	1051	1088	1126	1139
31															
32	**Transmission Plant**														
33	Total Transmission Plant	722	724	735	738	746	750	778	788	811	809	822	834	834	873
34	Station Equipment	784	790	798	801	816	818	843	856	877	875	881	899	929	969
35	Towers & Fixtures	609	611	617	620	626	617	634	647	662	655	670	672	709	756
36	Poles & Fixtures	653	648	663	666	668	679	683	684	701	702	726	731	735	741
37	Overhead Conductors & Devices	659	659	683	683	669	669	724	724	758	760	780	780	592	595
38	Underground Conduit	658	655	667	669	680	684	703	711	726	726	747	746	773	793
39	Underground Conductors & Devices	1050	1055	1070	1070	1082	1130	1188	1205	1259	1259	1278	1318	1363	1484
40															
41	**Distribution Plant**														
42	Total Distribution Plant	734	735	745	744	753	766	787	799	826	827	855	870	881	906
43	Station Equipment	784	780	790	791	810	824	852	868	892	894	913	927	962	1003
44	Poles, Towers & Fixtures	637	633	648	649	654	667	668	669	687	688	727	727	729	738
45	Overhead Conductors & Devices	853	854	879	879	882	893	924	936	965	972	1001	1014	931	946
46	Underground Conduit	618	617	626	627	636	638	664	668	681	680	702	703	725	743
47	Underground Conductors & Devices	761	769	754	754	733	754	767	778	818	818	842	870	915	954
48	Line Transformers	834	835	863	861	893	918	952	974	1012	1012	1046	1084	1124	1161
49	Pad Mounted Transformers	696	712	744	684	703	747	752	770	790	790	793	794	846	998
50	Services-Overhead	620	622	630	629	635	638	625	637	636	650	665	664	675	678
51	Services-Underground	471	465	442	437	439	455	483	496	505	514	528	529	548	551
52	Meters Installed	377	377	381	374	375	375	384	384	389	389	406	406	418	418
53	Street Lighting-Overhead	771	789	781	779	789	766	781	803	871	850	905	915	844	855
54	Mast Arms & Luminaires Installed	723	747	717	717	735	685	709	740	859	818	835	853	719	744
55	Street Lighting-Underground	805	823	819	816	826	804	822	843	902	884	950	959	901	907
56															

COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	2022 Jan. 1	2022 Jul. 1	2023 Jan. 1	2023 Jul. 1	2024 Jan. 1	2024 Jul. 1	2025 Jan. 1	2025 Jul. 1	2026 Jan. 1	2026 Jul. 1	2027 Jan. 1	2027 Jul. 1	2028 Jan. 1	2028 Jul. 1
1	Total Plant-All Steam Generation	949	975	1080	1124										
2	Total Plant-All Steam & Nuclear Gen.	939	966	1071	1114										
3	Total Plant-All Steam & Hydro Gen.	942	967	1070	1115										
4															
5	**Steam Production Plant**														
6	Total Steam Production Plant	934	953	960	1015										
7	Structures & Improvements-Indoor	891	918	920	962										
8	Structures & Improvements-Semi-Outdoor	824	818	758	817										
9	Boiler Plant Equipment-Coal Fired	896	917	939	979										
10	Boiler Plant Equipment-Gas Fired	-	-	-	-										
11	Boiler Plant Piping Installed	878	900	954	952										
12	Turbogenerator Units	883	879	828	908										
13	Accessory Electrical Equipment	1539	1661	1881	1954										
14	Misc. Power Plant Equipment	989	1028	1143	1154										
15															
16	**Nuclear Production Plant**														
17	Total Nuclear Production Plant	827	857	865	907										
18	Structures & Improvements	705	735	710	748										
19	Reactor Plant Equipment	733	758	763	787										
20															
21	**Hydro Production Plant**														
22	Total Hydraulic Production Plant	722	728	702	761										
23	Structures & Improvements	891	918	920	962										
24	Reservoirs, Dams & Waterways	693	704	676	730										
25	Water Wheels, Turbines & Generators	689	668	630	712										
26															
27	**Other Production Plant**														
28	Total Other Production Plant	1184	1283	1431	1496										
29	Fuel Holders, Producers & Accessories	879	925	929	941										
30	Gas Turbogenerators	1191	1299	1460	1531										
31															
32	**Transmission Plant**														
33	Total Transmission Plant	951	972	1061	1112										
34	Station Equipment	1038	1090	1138	1201										
35	Towers & Fixtures	839	824	765	827										
36	Poles & Fixtures	776	784	799	805			-							
37	Overhead Conductors & Devices	666	670	1006	1010										
38	Underground Conduit	847	854	893	888										
39	Underground Conductors & Devices	1691	1694	2053	2197										
40															
41	**Distribution Plant**														
42	Total Distribution Plant	967	1002	1225	1255										
43	Station Equipment	1076	1150	1237	1273										
44	Poles, Towers & Fixtures	776	783	794	803										
45	Overhead Conductors & Devices	1012	1050	1374	1403										
46	Underground Conduit	787	795	867	872										
47	Underground Conductors & Devices	1021	978	1317	1374										
48	Line Transformers	1235	1331	1834	1887										
49	Pad Mounted Transformers	1445	1765	2292	2293										
50	Services-Overhead	697	702	901	902										
51	Services-Underground	629	697	728	728										
52	Meters Installed	459	459	614	614										
53	Street Lighting-Overhead	921	979	1033	1079										
54	Mast Arms & Luminaires Installed	805	829	896	887										
55	Street Lighting-Underground	974	1044	1099	1162										
56															

Reply Reply All Forward IM

Fri 12/27/2019 8:40 AM

WT

Weaver, Timothy

RE: [Request ID :##RE-27720##] : Excel issue cells not updating after formula is modified

To Help Desk

This does resolve it thank you!. Great to know. I will likely manually change the setting on the toolbar to automatic.

Feel free to close this out,

Tim

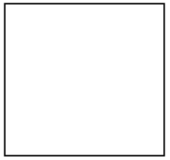
From: Help Desk <HelpDesk@wrallp.com>
Sent: Friday, December 27, 2019 8:26 AM
To: Weaver, Timothy <tweaver@wrallp.com>
Subject: Re: [Request ID :##RE-27720##] : Excel issue cells not updating after formula is modified

Timothy,

Let me know if the solution below doesn't resolve the issue.

When Excel formulas are not updating automatically, most likely it's because the **Calculation** setting has been changed to *Manual* instead of *Automatic*. To fix this, just set the *Calculation* option to *Automatic* again.

On the Excel ribbon, go to the *Formulas* tab > *Calculation* group, click the **Calculation Options** button, and select **Automatic**:



Alternatively, you can change this setting in **Excel Options**:

- In **Excel 2003**, click *Tools* > *Options* > *Calculation* > *Calculation* > *Automatic*.
- In **Excel 2007**, click *Office button* > *Excel options* > *Formulas* > *Workbook Calculation* > *Automatic*.
- In **Excel 2010**, **Excel 2013**, and **Excel 2016**, go to *File* > *Options* > *Formulas* > *Calculation options* section, and select **Automatic** under *Workbook Calculation*.

Niagara Mohawk Power Corporation
d/b/a National Grid
Cases 24-E-0322 & 24-G-0323
DPS-963 Attachment 11
Page 1 of 2

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COST TRENDS OF GAS UTILITY CONSTRUCTION
NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	FERC	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
1	Total Plant		8	8	8	9	10	14	17	19	20	18	16	18	18	17
2																
3	**Production Plant**															
4	L. P. G. Equipment		-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	S. N. G. Equipment		-	-	-	-	-	-	-	-	-	-	-	-	-	-
6																
7																
8																
9																
10																
11																
12																
13	**Storage Plant**															
14	Gas Holders Excl. of Found	362	9	9	9	9	11	14	16	17	17	16	15	14	14	14
15																
16																
17																
18																
19																
20																
21																
22																
23																
24	**Transmission Plant**															
25	Total Transmission Plant		11	11	10	11	14	18	19	20	21	21	21	21	21	21
26	Structures & Improvements	366	8	8	8	9	12	17	18	18	19	17	16	17	18	18
27	Mains	367	10	11	10	10	14	18	18	19	20	21	20	20	21	21
28																
29	Compressor Station Equipment	368	13	13	13	13	14	18	22	22	23	22	20	20	21	21
30	Meas. & Reg. Sta. Equipment	369	11	12	12	12	13	17	22	23	24	24	22	23	23	23
31																
32																
33																
34																
35																
36																
37																
38																
39																
40																
41	**Distribution Plant**															
42	Structures & Improvements	375	8	8	8	9	12	17	18	18	19	17	16	17	18	18
43	Mains, Cast Iron	376	9	10	9	10	12	17	22	25	27	22	20	23	24	22
44	Mains, Steel	376	7	7	7	7	9	12	14	14	15	15	16	15	15	15
45	Mains, Plastic	376	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	Compressor Station Equipment	377	13	13	13	13	14	18	22	22	23	22	20	20	21	21
47	Meas. & Reg. Sta. Equipment	378	10	11	11	11	12	16	20	21	22	22	21	21	21	21
48	Meas. & Reg. Sta. Equipment-City Gt.	379	10	11	11	11	12	16	20	21	22	22	21	21	21	21
49	Services, Steel	380	5	6	6	6	7	8	11	13	15	13	12	13	13	13
50	Services, Plastic	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51	Meters	381	17	18	18	18	19	23	33	33	32	33	30	30	28	27
52	Meter Installations	382	7	7	7	8	9	13	15	17	18	18	17	18	19	19
53	House Regulators	383	24	25	25	25	26	31	47	46	45	45	41	41	39	37
54	House Regulators Installations	384	7	8	8	8	9	13	14	15	16	16	16	16	17	18
55																
56																

COST TRENDS OF GAS UTILITY CONSTRUCTION
NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	FERC	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
1	Total Plant		17	17	16	17	16	16	14	14	16	16	17	18	19	19
4	L. P. G. Equipment		-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	S. N. G. Equipment		-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	Gas Holders Excl. of Found	362	14	14	14	13	13	13	12	12	13	13	14	15	16	16
25	Total Transmission Plant		22	22	22	22	22	22	21	19	19	19	19	20	21	21
26	Structures & Improvements	366	18	18	18	18	17	16	15	15	16	16	17	18	18	18
27	Mains	367	22	22	22	22	22	22	21	18	19	19	19	20	20	20
29	Compressor Station Equipment	368	21	20	21	21	22	21	20	20	20	20	20	22	22	22
30	Meas. & Reg. Sta. Equipment	369	23	24	24	24	24	23	22	21	21	21	21	22	23	24
42	Structures & Improvements	375	18	18	18	18	17	16	15	15	16	16	17	18	18	18
43	Mains, Cast Iron	376	22	20	20	20	20	19	16	15	19	20	20	22	23	23
44	Mains, Steel	376	16	16	16	16	16	16	15	14	15	15	15	16	16	16
45	Mains, Plastic	376	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	Compressor Station Equipment	377	21	20	21	21	22	21	20	20	20	20	20	22	22	22
47	Meas. & Reg. Sta. Equipment	378	21	22	22	22	22	21	20	19	19	20	20	21	21	22
48	Meas. & Reg. Sta. Equipment-City Gt.	379	22	22	22	22	22	21	20	19	19	20	20	21	22	22
49	Services, Steel	380	13	13	13	13	13	13	12	9	12	12	13	14	14	14
50	Services, Plastic	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51	Meters	381	27	27	27	27	27	26	25	25	25	25	25	26	26	26
52	Meter Installations	382	20	20	20	20	19	19	18	17	17	17	18	19	18	19
53	House Regulators	383	37	38	38	38	37	36	34	34	34	34	34	35	37	40
54	House Regulators Installations	384	18	18	19	19	19	19	17	17	17	17	17	18	19	19

COST TRENDS OF GAS UTILITY CONSTRUCTION
NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	FERC	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953
1	Total Plant		19	20	21	21	21	22	25	30	34	36	37	40	41	43
4	L. P. G. Equipment		-	-	-	-	-	-	-	-	32	34	36	39	40	41
5	S. N. G. Equipment		-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	Gas Holders Excl. of Found	362	16	17	18	19	19	19	21	26	29	30	31	33	35	38
25	Total Transmission Plant		21	22	23	23	23	23	26	29	33	35	37	38	40	42
26	Structures & Improvements	366	19	20	21	22	22	22	25	29	33	35	36	38	38	39
27	Mains	367	21	21	22	22	22	23	24	28	31	34	36	37	38	40
29	Compressor Station Equipment	368	22	23	24	24	24	25	28	29	32	35	37	39	40	42
30	Meas. & Reg. Sta. Equipment	369	25	25	26	26	26	26	29	33	36	39	40	43	44	46
42	Structures & Improvements	375	19	20	21	22	22	22	25	29	33	35	36	38	38	39
43	Mains, Cast Iron	376	24	25	26	26	26	28	33	39	45	46	47	51	52	53
44	Mains, Steel	376	17	17	18	19	19	19	21	24	28	30	32	33	34	37
45	Mains, Plastic	376	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	Compressor Station Equipment	377	22	23	24	24	24	25	28	29	32	35	37	39	40	42
47	Meas. & Reg. Sta. Equipment	378	23	23	24	24	24	24	26	31	33	36	37	40	40	42
48	Meas. & Reg. Sta. Equipment-City Gt.	379	23	23	24	24	24	24	27	31	34	36	38	41	42	43
49	Services, Steel	380	15	15	16	16	16	17	19	22	25	26	27	29	31	33
50	Services, Plastic	380	-	-	-	-	-	-	-	-	-	-	-	-	-	40
51	Meters	381	26	26	26	26	26	26	33	41	42	45	48	55	55	55
52	Meter Installations	382	19	20	21	21	21	21	23	25	29	30	31	33	34	36
53	House Regulators	383	48	48	48	48	48	48	53	63	64	68	69	74	74	74
54	House Regulators Installations	384	20	20	20	20	20	20	22	25	28	31	31	33	34	36

COST TRENDS OF GAS UTILITY CONSTRUCTION
NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	FERC	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
1	Total Plant		45	47	51	55	57	59	60	61	62	64	65	66	68	70
4	L. P. G. Equipment		42	44	48	51	52	52	54	55	55	56	59	61	62	65
5	S. N. G. Equipment		-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	Gas Holders Excl. of Found	362	40	43	47	49	50	52	53	55	56	57	59	60	62	63
25	Total Transmission Plant		43	45	48	50	52	54	56	57	59	60	62	65	66	66
26	Structures & Improvements	366	41	43	47	50	51	53	54	53	55	56	57	58	60	62
27	Mains	367	42	43	46	49	51	54	55	57	58	60	63	65	66	66
29	Compressor Station Equipment	368	43	45	49	54	57	60	60	60	60	61	64	67	69	72
30	Meas. & Reg. Sta. Equipment	369	47	48	51	54	56	57	59	60	60	61	61	63	65	67
42	Structures & Improvements	375	41	43	47	50	51	53	54	53	55	56	57	58	60	62
43	Mains, Cast Iron	376	57	59	63	66	69	72	74	75	77	79	81	83	84	85
44	Mains, Steel	376	39	41	43	46	49	51	53	55	56	58	60	62	65	68
45	Mains, Plastic	376	-	-	-	-	-	-	-	-	68	69	70	71	74	76
46	Compressor Station Equipment	377	43	45	49	54	57	60	60	60	60	61	64	67	69	72
47	Meas. & Reg. Sta. Equipment	378	43	45	50	52	55	57	58	59	60	61	62	63	64	67
48	Meas. & Reg. Sta. Equipment-City Gt.	379	45	46	49	52	55	56	58	59	60	60	61	62	64	67
49	Services, Steel	380	35	37	40	43	45	47	49	51	53	54	56	59	61	64
50	Services, Plastic	380	41	42	44	47	49	51	52	53	55	56	57	59	62	64
51	Meters	381	55	56	63	66	71	71	71	73	79	79	79	79	86	88
52	Meter Installations	382	39	40	45	49	51	53	55	56	57	57	58	59	61	63
53	House Regulators	383	74	74	74	76	80	80	80	81	82	82	82	80	80	80
54	House Regulators Installations	384	38	40	45	48	50	52	53	55	56	56	57	59	60	62

COST TRENDS OF GAS UTILITY CONSTRUCTION
NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	FERC	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
1	Total Plant		71	75	80	89	96	100	113	127	137	147	159	173	186	204
4	L. P. G. Equipment		68	72	78	87	94	100	111	120	126	137	143	152	164	181
5	S. N. G. Equipment		-	-	-	-	-	100	114	124	132	139	147	160	176	192
14	Gas Holders Excl. of Found	362	66	71	79	89	97	100	108	126	140	150	165	180	199	220
25	Total Transmission Plant		69	74	80	88	96	100	115	131	146	157	172	185	204	226
26	Structures & Improvements	366	66	71	78	87	94	100	117	127	130	136	146	162	176	186
27	Mains	367	69	73	79	88	97	100	114	131	147	159	174	186	205	229
29	Compressor Station Equipment	368	76	80	85	90	94	100	115	136	147	159	172	192	210	232
30	Meas. & Reg. Sta. Equipment	369	69	72	79	89	97	100	115	132	144	154	167	179	196	221
42	Structures & Improvements	375	66	71	78	87	94	100	117	127	130	136	146	162	176	186
43	Mains, Cast Iron	376	86	88	91	96	99	100	139	155	159	165	174	182	198	214
44	Mains, Steel	376	71	76	79	88	97	100	114	126	136	147	160	173	186	205
45	Mains, Plastic	376	78	80	84	92	97	100	112	127	135	144	154	168	187	203
46	Compressor Station Equipment	377	76	80	85	90	94	100	115	136	147	159	172	192	210	232
47	Meas. & Reg. Sta. Equipment	378	68	71	78	88	97	100	114	128	140	150	163	173	190	212
48	Meas. & Reg. Sta. Equipment-City Gt.	379	69	73	79	89	97	100	114	128	141	151	163	174	191	213
49	Services, Steel	380	67	71	79	89	97	100	111	123	132	142	153	166	180	195
50	Services, Plastic	380	67	72	78	89	97	100	109	120	128	137	145	156	170	185
51	Meters	381	88	89	94	100	100	100	111	128	131	136	139	143	149	158
52	Meter Installations	382	65	69	76	87	97	100	115	126	136	147	160	171	183	203
53	House Regulators	383	81	83	92	98	100	100	106	125	132	136	144	171	201	210
54	House Regulators Installations	384	64	69	76	87	97	100	114	125	135	145	158	168	180	200

Handy-Whitman Bulletin No. 198

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COST TRENDS OF GAS UTILITY CONSTRUCTION

NORTH ATLANTIC REGION (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	FERC	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005 Jan. 1	2005 Jul. 1	2006 Jan. 1	2006 Jul. 1	2007 Jan. 1	2007 Jul. 1	2008 Jan. 1	2008 Jul. 1	2009 Jan. 1	2009 Jul. 1	2010 Jan. 1	2010 Jul. 1	2011 Jan. 1	2011 Jul. 1	2012 Jan. 1	2012 Jul. 1	2013 Jan. 1	2013 Jul. 1	2014 Jan. 1	2014 Jul. 1	2015 Jan. 1	2015 Jul. 1	2016 Jan. 1	2016 Jul. 1	2017 Jan. 1	2017 Jul. 1	2018 Jan. 1	2018 Jul. 1	2019 Jan. 1	2019 Jul. 1	2020 Jan. 1	2020 Jul. 1	2021 Jan. 1	2021 Jul. 1	2022 Jan. 1	2022 Jul. 1	2023 Jan. 1	2023 Jul. 1	2024 Jan. 1	2024 Jul. 1	2025 Jan. 1	2025 Jul. 1	2026 Jan. 1	2026 Jul. 1	2027 Jan. 1	2027 Jul. 1	2028 Jan. 1	2028 Jul. 1
1	Total Plant		221	230	240	243	240	247	264	281	289	298	307	317	334	342	347	357	363	373	391	400	408	420	484	554	552	579	589	573	577	597	674	668	644	651	670	709	722	790	787	786	778	786	792	797	784	768	776	802	820	828	871	893	884	948	941	956	1090	1181	1181	1439	1432									
2																																																																										
3	**Production Plant**																																																																									
4	L. P. G. Equipment		193	197	201	206	210	215	230	244	250	257	266	274	280	287	293	300	305	311	323	335	346	351	392	415	423	430	433	449	452	471	487	499	512	518	519	546	576	607	610	617	615	625	632	638	640	652	655	674	675	693	704	725	724	745	750	735	765	788	810	868	876									
5	S. N. G. Equipment		209	216	222	230	235	244	260	275	283	290	299	308	313	323	331	337	343	351	373	392	403	402	422	441	448	460	469	488	493	515	530	540	529	542	541	560	571	580	582	605	587	595	608	615	628	635	637	649	634	646	658	667	670	664	676	696	725	774	801	809	834									
6																																																																										
7																																																																										
8																																																																										
9																																																																										
10																																																																										
11																																																																										
12																																																																										
13	**Storage Plant**																																																																									
14	Gas Holders Excl. of Found	362	238	251	259	263	267	269	275	285	294	304	310	319	332	334	341	354	363	369	377	387	398	404	442	460	461	473	476	491	416	436	452	466	461	470	472	481	481	489	493	501	503	506	515	524	521	526	527	529	520	535	549	556	563	584	586	605	643	692	721	734	742									
15																																																																										
16																																																																										
17																																																																										
18																																																																										
19																																																																										
20																																																																										
21																																																																										
22																																																																										
23																																																																										
24	**Transmission Plant**																																																																									
25	Total Transmission Plant		246	236	239	241	249	255	273	280	275	276	278	283	289	297	312	318	324	327	333	338	343	349	406	444	450	451	461	497	483	507	550	561	526	510	529	548	557	586	600	575	573	615	617	622	613	600	605	624	636	652	684	700	691	696	683	728	836	932	957	930	883									
26	Structures & Improvements	366	194	202	215	226	231	237	248	256	263	266	273	284	299	306	313	322	328	335	346	358	372	381	405	418	422	431	436	451	469	490	504	504	493	509	516	527	530	538	539	543	542	555	558	568	562	568	572	585	590	606	619	622	616	630	630	659	712	771	768	734	760									
27	Mains	367	250	236	237	239	248	254	273	278	270	269	269	273	278	286	302	308	314	317	322	326	331	335	400	442	445	447	457	497	478	503	550	561	520	499	527	541	549	583	597	567	565	613	614	619	607	591	596	616	631	647	682	699	688	693	676	727	847	952	974	940	879									
28																																																																										
29	Compressor Station Equipment	368	249	253	260	265	266	274	296	315	325	340	355	365	371	383	388	395	402	406	413	421	430	434	458	478	514	502	510	523	535	552	584	595	590	594	606	616	635	648	656	660	662	671	681	686	691	694	699	709	711	722	740	758	758	763	774	787	819	872	933	972	999									
30	Meas. & Reg. Sta. Equipment	369	236	236	244	249	253	262	283	303	304	312	332	342	353	363	373	385	393	400	415	420	425	418	480	533	535	554	566	569	565	591	648	649	624	623	619	672	689	735	738	733	729	754	757	762	753	742	762	783	794	805	838	863	862	895	885	915	1020	1117	1127	1267	1241									
31																																																																										
32																																																																										
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37																																																																										
38																																																																										
39																																																																										
40																																																																										
41	**Distribution Plant**																																																																									
42	Structures & Improvements	375	194	202	215	226	231	237	248	256	263	266	273	284	299	306	313	322	328	335	346	358	372	381	405	418	422	431	436	451	469	490	504	504	493	509	516	527	530	538	539	543	542	555	558	568	562	568	572	585	590	606	619	622	616	630	630	659	712	771	768	734	760									
43	Mains, Cast Iron	376	221	238	237	250	243	250	266	282	284	286	290	297	306	299	303	313	317	322	330	339	357	365	376	400	401	430	435	474	477	506	541	598	600	629	629	625	626	658	724	737	745	800	830	805	806	810	816	873	872	911	924	943	961	1007	999	1035	1069	1175	1258	1375	1376									
44	Mains, Steel	376	223	232	243	244	238	245	265	283	290	299	308	317	337	346	349	360	366	377	396	405	411	426	506	595	590	624	635	607	611	630	729	713	683	687	713	760	776	862	856	852	843	847	852	854	836	810	820	850	875	878	933	958	946	1026	1014	1029	1202	1307	1301	1641	1625									
45	Mains, Plastic	376	218	227	233	237	241	247	261	280	289	297	302	310	316	322	330	337	344	351	358	367	374	381	397	411	421	433	440	460	465	480	486	514	516	502	502	513	519	536	543	542	545	546	550	556	558	563	566	571	573	582	579	596	601	613	617	635	646	686	708	742	760									
46	Compressor Station Equipment	377	249	253	260	265	266	274	296	315	325	340	355	365	371	383	388	395	402	406	413	421	430	434	458	478	514	502	510	523	535	552	584	595	590	594	606	616	635	648	656	660	662	671	681	686	691	694	699	709	711	722	740	758	758	763	774	787	819	872	933	972	999									
47	Meas. & Reg. Sta. Equipment	378	229	231	239	243	246	254	274	289	290	296	309	321	332	342	351	360	367	374	387	395	402	405	467	520	519	539	549	551	546	570	627	627	601	600	596	674	686	735	737	717	713	739	741	746	736	728	740	759	773	781	815	837	831	865	854	882	990	1092	1098	1238	1209									
48	Meas. & Reg. Sta. Equipment-City Gt.	379	230	233	241	245	246	254	274	288	290	295	308	319	331	340	348	358	364	371	384	392	398	401	465	522	521	541	551	550	545	568	630	627	600	598	597	672	685	738	739	720	715	739	741	745	734	724	736	755	771	778	814	836	829	867	856	882	998	1101	1107	1266	1237									
49	Services, Steel	380	213	224	233	238	239	245	258	272	281	293	303	312	326	331	339	348	357	366	381	390	399	408	447	487	488	506	512	518	521	543	583	596	585	596	605	632	640	681	681	681	678	687	691	702	696	693	698	715	725	739	759	776	773	820	817	833	902	961	965	1104	1103									
50	Services, Plastic	380	202	214	223	230	236	242	253	268	277	289	299	309	317	323	331	340	349	359	371	384	395	403	423	436	440	455	458	481	483	511	514	544	545	551	550	570	573	589	592	594	595	608	610	623	624	634	636	647	648	666	665	677	680	700	701	721	726	763	772	794	802									
51	Meters	381	158	146	147	158	166	165	170	177	185	190	192	191	189	190	192	196	196	191	202	209	202	193	183	185	184	188	197	205	231	241	250	261	252	257	252	252	256	261	271	271	272	341	342	372	372	388	388	442	442	475	477	511	511	489	490	469	469	529	539	580	591									
52	Meter Installations	382	223	232	244	245	235	245	267	287	292	301	309	319	341	353	354	364	371	382	403	413	420	438	537	646	638	681	694	649	653	674	794	765	728	730	762	821	838	942	933	929	917	922	927	924	901	867	879	916	946	943	1011	1040	1023	1112	1097	1111	1319	1445	1434	1846	1822									
53	House Regulators	383	217	221	230	237	236	243	247	253	269	283	294	297	303	302	303	303	307	306	305	312	319	318	323	336	339	344	356	377	377	387	392	412	400	406	414	425	430	432	438	443	443	454	454	469	469	481	481	487	487	533	533	558	565	559	559	549	549	650	650	769	769									
54	House Regulators Installations	384	220	229	241	243	235	244	265	284	290	299	308	319	339	350	353	363	370	382	401	412	420	437	530	630	622	664	675	636	640	662	771	747	713	717	745	802	818	913	905	902	891	899	903	901	881	852	862	897	924	924	985	1012	997	1078	1065	1078	1267	1384	1374	1748	1726									
55																																																																										
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UTILITY PLANT MATERIALS

ALL REGIONS (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
1	Boilers	6	6	6	7	8	13	17	15	16	14	12	14	15	15
2	Coal & Ash Handling Equipment	12	12	12	12	19	31	29	20	28	24	21	23	23	21
3	Pumps	9	9	9	12	14	16	18	18	18	17	16	16	16	17
4	Steam Pipe	17	17	17	12	18	39	44	35	37	35	34	36	37	37
5	Cranes	6	6	6	7	7	7	7	8	8	9	9	9	9	10
6	Regulators	32	32	32	32	32	39	47	45	49	50	49	50	53	52
7	Switchboards	20	20	20	20	21	23	26	35	44	49	43	40	43	43
8	Power Transformers	23	23	23	23	23	32	41	41	49	48	42	43	46	46
9	Oil Switches	27	27	27	27	27	30	38	45	49	53	50	50	51	51
10	Motors	21	21	21	21	21	28	31	37	42	43	34	29	29	29
11	Line Transformers	48	48	48	48	48	51	69	72	77	79	69	67	69	68
12	Meters-Electrric	37	37	37	37	37	41	46	51	53	57	53	50	50	48
13	Treated Pine Poles	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	Standard Cross Arms	7	7	7	7	7	9	10	12	12	11	12	12	12	13
15	Standard Galv. Steel Guy Wire	12	12	12	14	15	19	22	23	22	22	21	21	20	20
16	Fibre Conduit	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	Plastic Conduit	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Mercury Luminaires w/Standard	-	-	-	-	-	-	-	-	-	-	-	-	27	26
19	Power Wire & Control Cable	23	23	23	30	36	42	48	51	49	37	29	33	31	34
20	Overhead Conductor-Transmission	28	26	23	25	45	49	54	53	51	31	28	32	31	32
21	Underground Conductor-Transmission	15	13	12	12	19	22	25	27	26	21	21	26	23	23
22	Overhead Conductor-Distribution	25	23	20	23	40	43	48	47	45	28	25	28	28	29
23	Underground Conductor-Distribution	16	15	14	14	22	25	28	30	29	22	22	28	25	25
24	Service Cable	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	Condensers & Tubes	7	7	7	7	11	13	20	21	21	20	17	17	18	18
26	Turbo-Generators	9	9	9	9	13	13	17	18	21	23	20	19	19	19
27															
28	Gas Compressors	18	18	18	18	18	19	25	25	27	26	25	25	25	25
29	Gas Transmission Line Pipe	23	24	23	24	34	44	44	45	44	43	40	41	43	43
30	Steel Distribution Pipe	15	16	16	17	24	36	40	36	34	32	28	30	31	31
31	Plastic Pipe	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	Meters-Gas	17	18	18	18	19	23	33	33	32	33	30	30	28	27
33	House Regulators	24	25	25	25	26	31	47	46	45	45	41	41	39	37
34															
35	Cast Iron Pipe	16	17	16	17	23	40	44	48	53	44	39	45	47	40
36	Cast Iron Fittings	10	10	10	13	13	24	27	25	34	29	25	25	25	27
37	Ductile Iron Pipe	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	Chemical Feeders-Small	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	Chemical Feeders-Large	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	Gate Valves	15	15	15	17	17	17	24	24	30	28	25	29	29	27
41	Meter Yokes	24	24	24	24	24	24	29	29	31	31	29	29	29	29
42	Corporation Stops	27	27	27	27	27	27	25	25	25	25	25	25	24	24
43	Curb Stops	20	20	20	20	20	20	22	22	22	22	22	22	21	21
44	Hydrants	23	23	23	23	23	23	23	24	27	27	23	26	27	26
45	Meters-Water	23	23	23	23	26	29	35	37	37	37	37	37	37	37
46															
47															
48															
49															
50	Construction Equipment	-	-	-	11	15	19	26	28	30	22	19	23	21	22
51															
52															
53															
54															
55															
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UTILITY PLANT MATERIALS

ALL REGIONS (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
1	Boilers	15	15	14	14	14	14	12	12	15	15	16	18	19	20
2	Coal & Ash Handling Equipment	21	20	20	20	19	17	16	17	20	20	20	21	20	20
3	Pumps	19	19	19	20	20	19	18	18	19	19	19	21	22	22
4	Steam Pipe	37	37	37	36	36	36	35	32	31	31	32	36	35	35
5	Cranes	10	10	11	11	11	11	10	10	10	10	10	10	10	11
6	Regulators	42	41	40	41	42	43	42	43	48	48	48	52	53	53
7	Switchboards	44	44	45	48	48	47	43	43	48	48	48	52	53	53
8	Power Transformers	46	43	41	42	40	40	39	40	46	47	47	50	52	52
9	Oil Switches	51	49	49	51	53	52	51	55	59	59	59	63	65	65
10	Motors	29	28	28	29	29	29	29	30	33	32	32	32	32	32
11	Line Transformers	63	59	58	62	61	59	57	59	61	62	62	66	67	67
12	Meters-Electrric	48	48	48	48	48	48	48	50	54	55	55	55	55	55
13	Treated Pine Poles	28	27	26	25	24	23	21	22	23	24	23	24	23	23
14	Standard Cross Arms	10	9	9	9	9	8	8	9	10	11	11	12	12	12
15	Standard Galv. Steel Guy Wire	18	17	16	16	15	14	14	15	17	17	17	18	19	18
16	Fibre Conduit	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	Plastic Conduit	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Mercury Luminaires w/Standard	26	23	26	27	28	29	29	29	30	30	30	30	30	30
19	Power Wire & Control Cable	33	30	27	29	26	21	19	23	26	27	29	35	29	26
20	Overhead Conductor-Transmission	29	27	32	38	26	22	19	23	28	27	29	32	27	27
21	Underground Conductor-Transmission	22	21	23	27	20	19	19	21	23	23	25	27	24	24
22	Overhead Conductor-Distribution	26	24	28	34	23	19	17	20	25	24	26	28	24	24
23	Underground Conductor-Distribution	24	22	25	29	22	21	20	22	25	25	27	29	26	26
24	Service Cable	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	Condensers & Tubes	18	16	15	19	20	19	18	19	21	24	24	27	27	27
26	Turbo-Generators	19	19	20	21	22	22	21	22	25	25	26	29	30	30
27															
28	Gas Compressors	24	23	24	24	24	24	24	24	24	24	23	23	23	23
29	Gas Transmission Line Pipe	43	43	43	43	43	43	42	35	35	35	34	35	34	34
30	Steel Distribution Pipe	31	31	31	31	30	29	29	26	29	29	26	28	26	25
31	Plastic Pipe	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	Meters-Gas	27	27	27	27	27	26	25	25	25	25	25	26	26	26
33	House Regulators	37	38	38	38	37	36	34	34	34	34	34	35	37	40
34															
35	Cast Iron Pipe	40	34	29	30	30	28	25	30	34	35	36	39	39	38
36	Cast Iron Fittings	27	25	25	25	24	21	19	20	22	23	23	23	24	24
37	Ductile Iron Pipe	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	Chemical Feeders-Small	18	19	22	22	20	15	17	17	17	17	17	17	17	17
39	Chemical Feeders-Large	-	-	-	-	-	-	-	-	-	12	12	13	13	13
40	Gate Valves	26	26	28	28	28	24	23	23	22	22	23	25	26	26
41	Meter Yokes	29	29	29	29	29	29	28	28	28	28	28	28	29	29
42	Corporation Stops	24	24	24	24	24	24	24	22	21	21	21	21	21	21
43	Curb Stops	21	21	21	21	21	21	21	21	21	21	21	21	21	21
44	Hydrants	24	24	25	25	25	23	23	23	20	22	22	24	25	25
45	Meters-Water	37	37	37	37	37	37	37	35	26	26	26	31	32	32
46															
47															
48															
49															
50	Construction Equipment	21	22	21	22	22	20	19	19	20	21	21	23	23	23
51															
52															
53															
54															
55															
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UTILITY PLANT MATERIALS

ALL REGIONS (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953
1	Boilers	20	21	21	21	21	21	22	25	31	36	37	41	41	43
2	Coal & Ash Handling Equipment	20	23	25	25	24	24	29	35	42	44	47	50	51	55
3	Pumps	22	23	24	24	24	24	26	32	35	37	40	47	47	48
4	Steam Pipe	35	35	35	35	35	35	37	42	45	50	52	53	53	55
5	Cranes	11	11	11	11	12	17	20	23	26	29	31	33	35	38
6	Regulators	53	53	53	53	52	51	57	63	65	69	70	74	74	81
7	Switchboards	53	53	51	50	45	44	50	58	59	59	62	72	72	77
8	Power Transformers	52	52	51	49	46	45	50	60	62	67	70	78	78	83
9	Oil Switches	65	65	65	65	59	58	67	78	79	79	89	102	102	110
10	Motors	31	32	33	33	31	32	37	45	46	49	53	63	63	66
11	Line Transformers	67	69	68	64	64	64	72	90	93	96	100	113	113	121
12	Meters-Electrric	55	55	55	55	55	55	61	69	74	80	80	80	78	81
13	Treated Pine Poles	23	24	27	28	33	39	37	41	43	43	42	44	46	49
14	Standard Cross Arms	13	16	17	19	22	23	25	35	37	34	36	41	42	42
15	Standard Galv. Steel Guy Wire	17	17	17	18	18	18	19	29	35	38	40	42	43	51
16	Fibre Conduit	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	Plastic Conduit	-	-	-	-	-	-	-	-	-	-	-	-	179	170
18	Mercury Luminaires w/Standard	30	30	31	31	31	31	32	40	44	48	47	53	52	51
19	Power Wire & Control Cable	31	39	40	40	40	40	48	56	65	66	66	75	77	74
20	Overhead Conductor-Transmission	29	28	31	32	32	32	40	48	52	48	52	59	63	69
21	Underground Conductor-Transmission	25	29	30	29	28	28	34	41	50	56	56	59	61	59
22	Overhead Conductor-Distribution	26	25	27	28	28	28	35	43	46	43	46	52	56	61
23	Underground Conductor-Distribution	27	31	32	32	31	31	36	44	54	59	59	63	64	64
24	Service Cable	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	Condensers & Tubes	27	27	27	27	26	27	30	32	33	36	37	40	40	43
26	Turbo-Generators	30	30	30	30	30	31	36	44	47	49	49	54	54	58
27															
28	Gas Compressors	24	25	27	27	26	28	31	31	35	40	40	41	42	43
29	Gas Transmission Line Pipe	34	34	34	34	34	34	36	41	44	48	50	51	52	54
30	Steel Distribution Pipe	25	25	25	25	25	25	28	33	37	41	43	46	47	52
31	Plastic Pipe	-	-	-	-	-	-	-	-	-	-	-	-	175	175
32	Meters-Gas	26	26	26	26	26	26	33	41	42	45	48	55	55	55
33	House Regulators	48	48	48	48	48	48	53	63	64	68	69	74	74	74
34															
35	Cast Iron Pipe	39	39	40	39	39	40	45	58	69	68	67	73	73	73
36	Cast Iron Fittings	24	26	27	27	27	28	33	42	49	48	48	54	56	59
37	Ductile Iron Pipe	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	Chemical Feeders-Small	17	17	17	17	17	18	22	26	31	34	38	40	40	40
39	Chemical Feeders-Large	13	14	15	15	16	19	20	24	29	35	40	42	42	42
40	Gate Valves	26	28	29	29	29	29	34	39	42	45	52	57	57	57
41	Meter Yokes	29	29	30	30	30	31	37	39	40	39	41	48	48	48
42	Corporation Stops	22	22	23	23	23	24	31	36	37	37	37	45	45	45
43	Curb Stops	22	23	23	23	23	25	31	36	38	37	38	45	45	45
44	Hydrants	25	27	27	27	27	27	32	36	39	43	50	55	55	55
45	Meters-Water	33	35	37	37	37	37	40	42	48	52	59	61	61	65
46															
47															
48															
49															
50	Construction Equipment	24	25	28	29	29	29	34	37	39	40	42	45	46	49
51															
52															
53															
54															
55															
56															

UTILITY PLANT MATERIALS

ALL REGIONS (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
1	Boilers	45	47	54	61	63	65	65	66	66	66	68	70	71	74
2	Coal & Ash Handling Equipment	56	58	68	76	77	79	77	72	72	72	73	73	74	76
3	Pumps	49	50	55	56	56	62	68	68	69	69	70	70	74	77
4	Steam Pipe	56	57	61	67	69	71	71	71	71	71	73	73	73	74
5	Cranes	40	43	45	47	49	52	54	55	55	55	56	56	58	64
6	Regulators	83	85	98	105	108	108	108	96	96	90	87	84	83	84
7	Switchboards	79	81	96	105	108	106	98	81	78	77	77	78	82	90
8	Power Transformers	85	87	100	103	107	103	95	88	84	76	81	84	87	91
9	Oil Switches	112	110	115	131	136	132	109	75	74	64	70	82	80	88
10	Motors	67	68	79	89	93	96	92	87	86	85	85	87	87	88
11	Line Transformers	123	123	127	135	130	125	122	118	107	100	100	101	101	105
12	Meters-Electrric	83	79	82	87	89	92	92	91	90	89	89	88	88	89
13	Treated Pine Poles	51	51	55	59	60	57	57	56	56	56	56	56	58	61
14	Standard Cross Arms	42	42	49	50	47	46	46	44	44	44	44	45	47	46
15	Standard Galv. Steel Guy Wire	54	55	58	62	63	63	63	63	63	63	63	63	63	63
16	Fibre Conduit	-	-	-	-	-	-	82	86	86	86	86	84	76	71
17	Plastic Conduit	170	157	159	159	154	154	154	150	146	146	143	139	141	136
18	Mercury Luminaires w/Standard	59	59	60	66	68	68	68	67	67	66	67	66	72	82
19	Power Wire & Control Cable	71	68	72	65	50	50	40	38	40	40	44	55	67	72
20	Overhead Conductor-Transmission	67	73	80	81	79	72	73	73	74	63	69	73	76	78
21	Underground Conductor-Transmission	60	65	72	65	63	65	66	64	63	63	69	77	77	79
22	Overhead Conductor-Distribution	59	67	72	63	58	63	64	62	62	62	64	71	75	78
23	Underground Conductor-Distribution	64	71	78	69	67	70	71	69	67	68	74	82	83	85
24	Service Cable	-	-	93	89	74	69	68	69	67	62	66	68	71	74
25	Condensers & Tubes	44	45	48	53	56	56	56	56	56	57	61	65	71	75
26	Turbo-Generators	59	61	72	80	84	84	78	72	70	70	70	71	72	73
27															
28	Gas Compressors	44	46	49	54	58	61	61	61	61	64	68	73	74	78
29	Gas Transmission Line Pipe	55	56	59	65	67	69	69	69	69	69	71	71	71	72
30	Steel Distribution Pipe	54	56	60	68	69	71	71	71	71	71	71	71	71	73
31	Plastic Pipe	154	147	146	142	140	139	137	133	132	132	128	123	126	126
32	Meters-Gas	55	56	63	66	71	71	71	73	79	79	79	79	86	88
33	House Regulators	74	74	74	76	80	80	80	81	82	82	82	80	80	80
34															
35	Cast Iron Pipe	79	80	86	91	95	95	95	95	95	95	95	95	95	95
36	Cast Iron Fittings	62	64	67	69	72	74	74	74	73	72	72	72	72	75
37	Ductile Iron Pipe	-	-	-	-	-	-	-	96	96	96	96	96	96	96
38	Chemical Feeders-Small	40	41	45	48	49	54	60	60	63	63	64	69	73	77
39	Chemical Feeders-Large	42	44	54	61	68	68	68	68	71	72	71	70	72	79
40	Gate Valves	55	51	57	59	58	58	58	59	62	63	62	62	68	72
41	Meter Yokes	51	57	64	61	59	59	62	63	65	65	66	70	75	77
42	Corporation Stops	46	54	59	59	59	60	62	62	65	65	66	71	79	81
43	Curb Stops	46	54	59	59	59	60	62	63	65	65	67	71	79	82
44	Hydrants	55	52	58	59	59	59	59	59	59	59	59	59	61	66
45	Meters-Water	67	70	77	78	78	78	78	78	84	87	87	93	101	101
46															
47															
48															
49															
50	Construction Equipment	49	51	55	59	62	64	65	67	67	68	70	71	73	76
51															
52															
53															
54															
55															
56															

UTILITY PLANT MATERIALS

ALL REGIONS (1973=100)

COST INDEX NUMBERS

Line	CONSTRUCTION AND EQUIPMENT	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
1	Boilers	76	78	83	89	94	100	119	143	159	172	186	203	221	245
2	Coal & Ash Handling Equipment	79	84	88	93	95	100	124	150	154	162	175	192	213	225
3	Pumps	78	80	85	89	93	100	127	154	177	183	195	212	235	259
4	Steam Pipe	78	82	86	92	98	100	112	131	143	155	178	206	223	236
5	Cranes	68	72	78	82	88	100	122	139	147	171	186	215	237	267
6	Regulators	84	87	90	92	97	100	128	150	165	170	174	179	189	206
7	Switchboards	92	93	94	96	97	100	131	196	212	222	234	238	261	295
8	Power Transformers	93	95	97	95	93	100	129	157	162	172	182	193	210	223
9	Oil Switches	96	92	93	93	95	100	123	140	143	174	186	195	203	229
10	Motors	89	94	100	104	100	100	110	155	167	186	186	188	195	210
11	Line Transformers	109	106	105	104	100	100	110	133	136	147	158	166	165	194
12	Meters-Electrric	92	95	98	101	101	100	107	126	135	140	144	148	144	160
13	Treated Pine Poles	62	66	69	73	77	100	150	205	192	190	206	234	265	289
14	Standard Cross Arms	44	50	65	60	58	100	162	157	146	155	161	223	244	252
15	Standard Galv. Steel Guy Wire	63	64	72	86	97	100	133	153	151	162	178	205	214	244
16	Fibre Conduit	72	78	83	82	85	100	119	130	133	149	173	203	218	235
17	Plastic Conduit	116	105	100	98	100	100	118	133	129	144	161	187	199	190
18	Mercury Luminaires w/Standard	74	78	94	101	102	100	125	173	194	211	234	263	288	314
19	Power Wire & Control Cable	81	86	84	74	86	100	115	95	97	95	101	109	135	142
20	Overhead Conductor-Transmission	75	84	97	107	103	100	121	167	204	220	189	201	232	250
21	Underground Conductor-Transmission	76	82	86	83	89	100	149	142	142	154	148	188	238	259
22	Overhead Conductor-Distribution	75	84	97	107	102	100	121	166	203	220	192	210	246	257
23	Underground Conductor-Distribution	76	86	94	92	100	100	135	130	132	140	148	196	231	222
24	Service Cable	71	77	92	98	99	100	105	124	126	131	149	183	221	217
25	Condensers & Tubes	80	84	89	94	99	100	109	128	142	157	171	189	209	229
26	Turbo-Generators	72	75	81	89	96	100	111	131	144	158	170	188	206	230
27															
28	Gas Compressors	84	88	91	91	90	100	120	150	161	172	188	213	237	265
29	Gas Transmission Line Pipe	75	80	83	89	98	100	122	145	172	187	212	225	253	290
30	Steel Distribution Pipe	73	76	82	89	97	100	127	142	155	170	194	213	225	254
31	Plastic Pipe	123	111	98	96	100	100	112	116	120	125	129	142	152	142
32	Meters-Gas	88	89	94	100	100	100	111	128	131	136	139	143	149	158
33	House Regulators	81	83	92	98	100	100	106	125	132	136	144	171	201	210
34															
35	Cast Iron Pipe	95	95	96	100	100	100	153	178	180	183	195	201	217	235
36	Cast Iron Fittings	77	80	87	99	99	100	144	142	148	152	163	173	194	209
37	Ductile Iron Pipe	96	96	97	100	100	100	153	182	186	189	201	207	215	228
38	Chemical Feeders-Small	81	81	86	90	92	100	126	180	209	230	249	257	287	316
39	Chemical Feeders-Large	80	81	87	92	94	100	125	177	194	195	201	212	232	249
40	Gate Valves	74	74	79	91	96	100	127	160	191	197	220	252	270	289
41	Meter Yokes	79	87	93	95	95	100	132	139	160	227	246	262	296	320
42	Corporation Stops	85	90	96	99	99	100	126	133	133	136	139	154	168	178
43	Curb Stops	86	90	96	99	99	100	126	133	135	140	146	161	177	187
44	Hydrants	71	76	84	94	95	100	143	185	214	229	261	279	293	315
45	Meters-Water	101	107	108	108	106	100	93	93	98	101	105	108	122	127
46															
47															
48															
49															
50	Construction Equipment	80	84	88	93	95	100	117	141	153	164	178	197	222	246
51															
52															
53															
54															
55															
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UTILITY PLANT MATERIALS

ALL REGIONS (1973=100)

Line	CONSTRUCTION AND EQUIPMENT	COST INDEX NUMBERS													
		982	983	984	985	986	987	988	989	990	991	992	993	994	995
1	Boilers	264	273	283	292	298	307	330	344	364	380	385	404	413	425
2	Coal & Ash Handling Equipment	224	229	240	246	250	255	270	289	296	300	302	308	318	325
3	Pumps	276	281	284	292	296	300	310	327	342	353	361	391	406	419
4	Steam Pipe	254	226	215	215	215	231	271	264	241	229	222	199	199	216
5	Cranes	302	328	344	384	411	423	442	458	474	482	490	537	598	615
6	Regulators	216	225	227	229	231	236	239	248	253	257	257	256	260	241
7	Switchboards	318	317	319	333	338	343	366	398	429	439	449	499	496	572
8	Power Transformers	231	226	229	237	242	253	264	291	327	337	343	360	371	388
9	Oil Switches	279	280	275	271	268	273	336	380	402	411	399	358	369	395
10	Motors	224	250	260	261	257	266	285	339	365	357	348	376	478	495
11	Line Transformers	208	210	211	212	213	211	212	221	224	222	223	226	230	225
12	Meters-Electrric	188	201	200	202	207	205	187	175	174	186	190	189	174	169
13	Treated Pine Poles	291	280	276	283	289	284	289	300	310	323	332	367	416	445
14	Standard Cross Arms	249	240	243	230	228	226	250	291	333	366	381	419	441	464
15	Standard Galv. Steel Guy Wire	254	236	227	233	233	235	249	253	252	252	251	253	254	255
16	Fibre Conduit	175	210	231	225	221	225	301	470	379	260	230	198	222	228
17	Plastic Conduit	158	183	197	189	188	199	280	409	366	316	289	237	251	260
18	Mercury Luminaires w/Standard	333	326	343	358	352	321	321	334	345	353	361	389	408	430
19	Power Wire & Control Cable	132	131	123	107	110	123	137	139	136	130	126	119	121	127
20	Overhead Conductor-Transmission	247	271	246	242	242	218	359	366	355	372	379	334	352	399
21	Underground Conductor-Transmission	270	268	256	242	277	281	298	328	405	461	469	477	477	485
22	Overhead Conductor-Distribution	252	266	259	249	244	229	349	366	354	363	366	322	341	386
23	Underground Conductor-Distribution	206	201	196	202	216	222	223	243	254	258	259	254	253	263
24	Service Cable	207	198	229	209	194	201	250	285	271	264	258	227	240	271
25	Condensers & Tubes	247	256	257	247	222	239	263	268	268	270	270	275	288	308
26	Turbo-Generators	242	256	266	270	270	274	292	302	306	312	315	325	333	343
27															
28	Gas Compressors	280	284	295	301	303	307	325	354	371	388	405	438	446	455
29	Gas Transmission Line Pipe	315	271	262	254	265	272	301	298	269	257	250	233	235	243
30	Steel Distribution Pipe	268	270	282	272	237	250	291	316	318	323	323	327	370	381
31	Plastic Pipe	132	149	157	146	146	159	218	283	285	290	275	230	235	244
32	Meters-Gas	158	146	147	158	166	165	170	177	185	190	190	191	189	190
33	House Regulators	217	221	230	237	236	243	247	253	269	280	283	297	303	302
34															
35	Cast Iron Pipe	234	254	247	265	244	244	266	282	278	275	275	275	278	266
36	Cast Iron Fittings	216	232	229	240	259	289	296	317	324	324	324	350	377	370
37	Ductile Iron Pipe	228	262	249	281	246	246	275	278	271	271	271	271	273	250
38	Chemical Feeders-Small	341	353	358	366	373	379	398	410	424	430	432	444	453	453
39	Chemical Feeders-Large	273	286	294	306	324	341	353	379	402	418	423	438	437	477
40	Gate Valves	321	358	375	395	417	441	468	517	530	540	548	561	524	540
41	Meter Yokes	336	389	389	383	394	399	445	470	478	507	516	551	566	603
42	Corporation Stops	189	200	207	212	220	220	240	254	257	273	279	303	308	318
43	Curb Stops	198	210	220	225	233	233	254	270	273	289	296	321	330	348
44	Hydrants	352	384	385	414	439	456	480	521	558	560	560	559	561	577
45	Meters-Water	128	141	148	135	135	137	140	143	152	160	173	195	175	200
46															
47															
48															
49															
50	Construction Equipment	263	269	273	276	280	286	295	281	298	320	316	324	331	333
51															
52															
53															
54															
55															
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UTILITY PLANT MATERIALS

ALL REGIONS (1973=100)

Line	CONSTRUCTION AND EQUIPMENT	COST INDEX NUMBERS									2005		2006		2007	
		996	997	998	999	000	001	002	003	004	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1
1	Boilers	433	443	452	460	467	474	481	489	517	535	550	565	578	590	604
2	Coal & Ash Handling Equipment	328	333	344	351	353	357	359	362	397	426	426	425.4	431	441	453
3	Pumps	440	476	496	510	528	524	525	544	557	567	575	592.3	602	620	640
4	Steam Pipe	215	204	190	183	178	170	167	160	194	270	286	292	299	307	304
5	Cranes	615	656	689	728	747	749	749	749	800	817	817	816.8	817	817	817
6	Regulators	234	232	234	237	242	240	243	255	261	271	276	290.3	343	360	375
7	Switchboards	620	656	662	689	749	813	892	983	1066	1111	1173	1227	1340	1447	1596
8	Power Transformers	370	371	400	400	400	400	383	375	486	540	545	583.7	591	648	671
9	Oil Switches	399	409	415	415	409	408	399	391	382	379	389	412	420	429	436
10	Motors	475	467	476	497	533	535	541	543	610	691	695	685.7	658	683	601
11	Line Transformers	219	206	210	210	209	217	223	225	237	250	258	298.8	345	397	405
12	Meters-Electrric	172	187	193	181	176	206	241	263	290	276	276	276	283	283	291
13	Treated Pine Poles	463	473	471	473	471	489	505	515	534	541	554	562.3	601	600	604
14	Standard Cross Arms	466	477	443	413	417	437	433	411	394	440	435	451.1	456	487	471
15	Standard Galv. Steel Guy Wire	261	280	314	313	318	249	220	227	271	302	302	300.7	280	323	323
16	Fibre Conduit	204	209	199	225	246	226	275	252	250	284	284	432.2	432	460	390
17	Plastic Conduit	252	256	251	266	281	291	319	311	323	354	354	447.3	447	527	495
18	Mercury Luminaires w/Standard	460	471	469	472	479	492	529	571	583	601	615	637.4	774	808	826
19	Power Wire & Control Cable	121	121	119	112	110	108	103	99.8	112	132	137	159.5	187	263	265
20	Overhead Conductor-Transmission	402	405	420	354	398	426	409	404	457	491	540	633.3	698	742	770
21	Underground Conductor-Transmission	487	487	487	493	485	468	461	462	519	536	559	614.6	615	615	615
22	Overhead Conductor-Distribution	386	387	399	345	381	403	388	387	437	467	515	600.3	648	692	715
23	Underground Conductor-Distribution	266	263	265	268	270	257	245	239	264	295	308	342.2	343	457	459
24	Service Cable	267	264	264	249	260	265	259	266	297	313	347	396	396	432	439
25	Condensers & Tubes	305	306	309	290	284	287	291	304	388	439	433	447.3	465	466	506
26	Turbo-Generators	348	364	369	371	387	372	380	395	397	411	400	401.8	424	440	452
27																
28	Gas Compressors	461	470	478	480	483	487	495	497	503	506	586	535.3	544	557	574
29	Gas Transmission Line Pipe	269	272	273	267	263	258	256	257	377	449	452	440.4	460	525	482
30	Steel Distribution Pipe	376	388	389	399	428	424	421	448	637	875	855	924.4	954	829	839
31	Plastic Pipe	249	251	252	255	265	295	304	308	325	351	351	393	393	509	509
32	Meters-Gas	192	196	196	191	202	209	202	193	183	185	184	187.6	197	205	231
33	House Regulators	303	303	307	306	305	312	319	318	323	336	339	343.8	356	377	377
34																
35	Cast Iron Pipe	268	279	281	285	291	297	299	301	306	341	341	345.9	346	402	402
36	Cast Iron Fittings	368	379	379	378	378	384	476	500	514	520	520	660.6	690	706	720
37	Ductile Iron Pipe	251	268	270	279	290	292	292	292	276	274	274	283.2	283	327	327
38	Chemical Feeders-Small	462	476	514	522	546	561	563	566	606	640	661	669.4	596	640	676
39	Chemical Feeders-Large	493	506	537	569	562	581	612	612	597	576	576	586.2	544	531	570
40	Gate Valves	553	592	611	630	651	685	691	691	704	718	718	718.4	720	720	720
41	Meter Yokes	670	673	677	679	699	708	713	737	762	769	794	793.6	1111	1111	1169
42	Corporation Stops	329	329	329	329	338	341	344	353	364	367	367	367.2	527	527	527
43	Curb Stops	361	361	361	361	371	374	377	387	399	403	403	402.7	577	577	577
44	Hydrants	625	795	840	874	909	961	970	970	980	989	989	989.2	1097	1097	1116
45	Meters-Water	207	197	197	198	205	206	207	207	207	207	207	234.7	248	260	262
46																
47																
48																
49																
50	Construction Equipment	336	351	380	385	389	391	396	402	414	427	443	448.3	461	463	471
51																
52																
53																
54																
55																
56																

UTILITY PLANT MATERIALS

ALL REGIONS (1973=100)

Line	CONSTRUCTION AND EQUIPMENT	2008		2009		2010		2011		2012		2013		2014	
		Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1
1	Boilers	596	616	620	599	608	620	624	634	649	649	669	653	661	665
2	Coal & Ash Handling Equipment	478	537	543	513	499	503	522	536	550	559	562	563	580	581
3	Pumps	643	663	673	675	703	704	706	756	781	787	799	846	859	922
4	Steam Pipe	324	400	454	413	376	417	419	448	438	455	439	425	429	431
5	Cranes	817	899	899	899	899	899	899	899	899	899	899	965	965	1007
6	Regulators	401	427	389	390	402	408	410	418	415	428	422	428	441	425
7	Switchboards	1791	1954	2077	2218	2373	2504	2616	2757	2879	3034	3173	3319	3471	3594
8	Power Transformers	694	725	746	745	780	788	804	814	818	826	815	814	813	816
9	Oil Switches	437	455	460	461	469	475	480	483	483	485	485	488	498	500
10	Motors	635	674	696	719	717	695	713	770	777	782	804	837	849	851
11	Line Transformers	615	505	534	560	588	617	630	650	673	690	737	756	799	819
12	Meters-Electrric	292	293	295	295	307	307	295	294	288	291	295	298	303	305
13	Treated Pine Poles	611	643	653	665	672	686	664	678	687	697	700	700	675	675
14	Standard Cross Arms	464	486	518	501	482	465	446	446	452	453	464	466	440	434
15	Standard Galv. Steel Guy Wire	351	381	548	536	550	405	405	405	404	423	423	488	458	486
16	Fibre Conduit	411	420	468	468	380	380	390	390	419	419	417	417	497	497
17	Plastic Conduit	522	526	609	609	463	463	468	468	521	521	477	477	478	478
18	Mercury Luminaires w/Standard	839	899	1024	1053	1087	972	990	1034	1052	1079	1061	1077	990	993
19	Power Wire & Control Cable	242	250	228	234	213	220	245	251	268	270	271	270	267	254
20	Overhead Conductor-Transmission	860	985	985	553	700	714	675	782	650	659	701	729	729	740
21	Underground Conductor-Transmission	877	927	919	929	906	885	973	971	977	1016	1026	1052	1083	1093
22	Overhead Conductor-Distribution	793	898	898	539	661	682	672	772	647	656	686	710	716	735
23	Underground Conductor-Distribution	499	541	631	609	515	518	563	577	621	647	617	654	631	645
24	Service Cable	472	510	511	390	430	460	516	579	497	505	502	512	530	562
25	Condensers & Tubes	496	603	516	462	473	525	527	575	580	566	567	528	536	549
26	Turbo-Generators	457	538	468	417	439	488	474	501	498	487	564	480	478	483
27															
28	Gas Compressors	581	603	621	626	625	631	633	656	662	677	674	692	693	707
29	Gas Transmission Line Pipe	502	604	600	510	444	506	510	525	586	616	542	535	626	627
30	Steel Distribution Pipe	833	1122	1019	929	911	987	1081	1123	1350	1327	1305	1276	1253	1266
31	Plastic Pipe	541	541	644	644	464	464	470	470	535	535	464	464	403	403
32	Meters-Gas	241	250	261	252	257	252	252	256	261	271	271	272	341	342
33	House Regulators	387	392	412	400	406	414	425	430	432	438	443	443	454	454
34															
35	Cast Iron Pipe	421	468	541	541	563	563	550	550	565	676	688	697	770	779
36	Cast Iron Fittings	783	837	897	909	986	987	961	961	1091	1120	1148	1168	1230	1395
37	Ductile Iron Pipe	363	363	485	485	521	521	500	500	524	524	545	545	575	575
38	Chemical Feeders-Small	817	819	831	880	880	880	907	908	1068	1086	1092	1203	1249	1249
39	Chemical Feeders-Large	676	683	654	700	700	700	633	715	753	770	774	803	805	805
40	Gate Valves	736	736	759	759	736	778	762	762	755	755	770	790	803	824
41	Meter Yokes	1169	1169	1202	1202	1202	1241	1241	1241	1323	1594	1594	1594	1594	1594
42	Corporation Stops	527	527	527	527	527	542	542	542	542	723	723	723	723	723
43	Curb Stops	577	577	577	577	577	582	582	582	582	739	739	739	739	739
44	Hydrants	1133	1133	1155	1155	1150	1081	1089	1089	1132	1132	1166	1189	1221	1339
45	Meters-Water	373	373	373	373	374	376	379	379	379	379	380	381	381	381
46															
47															
48															
49															
50	Construction Equipment	474	483	499	502	502	501	505	516	527	539	547	552	554	562
51															
52															
53															
54															
55															
56															

UTILITY PLANT MATERIALS

ALL REGIONS (1973=100)

Line	CONSTRUCTION AND EQUIPMENT	2015		2016		2017		2018		2019		2020		2021	
		Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1
1	Boilers	669	691	697	698	700	681	683	707	710	739	738	743	745	768
2	Coal & Ash Handling Equipment	584	583	582	584	589	595	596	608	620	630	640	664	638	676
3	Pumps	958	963	1043	1076	1120	1244	1248	1345	1401	1492	1526	1639	1640	1690
4	Steam Pipe	417	416	404	411	421	415	407	462	483	468	481	469	492	546
5	Cranes	1007	1007	1007	1007	1007	1007	1041	1083	1108	1108	1141	1175	1222	1344
6	Regulators	416	406	396	403	412	416	420	430	436	437	442	436	445	496
7	Switchboards	3757	3760	3931	3930	4109	4300	4461	4629	4847	4852	5080	5367	5620	5892
8	Power Transformers	812	801	795	798	822	827	868	879	901	901	902	895	911	952
9	Oil Switches	500	502	502	501	501	503	505	507	511	521	530	533	539	550
10	Motors	859	857	869	869	893	883	910	917	937	1006	1023	1026	963	943
11	Line Transformers	854	856	884	882	918	946	982	1008	1048	1048	1086	1129	1170	1214
12	Meters-Electrric	307	307	307	298	298	298	304	304	306	306	323	323	332	332
13	Treated Pine Poles	670	658	676	678	670	730	665	668	687	693	799	798	706	705
14	Standard Cross Arms	458	448	457	458	456	451	450	450	456	456	508	512	535	536
15	Standard Galv. Steel Guy Wire	486	486	486	486	515	515	515	515	541	541	623	623	671	671
16	Fibre Conduit	475	475	430	430	412	412	511	511	523	523	525	525	407	407
17	Plastic Conduit	479	479	468	468	452	452	514	514	521	521	549	549	611	611
18	Mercury Luminaires w/Standard	981	1018	986	981	998	942	964	1008	1130	1085	1188	1206	1046	1055
19	Power Wire & Control Cable	258	253	224	221	225	228	246	253	255	257	261	259	303	322
20	Overhead Conductor-Transmission	743	743	777	777	740	740	838	838	885	885	919	919	483	483
21	Underground Conductor-Transmission	1095	1103	1108	1108	1113	1180	1252	1271	1329	1329	1339	1385	1435	1613
22	Overhead Conductor-Distribution	747	750	768	768	741	745	785	801	818	834	868	868	539	540
23	Underground Conductor-Distribution	622	637	589	589	539	562	561	572	605	605	622	650	702	751
24	Service Cable	592	600	580	578	580	593	496	544	490	540	567	564	541	545
25	Condensers & Tubes	547	551	520	535	536	510	516	569	583	574	509	566	604	698
26	Turbo-Generators	485	551	538	561	579	506	507	537	560	548	462	562	607	742
27															
28	Gas Compressors	713	720	722	727	728	735	747	759	779	783	787	795	793	816
29	Gas Transmission Line Pipe	616	589	535	544	570	601	615	693	716	689	680	639	733	996
30	Steel Distribution Pipe	1243	1189	1088	1116	1175	1247	1218	1382	1432	1394	1590	1555	1564	2067
31	Plastic Pipe	403	403	403	403	394	394	410	410	413	413	447	447	559	559
32	Meters-Gas	372	372	388	388	442	442	475	477	511	511	489	490	469	469
33	House Regulators	469	469	481	481	487	487	533	533	558	565	559	559	549	549
34															
35	Cast Iron Pipe	758	748	731	731	809	808	867	868	878	881	912	877	885	839
36	Cast Iron Fittings	1278	1322	1380	1418	1478	1478	1481	1565	1627	1736	1883	1955	2130	2516
37	Ductile Iron Pipe	579	579	600	600	622	622	715	715	721	721	768	768	781	781
38	Chemical Feeders-Small	1316	1404	1471	1471	1496	1589	1618	1738	1792	1871	2019	2106	2176	2316
39	Chemical Feeders-Large	805	805	842	842	863	891	900	939	965	990	1080	1140	1145	1195
40	Gate Valves	814	814	868	868	825	825	771	789	812	832	863	863	1105	1145
41	Meter Yokes	1594	1594	1594	1594	1594	1706	1706	1706	1706	1768	1768	1821	1821	1958
42	Corporation Stops	723	723	723	723	723	723	723	723	773	861	861	887	887	953
43	Curb Stops	780	780	780	780	780	780	780	780	835	929	929	957	957	1029
44	Hydrants	1418	1591	1694	1694	1681	1681	1735	1759	1803	1830	1886	1886	2086	2143
45	Meters-Water	400	400	403	403	404	418	434	434	443	443	459	459	485	485
46															
47															
48															
49															
50	Construction Equipment	564	568	570	574	575	579	580	575	600	609	613	620	621	640
51															
52															
53															
54															
55															
56															

UTILITY PLANT MATERIALS

ALL REGIONS (1973=100)

Line	CONSTRUCTION AND EQUIPMENT	2022		2023		2024		2025		2026		2027		2028	
		Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1
1	Boilers	831	873	921	954										
2	Coal & Ash Handling Equipment	774	814	842	839										
3	Pumps	1821	2046	2070	2152										
4	Steam Pipe	649	701	720	672										
5	Cranes	1494	1757	1910	1910										
6	Regulators	547	612	669	664										
7	Switchboards	6250	7005	8408	8819										
8	Power Transformers	1032	1101	1122	1132										
9	Oil Switches	571	630	668	684										
10	Motors	1065	1188	1176	1118										
11	Line Transformers	1293	1405	1980	2041										
12	Meters-Electrric	375	375	559	559										
13	Treated Pine Poles	766	757	769	782										
14	Standard Cross Arms	564	564	584	609										
15	Standard Galv. Steel Guy Wire	610	769	769	769										
16	Fibre Conduit	627	627	1246	1246										
17	Plastic Conduit	708	708	1038	1038										
18	Mercury Luminaires w/Standard	1154	1267	1367	1463										
19	Power Wire & Control Cable	382	411	408	402										
20	Overhead Conductor-Transmission	605	605	1304	1304										
21	Underground Conductor-Transmission	1902	1864	2334	2541										
22	Overhead Conductor-Distribution	628	630	1369	1369										
23	Underground Conductor-Distribution	816	695	1146	1215										
24	Service Cable	540	546	1207	1208										
25	Condensers & Tubes	785	835	772	823										
26	Turbo-Generators	859	799	672	813										
27															
28	Gas Compressors	853	952	989	1034										
29	Gas Transmission Line Pipe	1185	1227	1132	988										
30	Steel Distribution Pipe	2304	2276	3248	3189										
31	Plastic Pipe	603	603	767	767										
32	Meters-Gas	529	539	580	591										
33	House Regulators	650	650	769	769										
34															
35	Cast Iron Pipe	876	948	990	990										
36	Cast Iron Fittings	3004	3279	3858	3858										
37	Ductile Iron Pipe	781	781	781	781										
38	Chemical Feeders-Small	2503	2774	2892	2975										
39	Chemical Feeders-Large	1307	1452	1528	1592										
40	Gate Valves	1260	1365	1758	1758										
41	Meter Yokes	2193	2193	2369	2369										
42	Corporation Stops	1068	1068	1153	1153										
43	Curb Stops	1152	1152	1244	1244										
44	Hydrants	2219	2454	2522	2522										
45	Meters-Water	803	826	973	973										
46															
47															
48															
49															
50	Construction Equipment	683	721	743	776										
51															
52															
53															
54															
55															
56															

Date of Request: August 29, 2024 Request No. DPS-996
Due Date: September 9, 2024 NG Request No. NG-1425

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: PSC - Sara Orsino

TO: National Grid

SUBJECT: Damage Prevention - Follow up to DPS-542

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel, or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

Referring to the response to DPS-542, the rates shown in DPS-542 Attachment 1 cells U24:U27, V24:V27, Y24:Y27, Z24:Z27, do not match the rates shown in DPS-542 Attachment 3.

1. Confirm if the correct agreed upon contractor rates for Fiscal Year 2025 to Fiscal Year 2028 are shown in DPS-542 Attachment 1 or DPS-542 Attachment 3.

Response:

Attachment 3 to DPS-542 shows the correct and final agreed-upon contractor rates. The problem locates contract was in negotiation when the Rate Case filing and FY25 Budget were being developed.

Name of Respondent: Date of Reply:
Megan Piccarreto September 6, 2024

Date of Request: August 29, 2024 Request No. DPS-997
Due Date: September 9, 2024 NG Request No. NG-1426

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: PSC - Sara Orsino

TO: National Grid

SUBJECT: Damage Prevention - Follow Up to DPS-557

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel, or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

The response to DPS-557, Attachment 7 shows the historical number of ticket volumes for damage prevention.

1. Provide a breakdown of total ticket volume shown by ticket types (i.e., outreach, watch guard, dig safely, cast iron, problem locates, etc.).

2. For each category listed in question 1, explain if ticket volume is expected to increase in the Rate Year due to program changes. Identify and provide support for all assumption used.

Referring to the response to DPS-557 Attachment 2:

3. Explain why the forecast for ticket volumes relating to "Problem Locates" is higher than the other categories shown in cells J16, O16, U16, and AC16. Provide support for all assumption used.

Response:

1. The ticket volumes provided in Attachment 7 to DPS-557 are specifically related to the locating category, which is the largest contributor to overall activity. The data for the other categories noted is from hourly charges. Attachment 1 to DPS-557 provides historical volume details dating back to FY21.

2. No, ticket volumes are not expected to change based on program changes. However, as mentioned in the response to Question 1 of DPS-557, ticket volumes are projected to

increase due to factors such as third-party and municipal projects, as well as future major construction projects like the I-81 replacement project.

3. Problem locates represent a specific category of work that is primarily influenced by the factors discussed in Question 2 (and the response to Question 1 of DPS-557). Consequently, the increase in ticket volumes for problem locates would likely be higher compared to other categories of work.

Name of Respondent: Date of Reply:
Megan Piccarreto September 9, 2024

Date of Request: August 29, 2024 Request No. DPS-998
Due Date: September 9, 2024 NG Request No. NG-1427

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: PSC - Sara Orsino

TO: National Grid

SUBJECT: DPS-865 Follow Up

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

Referring to the response to DPS-865, the Company states "[t]he Company has been able to continue operations since the effective date of September 15, 2023 by initially completing construction projects that were permitted prior to that date… While there have been some projects permitted after the effective date, the volume has been relatively low to date."

1. How many projects have been permitted after the effective date of September 15, 2023, to date.

2. How many projects are expected to be permitted during the Rate Year?

Response:

1. The estimated number of construction projects permitted after September 15, 2023 is 375.

2. The estimated average number of construction projects to be permitted for a given construction season or a single year within the Rate Year would be 400-500.

   Please note, that the volume of work described in the responses do not include restoration work that is completed outside of the designed and planned projects. These restoration activities, many of which are completed by the Company's contractor work force, would also be subject to prevailing wage requirements.

Name of Respondent: Date of Reply:
Llewellyn Potter September 6, 2024

Date of Request: August 29, 2024 Request No. DPS-999
Due Date: September 9, 2024 NG Request No. NG-1428

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: PSC - Sara Orsino

TO: National Grid

SUBJECT: Pressure Engineering - Full Time Equivalent (FTEs) - Follow Up to DPS-843

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel, or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

Referring to the Company's response to DPS-843:

1. Explain whether the FTEs hired would continue working on the completed project or if they would move onto new projects once the previous project is completed.

2. Identify whether the FTEs have additional responsibility for the project once the project is completed.

Referring to the response to DPS-843 Attachment 1:

3. Identify the projects within each program listed for Fiscal Year 2024 through Fiscal Year 2028.

Response:

1. The FTEs hired would not solely support a single project. They will support several projects, each of which may be at different stages – ranging from proposed project scoping to currently active projects.

2. The FTEs will have additional responsibilities beyond a single project, as they will be hired to become subject matter experts in a specific field or subject area. Specifically:

    - Eng Gas Asset Engineering, New Program – The FTE will be responsible to continuously interpret codes and analyze and quantify risks to ensure safety and compliance throughout the life of the assets.

- Analyst Gas Asset Engineering, New Program – The FTE will be responsible to continuously manage data and data management systems throughout the life of the assets.

- Eng, Asset Engineering, Increased Workload – The FTE is responsible to provide continuous support of capital projects to meet National Grid process safety requirements, project design reviews, and audits.

- Lead Eng, Asset Engineering, Increased Workload – The FTE will be responsible to support instrumentation and controls engineering on multiple capital projects through code interpretation and design reviews.

- Snr Eng Gas, Asset Engineering, Increased Workload – The FTE will be responsible to support instrumentation and controls engineering on multiple capital projects through code interpretation and design reviews.

- Designer C, Asset Engineering, Increased Workload – The FTE will be responsible to support instrumentation and controls engineering design.

3. Please see the projects within each program listed for Fiscal Year 2024 through Fiscal Year 2028:

Fiscal Year 2024

1. Transmission Station Integrity - PHMSA - Rattlesnake GRS 824-171-172

2. Take Station - Over Pressure Protection - Vickerman Hill GRS 824-757

3. Take Station - Over Pressure Protection - Tully-Oak Hill GRS 824-164

4. Take Station - Over Pressure Protection - E Greenbush GRS 924-335

5. Station Integrity- Shellstone GRS 924-815

6. Station Integrity - Taft Rd GRS 824-173

Fiscal Year 2025

1. Transmission Station Integrity - PHMSA - Dams Corners GRS 824-697

2. Transmission Station Integrity - PHMSA - Harris Road GRS 824-406/407

3. Transmission Station Integrity - PHMSA - Route 26 GRS 824-759

4. Transmission Station Integrity - PHMSA - Shaker Road GRS 924-318

5. Take Station - Over Pressure Protection - Cazenovia GRS 824-181

6. Take Station - Over Pressure Protection - Wolf Rd GRS 924-334

7. Take Station - Over Pressure Protection - Putnam GRS 924-450

Fiscal Year 2026

1. Transmission Station Integrity - PHMSA - Wheeler Rd (Chittenago) GRS 824-166

2. Transmission Station Integrity - PHMSA/Over Pressure Protection - Burdeck St (PL-E8) GRS 924-401

3. Transmission Station Integrity - PHMSA - Route 3 / West Carthage GRS 824-352

4. Take Station - Over Pressure Protection - Riverside GRS 924-351

5. Take Station - Over Pressure Protection - Therm City GRS 824-004

Fiscal Year 2027

1. Transmission Station Integrity - PHMSA - Collamer Rd GRS 824-170A/B

2. Transmission Station Integrity - PHMSA - North Pole - GRS 824-340A/B

Fiscal Year 2028

1. Transmission Station Integrity - PHMSA - Lamphere - GRS 824-695

2. Transmission Station Integrity - PHMSA - Leray -344

3. Transmission Station Integrity - PHMSA - 364 Walnut St (Burkle) GRS 824-211A/B

Name of Respondent:
Dennis Leyble

Date of Reply:
September 6, 2024

Date of Request: August 29, 2024 Request No. DPS-1000
Due Date: September 9, 2024 NG Request No. NG-1429

Niagara Mohawk Power Corporation d/b/a National Grid
Case No. 24-E-0322 & 24-G-0323
Data Request

Request for Information

FROM: PSC - Sara Orsino

TO: National Grid

SUBJECT: DPS-844 Follow Up

Request:

In all interrogatories, any requests for workpapers or supporting calculations shall be construed as requesting any Word, Excel, or other computer spreadsheet models in original electronic format with all formulae intact and unlocked.

Referring to the response to DPS-844, the Company states "[a]n increase in the number of projects as well as the projects' complexities (additional CNG/RNG injection facilities, Article VII projects) and costs, requires incremental Full Time Equivalent (FTEs) to develop, execute, and close out."

1. Provide the total number of projects the current FTEs oversaw in Fiscal Year 2024.

2. Provide the total number of projects the current and new FTEs will oversee in the Rate Year.

Response

1. The Complex Project Management Team oversaw approximately 62 projects in Fiscal Year 2024 not including projects in Options Selection or Close Out. Overall project count varies based on where projects are within the process.

2. The number of projects in development and execution is increasing to approximately 75, not including projects in Options Selection or Closeout. Please see Attachment 1 for project totals in Fiscal Year 2024 and the Rate Year.

Name of Respondent: Date of Reply:
Ryan Wood September 6, 2024

Niagara Mohawk Power Corporation d/b/a
National Grid
Cases 24-E-0322 & 24-G-0323 DPS-1000
Attachment 1
Page 1 of 1

	FY24	FY25	FY26
	Phase as of FY24 Start	Phase as of FY25 Start	Phase as of FY26 Start
Development	29	47	24
Execution	33	35	51

STAFF NET PLANT, GAS INFRASTRUCTURE AND OPERATIONS PANEL
Summary of Net Plant in Service and Depreciation Expense
Rate Year Ending March 31, 2026
($000)

Plant in Service 13-Month Average Balance			
	Company	Staff	Difference
Electric	$ 14,571,621	$ 14,437,928	$ (133,693)
Gas	$ 3,904,285	$ 3,897,007	$ (7,279)
Total	$ 18,475,906	$ 18,334,934	$ (140,972)

Non-Interest Bearing CWIP 13-Month Average Balance			
	Company	Staff	Difference
Electric	$ 398,913	$ 225,346	$ (173,567)
Gas	$ 31,109	$ 30,778	$ (331)
Total	$ 430,022	$ 256,124	$ (173,898)

Depreciation Reserve 13-Month Average Balance			
	Company	Staff	Difference
Electric	$ (3,666,970)	$ (3,714,789)	$ (47,819)
Gas	$ (1,240,205)	$ (1,224,912)	$ 15,293
Total	$ (4,907,175)	$ (4,939,701)	$ (32,527)

Net Plant - 13-Month Average Balance			
	Company	Staff	Difference
Electric	$ 11,303,564	$ 10,948,484	$ (355,080)
Gas	$ 2,695,190	$ 2,702,873	$ 7,683
Total	$ 13,998,754	$ 13,651,357	$ (347,397)

Depreciation Expense			
	Company	Staff	Difference
Electric	$ 461,377	$ 403,798	$ (57,579)
Gas	$ 127,730	$ 96,556	$ (31,174)
Total	$ 589,106	$ 500,354	$ (88,752)

*Common allocated 84.16% to electric and 15.84% to gas

STAFF NET PLANT, GAS INFRASTRUCTURE AND OPERATIONS PANEL
Summary of Gas Capital Expenditures by Budget Category

Project Name or Category	Company Total Budget ($000)					Staff Adjustments ($000)					Staff Total Budget ($000)				
	FY25	FY26	FY27	FY28	FY29	FY25	FY26	FY27	FY28	FY29	FY25	FY26	FY27	FY28	FY29
Customer Connections Category															
Customer Connections - Install Main	$ 7,046	$ 7,219	$ 7,313	$ 7,408	$ 7,510	$ (107)	$ (105)	$ (93)	$ (77)	$ (64)	$ 6,940	$ 7,114	$ 7,221	$ 7,331	$ 7,446
Customer Connections - Install Services	$ 9,909	$ 10,124	$ 9,592	$ 8,474	$ 6,814	$ (176)	$ (174)	$ (143)	$ (104)	$ (68)	$ 9,733	$ 9,950	$ 9,449	$ 8,370	$ 6,745
Customer Connections - Customer Contributions	$ (1,528)	$ (1,565)	$ (1,586)	$ (1,606)	$ (1,628)	$ 22	$ 22	$ 19	$ 16	$ 13	$ (1,505)	$ (1,543)	$ (1,566)	$ (1,590)	$ (1,615)
Customer Connections - Install Meter/Regulator	$ 2,960	$ 3,021	$ 2,860	$ 2,524	$ 2,027	$ (58)	$ (57)	$ (47)	$ (34)	$ (22)	$ 2,903	$ 2,964	$ 2,813	$ 2,490	$ 2,005
Customer Connections - Fitting	$ 8,279	$ 8,454	$ 8,618	$ 8,782	$ 8,953	$ (161)	$ (159)	$ (141)	$ (118)	$ (99)	$ 8,118	$ 8,295	$ 8,477	$ 8,664	$ 8,854
Gas System Reinforcement	$ 6,273	$ 6,712	$ 6,861	$ 7,248	$ 7,151	$ (1,895)	$ (1,895)	$ (1,895)	$ (1,895)	$ (1,895)	$ 4,378	$ 4,817	$ 4,966	$ 5,353	$ 5,256
Gas System Reinforcement - LTUN20867 - Central Sq - State Hwy 49	$ 4,726	$ 500	$ 44	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,726	$ 500	$ 44	$ -	$ -
Gas System Reinforcement - LTUN20902 - Alplaus - New GRS Riverview Rd	$ 200	$ 2,400	$ 10,800	$ 50	$ -	$ -	$ -	$ -	$ -	$ -	$ 200	$ 2,400	$ 10,800	$ 50	$ -
Gas System Reinforcement - LTUN20903 - Clifton Park _ Old RT146	$ 700	$ 10,237	$ 1,230	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 700	$ 10,237	$ 1,230	$ -	$ -
Customer Connections - Total	**$ 38,566**	**$ 47,101**	**$ 45,732**	**$ 32,880**	**$ 30,827**	**$ (2,375)**	**$ (2,367)**	**$ (2,299)**	**$ (2,212)**	**$ (2,135)**	**$ 36,191**	**$ 44,733**	**$ 43,433**	**$ 30,668**	**$ 28,692**
Mandated Category															
Corrosion	$ 4,118	$ 4,253	$ 4,391	$ 4,532	$ 4,680	$ (1,048)	$ (1,090)	$ (1,134)	$ (1,179)	$ (1,226)	$ 3,070	$ 3,163	$ 3,257	$ 3,353	$ 3,454
Corrosion - Alternating Current (AC) Corrosion Mitigation	$ 2,750	$ 11,409	$ 11,284	$ 14,303	$ 14,419	$ -	$ -	$ -	$ -	$ -	$ 2,750	$ 11,409	$ 11,284	$ 14,303	$ 14,419
CSC/Public Works - Non Reimbursable	$ 8,256	$ 8,430	$ 8,595	$ 8,758	$ 8,929	$ -	$ -	$ -	$ -	$ -	$ 8,256	$ 8,430	$ 8,595	$ 8,758	$ 8,929
CSC/Public Works - I-81	$ 2,045	$ 2,045	$ 2,045	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,045	$ 2,045	$ 2,045	$ -	$ -
Large Diameter Pipe Rehabilitation	$ 109	$ 1,138	$ 1,161	$ 1,183	$ 1,206	$ -	$ -	$ -	$ -	$ -	$ 109	$ 1,138	$ 1,161	$ 1,183	$ 1,206
Main Protection - Access Protection Remediation	$ 300	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 300	$ -	$ -	$ -	$ -
Main Replacement - Proactive - Leak Prone Pipe	$ 76,088	$ 49,938	$ 51,182	$ 52,446	$ 53,756	$ (730)	$ 9,437	$ 9,746	$ 10,077	$ 10,406	$ 75,358	$ 59,375	$ 60,928	$ 62,524	$ 64,162
Main Replacement - Annual Leak Prone Pipe Survey - Leak Repair	$ 243	$ 248	$ 253	$ 258	$ 263	$ -	$ -	$ -	$ -	$ -	$ 243	$ 248	$ 253	$ 258	$ 263
Main Replacement - Reactive - Maintenance	$ 1,107	$ 1,130	$ 1,152	$ 1,174	$ 1,197	$ -	$ -	$ -	$ -	$ -	$ 1,107	$ 1,130	$ 1,152	$ 1,174	$ 1,197
Main Upgrades - Low Pressure System Elimination - Proactive	$ 4,047	$ 2,497	$ 2,559	$ 2,622	$ 2,688	$ -	$ -	$ -	$ -	$ -	$ 4,047	$ 2,497	$ 2,559	$ 2,622	$ 2,688
Main Upgrades - Low Pressure Zones	$ 5,366	$ 3,329	$ 3,412	$ 3,496	$ 3,584	$ -	$ -	$ -	$ -	$ -	$ 5,366	$ 3,329	$ 3,412	$ 3,496	$ 3,584
Main Upgrades - Transmission Pipeline - Reactive	$ 500	$ 500	$ 500	$ 500	$ 500	$ -	$ -	$ -	$ -	$ -	$ 500	$ 500	$ 500	$ 500	$ 500
Meter Work - Meter Changes	$ 6,975	$ 6,172	$ 16,052	$ 10,039	$ 4,833	$ -	$ -	$ -	$ -	$ -	$ 6,975	$ 6,172	$ 16,052	$ 10,039	$ 4,833
Pipeline Integrity - IMP - PL-51 - Cut Outs resulting from ILI results	$ 2,176	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,176	$ -	$ -	$ -	$ -
Pipeline Integrity - IMP - PL-58 - Cut Outs resulting from ILI results	$ 2,176	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,176	$ -	$ -	$ -	$ -
Pipeline Integrity - IMP - PL 32 robotic ILI enable near CCC in Fulton - approx 713-feet	$ -	$ -	$ -	$ -	$ 100	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100
Pipeline Integrity - IMP - PL-16 - Taft Road Spur Partial Rel	$ 335	$ 140	$ 65	$ 15	$ 15	$ -	$ -	$ -	$ -	$ -	$ 335	$ 140	$ 65	$ 15	$ 15
Pipeline Integrity - IMP - PL-16 - Valve 1604 Replacement	$ 8	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8	$ -	$ -	$ -	$ -
Pipeline Integrity - IMP - PL-16 - Valve 1605 Replacement	$ 50	$ 25	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 50	$ 25	$ -	$ -	$ -
Pipeline Integrity - IMP - PL-35 - Therm City to Taunton	$ 1,795	$ 14,879	$ 180	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,795	$ 14,879	$ 180	$ -	$ -
Pipeline Integrity - IMP - PL-35 - Valve 3505 Replacement	$ 2,418	$ 115	$ 50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,418	$ 115	$ 50	$ -	$ -
Pipeline Integrity - IMP - PL-36 Robotic ILI near Near Route 690 and WB Mason Warehouse Robotic ILI	$ -	$ -	$ -	$ 100	$ 100	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100	$ 100
Pipeline Integrity - IMP - PL-39 - Besaw Road C082641	$ 42	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 42	$ -	$ -	$ -	$ -
Pipeline Integrity - IMP - PL-39 - Chestnut to Watertown ILI (Salmon River)	$ 6,600	$ 200	$ 73	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,600	$ 200	$ 73	$ -	$ -
Pipeline Integrity - IMP - PL-39 - Hall Road C082639	$ 385	$ 75	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 385	$ 75	$ -	$ -	$ -
Pipeline Integrity - IMP - PL-39 - Valve 3903 C082643	$ 320	$ 150	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 320	$ 150	$ -	$ -	$ -
Pipeline Integrity - IMP - PL-39 - Valve 3904 C082642	$ 89	$ 75	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 89	$ 75	$ -	$ -	$ -
Pipeline Integrity - IMP - PL-39 - Valve 3908 C082644	$ 2,606	$ 50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,606	$ 50	$ -	$ -	$ -
Pipeline Integrity - IMP - PL-39 - Valve 3911 C082647	$ 2,293	$ 200	$ 38	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,293	$ 200	$ 38	$ -	$ -
Pipeline Integrity - IMP - PL-39 - Valve 3912 and 3913 C082648	$ 2,137	$ 200	$ 75	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,137	$ 200	$ 75	$ -	$ -
Pipeline Integrity - IMP - PL-39 - Valve 3914 C082650	$ 6,123	$ 550	$ 325	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,123	$ 550	$ 325	$ -	$ -
Pipeline Integrity - IMP - PL-41A - ILI Taft Rd to Colimer Rd	$ 1,050	$ 8,819	$ 80	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,050	$ 8,819	$ 80	$ -	$ -
Pipeline Integrity - IMP - PL-48 - I-81 to LeRay ILI	$ 11,330	$ 200	$ 100	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,330	$ 200	$ 100	$ -	$ -
Pipeline Integrity - IMP - PL-49 - Rices Rd to I-81 ILI	$ 993	$ 75	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 993	$ 75	$ -	$ -	$ -
Pipeline Integrity - IMP - PL-49 - Valve 4901 Rplc	$ 45	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 45	$ -	$ -	$ -	$ -
Pipeline Integrity - IMP - PL-49 - Valve at I-81 ILI C082652	$ 125	$ 15	$ 5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 125	$ 15	$ 5	$ -	$ -
Pipeline Integrity - IMP - PL-50	$ 365	$ 955	$ 3,347	$ 3,272	$ 500	$ -	$ -	$ -	$ -	$ -	$ 365	$ 955	$ 3,347	$ 3,272	$ 500
Pipeline Integrity - IMP - PL-55 - ILI Interconnect C082639	$ 245	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 245	$ -	$ -	$ -	$ -
Pipeline Integrity - IMP - PL-55 - ILI HDD	$ 60	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 60	$ -	$ -	$ -	$ -
Pipeline Integrity - IMP - PL-56 - Robotic ILI Enable from tie-in to PL 64 to Carthage GRS	$ -	$ -	$ -	$ -	$ 100	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100
Pipeline Integrity - IMP - PL-61 Robotic ILI needs stopple and communication port near tie-in to PL 15	$ -	$ -	$ -	$ -	$ 100	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100
Pipeline Integrity - IMP - PL-E12 - Hudson River Crossing - Reactive Transmission Program	$ 12,466	$ 3,922	$ 80	$ -	$ -	$ (401)	$ (234)	$ -	$ -	$ -	$ 12,065	$ 3,688	$ 80	$ -	$ -
Pipeline Integrity - IMP - PL-E18 -ILI Enable Launcher and receiver Putnam Rd to Vley Rd	$ 800	$ 1,616	$ 9,138	$ 600	$ -	$ -	$ -	$ -	$ -	$ -	$ 800	$ 1,616	$ 9,138	$ 600	$ -
Pipeline Integrity - IMP - PL-E18 Pipeline ILI Enable (Mohawk River and I890 HDD)	$ 2,146	$ 2,000	$ 9,394	$ 500	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,146	$ 2,000	$ 9,394	$ 500	$ -
Pipeline Integrity - IMP - PL-E20 - Partial Replacement Project	$ 45	$ 25	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 45	$ 25	$ -	$ -	$ -
Pipeline Integrity - IMP - PL-E5 - ILI enable, 12-inch run approx. 20,000-ft	$ -	$ -	$ -	$ -	$ 250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 250
Pipeline Integrity - IMP - PL-E8 - Robotic ILI enable 1850 ft described as shark fin	$ -	$ -	$ -	$ -	$ 250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 250
Pipeline Integrity - IVP - PL 32 Three Rivers Bridge plus Upstream and Downstream Valves - approx 1250-feet	$ -	$ -	$ 250	$ 250	$ 1,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 250	$ 250	$ 1,000
Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Fyler Road Kirkville near trailer park	$ -	$ 250	$ 250	$ 500	$ 5,000	$ -	$ (250)	$ (250)	$ (500)	$ (5,000)	$ -	$ -	$ -	$ -	$ -
Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Orange Commons	$ 250	$ 500	$ 5,000	$ 61,453	$ 2,000	$ (250)	$ (500)	$ (5,000)	$ (61,453)	$ (2,000)	$ -	$ -	$ -	$ -	$ -
Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Union Street to Glenwood Ave, Oneida	$ 250	$ 250	$ 1,000	$ 4,579	$ 50	$ (250)	$ (250)	$ (1,000)	$ (4,579)	$ (50)	$ -	$ -	$ -	$ -	$ -
Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections - Valve 1607 to Northern Blvd	$ 500	$ 500	$ 1,000	$ 103,000	$ 100,044	$ (500)	$ (500)	$ (1,000)	$ (103,000)	$ (100,044)	$ -	$ -	$ -	$ -	$ -
Pipeline Integrity - IVP - PL-16 - Class Location Changes/HCA Sections Valve 1603 to Lakeport Road	$ 1,100	$ 9,764	$ 133	$ -	$ -	$ (1,100)	$ (9,764)	$ (133)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Pipeline Integrity - IVP - PL-36 - 16 Inch Replacement	$ 20,328	$ 598	$ 60	$ -	$ -	$ (624)	$ (245)	$ -	$ -	$ -	$ 19,704	$ 353	$ 60	$ -	$ -
Pipeline Integrity - IVP - PL-E18 - MAOP Reconfirmation	$ 2,000	$ 2,000	$ 30,000	$ 155,000	$ 148,356	$ (2,000)	$ (2,000)	$ (30,000)	$ (155,000)	$ (148,356)	$ -	$ -	$ -	$ -	$ -
Pipeline Integrity - IVP - PL-E18 - MAOP Reconfirmation - Capital portion of Pressure Testing	$ 100	$ -	$ 9,173	$ -	$ -	$ (100)	$ -	$ (9,173)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Pipeline Integrity - IVP - PL-E21 Kinderhook Creek Replacement approx 232-feet	$ -	$ -	$ -	$ 250	$ 250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 250	$ 250
Pipeline Integrity - IVP - PL-E35 modify for ILI	$ -	$ -	$ -	$ -	$ 100	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100
Purchase Meters (Replacements)	$ 12,417	$ 13,875	$ 14,146	$ 14,415	$ 14,696	$ -	$ -	$ -	$ -	$ -	$ 12,417	$ 13,875	$ 14,146	$ 14,415	$ 14,696
Gas Reliability - RCV - LTUN12243 - Valve 1305 Near GRS 924-733	$ 15	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 15	$ -	$ -	$ -	$ -
Gas Reliability - RCV - LTUN20986 - RCV--Shaker Rd	$ 330	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 330	$ -	$ -	$ -	$ -
Replace Pipe on Bridges	$ 893	$ 911	$ 929	$ 947	$ 965	$ -	$ -	$ -	$ -	$ -	$ 893	$ 911	$ 929	$ 947	$ 965
Replace Pipe on Bridges - MA&N Railroad Bridge Subsidence	$ 360	$ 900	$ 1,800	$ 680	$ -	$ -	$ -	$ -	$ -	$ -	$ 360	$ 900	$ 1,800	$ 680	$ -
Sectionalizing District Implementation	$ 4,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,000	$ -	$ -	$ -	$ -
Service Replacement - Atmospheric Corrosion Inside Inspections (Remediation)	$ 31	$ 31	$ 32	$ 32	$ 33	$ -	$ -	$ -	$ -	$ -	$ 31	$ 31	$ 32	$ 32	$ 33
Service Replacement - Reactive - Leaks	$ 2,159	$ 2,205	$ 2,248	$ 2,290	$ 2,335	$ -	$ -	$ -	$ -	$ -	$ 2,159	$ 2,205	$ 2,248	$ 2,290	$ 2,335
Service Replacement - Reactive - Non-Leaks - Other	$ 5,814	$ 5,936	$ 6,052	$ 6,167	$ 6,287	$ -	$ -	$ -	$ -	$ -	$ 5,814	$ 5,936	$ 6,052	$ 6,167	$ 6,287
Service Replacement - Proactive- Unprotected Steel Service Replacement Program/Meter Relocation - NEW	$ -	$ -	$ -	$ 2,751	$ 5,606	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,751	$ 5,606
Transmission Pipeline Washout	$ 500	$ 500	$ 500	$ 500	$ 500	$ -	$ -	$ -	$ -	$ -	$ 500	$ 500	$ 500	$ 500	$ 500
Transmission Station Integrity - PHMSA - 364 Walnut St (Burkle) GRS 824-211A/B	$ -	$ -	$ 600	$ 3,000	$ 9,075	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 600	$ 3,000	$ 9,075
Transmission Station Integrity - PHMSA - Coffeen - GRS 824-345	$ -	$ -	$ -	$ 600	$ 2,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 600	$ 2,000
Transmission Station Integrity - PHMSA - Cold Springs Rd - GRS 824-127	$ 23	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 23	$ -	$ -	$ -	$ -
Transmission Station Integrity - PHMSA - Collamer Rd GRS 824-170A/B	$ -	$ 250	$ 450	$ 3,528	$ 85	$ -	$ -	$ -	$ -	$ -	$ -	$ 250	$ 450	$ 3,528	$ 85

Transmission Station Integrity - PHMSA - Dams Corners GRS 824-697	$ 3,805	$ 60	$ 75	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,805	$ 60	$ 75	$ -	$ -
Transmission Station Integrity - PHMSA - Harris Road GRS 824-406/407	$ 4,210	$ 200	$ 80	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,210	$ 200	$ 80	$ -	$ -
Transmission Station Integrity - PHMSA - Holcomb St GRS 824-306A/B/C	$ 333	$ 1,578	$ 11,205	$ 82	$ 45	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 333	$ 1,578	$ 11,205	$ 82	$ 45
Transmission Station Integrity - PHMSA - Lamphere - GRS 824-695	$ -	$ 400	$ 600	$ 2,250	$ 4,529	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 400	$ 600	$ 2,250	$ 4,529
Transmission Station Integrity - PHMSA - Leray -344	$ 128	$ -	$ 400	$ 2,250	$ 4,134	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 128	$ -	$ 400	$ 2,250	$ 4,134
Transmission Station Integrity - PHMSA - Loughberry Lake GRS 924-736A/B	$ 400	$ 1,370	$ 5,579	$ 100	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 400	$ 1,370	$ 5,579	$ 100	$ -
Transmission Station Integrity - PHMSA - North Pole - GRS 824-340A/B	$ 200	$ 408	$ 2,566	$ 12,594	$ 359	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 200	$ 408	$ 2,566	$ 12,594	$ 359
Transmission Station Integrity - PHMSA - Old Campion Road GRS 824-688	$ 50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 50	$ -	$ -	$ -	$ -
Transmission Station Integrity - PHMSA - Rattlesnake GRS 824-171-172	$ 50	$ 25	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 50	$ 25	$ -	$ -	$ -
Transmission Station Integrity - PHMSA - Route 26 GRS 824-759	$ 6,021	$ 60	$ 75	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,021	$ 60	$ 75	$ -	$ -
Transmission Station Integrity - PHMSA - Route 3 / West Carthage GRS 824-352	$ 850	$ 5,824	$ 100	$ 50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 850	$ 5,824	$ 100	$ 50	$ -
Transmission Station Integrity - PHMSA - Shaker Road GRS 924-318	$ 6,550	$ 80	$ 15	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,550	$ 80	$ 15	$ -	$ -
Transmission Station Integrity - PHMSA - Taunton GRS 824-071A/B/C	$ 275	$ 800	$ 4,456	$ 80	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 275	$ 800	$ 4,456	$ 80	$ -
Transmission Station Integrity - PHMSA - Washington & Fuller - GRS 924-313	$ 32	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 32	$ -	$ -	$ -	$ -
Transmission Station Integrity - PHMSA - Wheeler Rd (Chittenago) GRS 824-166	$ 260	$ 4,395	$ 83	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 260	$ 4,395	$ 83	$ -	$ -
Transmission Station Integrity - PHMSA/Over Pressure Protection - Burdeck St (PL-E8) GRS 924-401	$ 341	$ 6,058	$ 82	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 341	$ 6,058	$ 82	$ -	$ -
Roadway Excavation Quality Assurance Act (Prevailing Wage)	$ 16,183	$ 16,525	$ 16,847	$ 17,167	$ 17,502	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 16,183	$ 16,525	$ 16,847	$ 17,167	$ 17,502
Valve Installation/Replacement	$ 80	$ 255	$ 87	$ 88	$ 90	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 80	$ 255	$ 87	$ 88	$ 90
Mandated - Total	**$ 261,964**	**$ 201,885**	**$ 241,408**	**$ 498,402**	**$ 422,511**	**$ (7,003)**	**$ (5,395)**	**$ (37,943)**	**$ (315,634)**	**$ (246,270)**	**$ 254,962**	**$ 196,489**	**$ 203,465**	**$ 182,769**	**$ 176,241**			
Reliability Category																		
CNG - CNG Fill - NIMO Blanket	$ 212	$ 216	$ 221	$ 225	$ 230	$ -	$ -	$ -	$ -	$ -	$ 212	$ 216	$ 221	$ 225	$ 230			
CNG - Moreau Injection Site Upgrade	$ 26,850	$ 2,940	$ -	$ -	$ -	$ (718)	$ (406)	$ -	$ -	$ -	$ 26,132	$ 2,534	$ -	$ -	$ -			
CNG - LTUN21000 - Energy Transfer Site- CNG Site-2	$ 2,594	$ 8,000	$ 35,600	$ 2,015	$ -	$ (588)	$ (528)	$ (572)	$ -	$ -	$ 2,006	$ 7,472	$ 35,028	$ 2,015	$ -			
Gas Reliability	$ 2,871	$ 2,819	$ 2,718	$ 2,866	$ 2,977	$ -	$ -	$ -	$ -	$ -	$ 2,871	$ 2,819	$ 2,718	$ 2,866	$ 2,977			
Gas Reliability - LTUN21012 - State Fair Blvd_ I-690	$ 195	$ 700	$ 4,462	$ 60	$ 75	$ -	$ -	$ -	$ -	$ -	$ 195	$ 700	$ 4,462	$ 60	$ 75			
Gas Reliability - LTUN 21033-GRS Church St Saratoga Spring 45#_New main (FY30)	$ 100	$ -	$ 300	$ 500	$ 1,000	$ -	$ -	$ -	$ -	$ -	$ 100	$ -	$ 300	$ 500	$ 1,000			
Gas Reliability - LTUN12251 - East gate reliability project	$ 300	$ 750	$ 750	$ 1,000	$ 5,200	$ (300)	$ (750)	$ (750)	$ (1,000)	$ (5,200)	$ -	$ -	$ -	$ -	$ -			
Gas Reliability - LTUN12345 - Glenmont Kenwood Rd loss of GRS 340	$ 7,112	$ 80	$ 50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,112	$ 80	$ 50	$ -	$ -			
Gas Reliability - LTUN21013 - Loss of GRS in ROME	$ 400	$ 750	$ 3,435	$ 12,722	$ 123	$ -	$ -	$ -	$ -	$ -	$ 400	$ 750	$ 3,435	$ 12,722	$ 123			
Gas Reliability - LTUN21022- GRS 924-340-B Normanskill (FY27)	$ 120	$ 600	$ 6,454	$ 75	$ 60	$ -	$ -	$ -	$ -	$ -	$ 120	$ 600	$ 6,454	$ 75	$ 60			
Gas Reliability - LTUN-21032 - GRS Schenectady 32# _ New Main (FY29)	$ 100	$ -	$ 300	$ 500	$ 1,000	$ -	$ -	$ -	$ -	$ -	$ 100	$ -	$ 300	$ 500	$ 1,000			
Gas Reliability - System Automation	$ 2,059	$ 2,102	$ 2,143	$ 2,184	$ 2,226	$ -	$ -	$ -	$ -	$ -	$ 2,059	$ 2,102	$ 2,143	$ 2,184	$ 2,226			
Heater Installation Program - Ballston Lake Heater Replacement GRS 924-419	$ -	$ -	$ -	$ -	$ 1,157	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,157			
Heater Installation Program - Bethlehem Take Station Heater Replacement GRS 824-388	$ -	$ -	$ 3,583	$ 5,619	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,583	$ 5,619	$ -			
Heater Installation Program - BMS Upgrades & Fuel Train Replacement	$ 204	$ 289	$ 295	$ 301	$ 307	$ -	$ -	$ -	$ -	$ -	$ 204	$ 289	$ 295	$ 301	$ 307			
Heater Installation Program - Boonville Take Station Heater Replacement GRS 824-302	$ -	$ -	$ -	$ 2,521	$ 3,909	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,521	$ 3,909			
Heater Installation Program - Collamer Road Heater Replacement GRS 824-170B	$ -	$ -	$ -	$ -	$ 1,626	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,626			
Heater Installation Program - Queen Ann Heater Replacement - GRS 924-806	$ -	$ -	$ -	$ -	$ 1,896	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,896			
Heater Installation Program - Rowland Street Heater Replacement GRS 924-707	$ -	$ 1,157	$ 2,047	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,157	$ 2,047	$ -	$ -			
Heater Installation Program - Seneca Street Heater Replacement - GRS 924-437	$ -	$ -	$ -	$ 1,157	$ 2,188	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,157	$ 2,188			
Heater Installation Program - Viey Road Heater Replacement - GRS 924-445	$ -	$ 1,157	$ 2,047	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,157	$ 2,047	$ -	$ -			
I&R - Critical Spares	$ 27	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 27	$ -	$ -	$ -	$ -			
I&R - Gas Regulator Station Security	$ 85	$ 87	$ 89	$ 90	$ 92	$ -	$ -	$ -	$ -	$ -	$ 85	$ 87	$ 89	$ 90	$ 92			
I&R - LMR Land Mobile Radio System	$ 238	$ 243	$ 248	$ 253	$ 258	$ -	$ -	$ -	$ -	$ -	$ 238	$ 243	$ 248	$ 253	$ 258			
I&R - Oil Seal Replacement	$ 438	$ 1,733	$ 1,767	$ 1,801	$ 1,836	$ -	$ -	$ -	$ -	$ -	$ 438	$ 1,733	$ 1,767	$ 1,801	$ 1,836			
I&R - Reactive	$ 872	$ 890	$ 907	$ 925	$ 943	$ -	$ -	$ -	$ -	$ -	$ 872	$ 890	$ 907	$ 925	$ 943			
I&R - ZEVAC Equipment	$ -	$ 1,676	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,676	$ -	$ -	$ -			
Main Upgrades - Water Intrusion	$ 222	$ 227	$ 231	$ 236	$ 240	$ -	$ -	$ -	$ -	$ -	$ 222	$ 227	$ 231	$ 236	$ 240			
Main Protection - Live Tracer System - Gas Main (Jameson Main Locates)	$ 2,742	$ 2,800	$ 2,855	$ 2,909	$ 2,966	$ -	$ -	$ -	$ -	$ -	$ 2,742	$ 2,800	$ 2,855	$ 2,909	$ 2,966			
Take Station - Odorant Vapor Management at Take Stations	$ 150	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 150	$ -	$ -	$ -	$ -			
Proactive Regulator Stations - Proactive	$ 3,300	$ 2,592	$ 2,643	$ 2,693	$ 2,746	$ -	$ -	$ -	$ -	$ -	$ 3,300	$ 2,592	$ 2,643	$ 2,693	$ 2,746			
Proactive Regulator Stations - Hollywood Ave GRS 924-429	$ 100	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100	$ -	$ -	$ -	$ -			
Proactive Regulator Stations - Nelson Ave GRS 924-709	$ 82	$ 100	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 82	$ 100	$ -	$ -	$ -			
Proactive Regulator Stations - Plastic Control Lines	$ -	$ 198	$ 202	$ 206	$ 210	$ -	$ -	$ -	$ -	$ -	$ -	$ 198	$ 202	$ 206	$ 210			
Proactive Regulator Stations - Shellstone GRS 924-815	$ 50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 50	$ -	$ -	$ -	$ -			
Proactive Regulator Station - Station Coating	$ -	$ 350	$ 357	$ 364	$ 371	$ -	$ -	$ -	$ -	$ -	$ -	$ 350	$ 357	$ 364	$ 371			
Proactive Regulator Stations - W Linden St. GRS 824-641	$ 48	$ 10	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 48	$ 10	$ -	$ -	$ -			
Proactive Regulator Stations - Over Pressure Protection	$ 267	$ 275	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 267	$ 275	$ -	$ -	$ -			
Station Integrity - Burt St GRS 824-110	$ -	$ 400	$ 600	$ 2,250	$ 9,134	$ -	$ -	$ -	$ -	$ -	$ -	$ 400	$ 600	$ 2,250	$ 9,134			
Station Integrity - Delaware Ave GRS 924-402	$ 86	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 86	$ -	$ -	$ -	$ -			
Station Integrity - Ellisburg GRS 824-308	$ 5,137	$ 350	$ 100	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,137	$ 350	$ 100	$ -	$ -			
Station Integrity - Hall Road GRS 824-176	$ 250	$ 745	$ 2,250	$ 17,474	$ 200	$ -	$ -	$ -	$ -	$ -	$ 250	$ 745	$ 2,250	$ 17,474	$ 200			
Station Integrity - Hinmansville Retirement	$ -	$ -	$ -	$ -	$ 57	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 57			
Station Integrity - Hudson GRS 924-606	$ -	$ 54	$ 135	$ 271	$ 487	$ -	$ -	$ -	$ -	$ -	$ -	$ 54	$ 135	$ 271	$ 487			
Station Integrity - Kingdom Road GRS 824-213	$ -	$ -	$ 55	$ 138	$ 276	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 55	$ 138	$ 276			
Station Integrity - Knowell Rd GRS 824-139	$ -	$ -	$ -	$ 56	$ 141	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 56	$ 141			
Station Integrity - Lakeland GRS 824-140	$ 53	$ 150	$ 300	$ 500	$ 3,976	$ -	$ -	$ -	$ -	$ -	$ 53	$ 150	$ 300	$ 500	$ 3,976			
Station Integrity - Sandy Creek GRS 824-216A, 216B	$ 26	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 26	$ -	$ -	$ -	$ -			
Station Integrity - Taft Rd GRS 824-173	$ 320	$ 90	$ 20	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 320	$ 90	$ 20	$ -	$ -			
Station Integrity - Tanner Road GRS 824-144	$ 250	$ 750	$ 5,764	$ 184	$ -	$ -	$ -	$ -	$ -	$ -	$ 250	$ 750	$ 5,764	$ 184	$ -			
Station Integrity - Yorkville GRS 824-644	$ 525	$ 6,836	$ 175	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 525	$ 6,836	$ 175	$ -	$ -			
Station Integrity- Shellstone GRS 924-815	$ 50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 50	$ -	$ -	$ -	$ -			
Take Station - Over Pressure Protection - Biddlecum Rd GRS 824-230 (Inlet Replacement)	$ 55	$ 171	$ 3,041	$ 82	$ -	$ -	$ -	$ -	$ -	$ -	$ 55	$ 171	$ 3,041	$ 82	$ -			
Take Station - Over Pressure Protection - Croghan GRS 824-354	$ 1,106	$ 577	$ 1,731	$ 82	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,106	$ 577	$ 1,731	$ 82	$ -			
Take Station - Over Pressure Protection - E Greenbush GRS 924-335	$ 26	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 26	$ -	$ -	$ -	$ -			
Take Station - Over Pressure Protection - Normanskill GRS 924-340	$ 595	$ 2,250	$ 9,058	$ 75	$ 60	$ -	$ -	$ -	$ -	$ -	$ 595	$ 2,250	$ 9,058	$ 75	$ 60			
Take Station - Over Pressure Protection - Putnam GRS 924-450	$ 227	$ 26	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 227	$ 26	$ -	$ -	$ -			
Take Station - Over Pressure Protection - Riverside GRS 924-351	$ 492	$ 1,132	$ 37	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 492	$ 1,132	$ 37	$ -	$ -			
Take Station - Over Pressure Protection - Therm City GRS 824-004	$ 315	$ 2,861	$ 82	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 315	$ 2,861	$ 82	$ -	$ -			
Take Station - Over Pressure Protection - Tully-Oak Hill GRS 824-164	$ 25	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 25	$ -	$ -	$ -	$ -			
Take Station - Over Pressure Protection - Wolf Rd GRS 924-334	$ 2,113	$ 70	$ 30	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,113	$ 70	$ 30	$ -	$ -			
Reliability- Total	**$ 63,389**	**$ 49,205**	**$ 97,083**	**$ 62,333**	**$ 47,968**	**$ (1,605)**	**$ (1,684)**	**$ (1,322)**	**$ (1,000)**	**$ (5,200)**	**$ 61,783**	**$ 47,521**	**$ 95,761**	**$ 61,333**	**$ 42,768**			
Non-Infrastructure Category																		
Tools & Equipment - All	$ 1,862	$ 1,134	$ 1,156	$ 1,178	$ 1,201	$ -	$ -	$ -	$ -	$ -	$ 1,862	$ 1,134	$ 1,156	$ 1,178	$ 1,201			
Tools & Equipment - I&R	$ 793	$ 404	$ 412	$ 420	$ 428	$ -	$ -	$ -	$ -	$ -	$ 793	$ 404	$ 412	$ 420	$ 428			
Tools & Equipment - Learning & Development	$ -	$ 284	$ 290	$ 295	$ 301	$ -	$ -	$ -	$ -	$ -	$ -	$ 284	$ 290	$ 295	$ 301			
Tools & Equipment - Meter Testing	$ 125	$ 127	$ 130	$ 132	$ 135	$ -	$ -	$ -	$ -	$ -	$ 125	$ 127	$ 130	$ 132	$ 135			
Tools & Equipment - Combustible gas indicator (CGI)	$ 1,873	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,873	$ -	$ -	$ -	$ -			
Non-Infrastructure - Total	**$ 4,653**	**$ 1,949**	**$ 1,987**	**$ 2,025**	**$ 2,065**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 4,653**	**$ 1,949**	**$ 1,987**	**$ 2,025**	**$ 2,065**			

AMI Category																				
AMI	$ 42,443	$ 25,692	$ 14,365	$ 978	$ -	$ -	$ -	$ -	$ -	$ -	$ 42,443	$ 25,692	$ 14,365	$ 978	$ -
AMI - Gas FAN Battery Pack Capex	$ -	$ 1,859	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,859	$ -	$ -	$ -
AMI - Total	**$ 42,443**	**$ 27,552**	**$ 14,365**	**$ 978**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 42,443**	**$ 27,552**	**$ 14,365**	**$ 978**	**$ -**
Residential Methane Detectors Category																				
RMD - Residential Methane Detectors	$ 2,400	$ 7,406	$ 9,962	$ 17,804	$ 15,264	$ -	$ -	$ -	$ -	$ -	$ 2,400	$ 7,406	$ 9,962	$ 17,804	$ 15,264
RMD - Smart Meter Replacements	$ -	$ 2,317	$ 1,955	$ 1,990	$ 1,805	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,317	$ 1,955	$ 1,990	$ 1,805
Residential Methane Detectors - Total	**$ 2,400**	**$ 9,723**	**$ 11,918**	**$ 19,795**	**$ 17,068**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,400**	**$ 9,723**	**$ 11,918**	**$ 19,795**	**$ 17,068**
Future of Heat Category																				
Future of Heat - Renewable Natural Gas (RNG) Interconnections	$ -	$ -	$ -	$ -	$ 950	$ -	$ -	$ -	$ -	$ (950)	$ -	$ -	$ -	$ -	$ -
Future of Heat - RNG Interconnection 1	$ 500	$ 1,430	$ 3,253	$ 1,803	$ -	$ (500)	$ (1,430)	$ (3,253)	$ (1,803)	$ -	$ -	$ -	$ -	$ -	$ -
Future of Heat - RNG Interconnection 2	$ 500	$ 332	$ 885	$ 2,320	$ 1,622	$ (500)	$ (332)	$ (885)	$ (2,320)	$ (1,622)	$ -	$ -	$ -	$ -	$ -
Future of Heat - RNG Interconnection 3	$ 500	$ 255	$ 2,264	$ 4,084	$ 703	$ (500)	$ (255)	$ (2,264)	$ (4,084)	$ (703)	$ -	$ -	$ -	$ -	$ -
Future of Heat - RNG Interconnection 4	$ 500	$ 306	$ 3,513	$ 5,304	$ 1,352	$ (500)	$ (306)	$ (3,513)	$ (5,304)	$ (1,352)	$ -	$ -	$ -	$ -	$ -
Future of Heat - Hydrogen Project 1 - HyGrid-Clay/Liverpool	$ 1,000	$ -	$ -	$ -	$ -	$ (1,000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Future of Heat - Total	**$ 3,000**	**$ 2,323**	**$ 9,916**	**$ 13,512**	**$ 4,627**	**$ (3,000)**	**$ (2,323)**	**$ (9,916)**	**$ (13,512)**	**$ (4,627)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Operator Qualification Program Category																				
Operator Qualification Program - Learning & Development - FTE's	$ -	$ 259	$ 355	$ 545	$ 576	$ -	$ -	$ -	$ -	$ -	$ -	$ 259	$ 355	$ 545	$ 576
Operator Qualification Program - Operations - Contract Increases	$ -	$ 3,063	$ 3,123	$ 3,182	$ 3,244	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,063	$ 3,123	$ 3,182	$ 3,244
Operator Qualification Program - Pipeline Safety - ITS FTE's	$ -	$ 220	$ 224	$ 229	$ 233	$ -	$ -	$ -	$ -	$ -	$ -	$ 220	$ 224	$ 229	$ 233
Operator Qualification Program - Pipeline Safety - ITS System	$ -	$ 240	$ 244	$ 249	$ 254	$ -	$ -	$ -	$ -	$ -	$ -	$ 240	$ 244	$ 249	$ 254
Operator Qualification Program - Total	**$ -**	**$ 3,782**	**$ 3,947**	**$ 4,205**	**$ 4,308**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 3,782**	**$ 3,947**	**$ 4,205**	**$ 4,308**
Total CAPEX Including COR - Gas	**$ 416,415**	**$ 343,519**	**$ 426,356**	**$ 634,129**	**$ 529,374**	**$ (13,983)**	**$ (11,770)**	**$ (51,480)**	**$ (332,358)**	**$ (258,233)**	**$ 402,432**	**$ 331,749**	**$ 374,876**	**$ 301,772**	**$ 271,141**
Cost of Removal (COR) - Gas	**$ 15,824**	**$ 13,054**	**$ 16,202**	**$ 24,097**	**$ 20,116**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	$ 15,824	$ 13,054	$ 16,202	$ 24,097	$ 20,116
CAPEX Less COR - Gas	**$ 400,591**	**$ 330,465**	**$ 410,155**	**$ 610,033**	**$ 509,258**	**$ (13,983)**	**$ (11,770)**	**$ (51,480)**	**$ (332,358)**	**$ (258,233)**	**$ 386,608**	**$ 318,696**	**$ 358,675**	**$ 277,675**	**$ 251,025**

Niagara Mohawk Power Corporation d/b/a National Grid NY
Summary of Incremental Operating Expenses
Gas Safety and Gas Infrastructure and Operations Panels
($000)

Program Description	Commpany Rate Year Ending March 31, 2026 Non-labor	Adjustment	Staff Recommended Rate Year Ending March 31, 2026 Non-labor
Gas Safety Programs			
LDAR Incremental Leak Survey	$ 328		$ 328
LDAR Incremental Leak Repair	$ 740		$ 740
Damage Prevention - Contract Increases / Volume Increases	$ 6,607	$ (5,533)	$ 1,074
Damage Prevention - Prevailing Wage	$ 4,490	$ (102)	$ 4,389
Inside Service Line Inspections - Business District Survey Change	$ -		$ -
Inside Service Line Inspections	$ 1,607		$ 1,607
Leak Survey	$ 483		$ 483
Operator Qualification Program	$ 296		$ 296
Residential Methane Detector Program	$ 133	$ (133)	$ -
Sub-total	$ 14,684	$ (5,768)	$ 8,917
GIOP Programs			
AMI - Gas FAN battery Pack	$ 23		$ 23
Pipeline Integrity - IMP/ IVP	$ 1,797		$ 1,797
Pipeline Integrity - IVP - PL-E18 - MAOP Reconfirmation	$ -		$ -
Research & Development	$ 87		$ 87
Tools & Equipment - First Responder	$ 50		$ 50
Tools & Equipment - Learning & Development	$ 50		$ 50
Tools & Equipment - New Hires	$ 840	$ (589)	$ 251
Corrosion Mitigation Program Savings	$ -	$ (224)	$ (224)
Sub-total	$ 2,846	$ (814)	$ 2,033
GIOP Fleet & Facilities			
CMS - Fleet Additions	$ 137		$ 137
Sub-total	$ 137	$ -	$ 137
Grand Total	$ 17,668	$ (6,581)	$ 11,086

Niagara Mohawk Power Corporation d/b/a National Grid NY
Incremental FTE's
Gas Safety and Gas Infrastructure and Operations Panels

	Company Rate Year Ending March 31, 2026	Adjustment	Staff Recommended Rate Year
GIOP Programs			
CMS- Collections- Seasonal	2		2
CMS- Gas Meter Change- Workplan Increases	19		19
CMS- GRO- Workplan Increases	11	(5)	6
CMS- Investigation- Appliance Electric- Workplan Increases	2		2
CMS- Investigation- Appliance Gas- Workplan Increases	1		1
CMS- Meter Reads- Workplan Increases	8		8
Construction	4	(2)	2
Complex Distribution Design	1		1
Corrosion	2		2
Engineering Process & Control	1		1
Gas Complex Construction	7		7
I&R- CNG Injection	2		2
I&R- Telecommunication Technicians	6		6
I&R- Workplan Increases	8		8
Investment Planning	1		1
Meter Lab- New Meter Testing Requirements	1		1
Operations- Attenuator Regulation Law Increases	9		9
Operations- CDL Driver Program- EOC	14		14
Operations- Staffing for proper Span of Control	4		4
Pressure Regulation Engineering/CNG	6	(4)	2
Project Controls	2		2
Project Management	4	(2)	2
Resource Coordination	2		2
Stakeholder Management	2		2
Sub-total	119	(13)	106
GIOP Future of Heat Programs			
Future Of Heat- Hydrogen	-		-
Future Of Heat- Research & Development	1		1
Future Of Heat- RNG	5		5
Integrated Energy Planning	1		1
Sub-total	7		7
Grand Total	126	(13)	113

STAFF NET PLANT, GAS INFRASTRUCTURE AND OPERATIONS PANEL
Summary of Escalation Indices

Cost Category	Company Current Cost Index	Company Forecasted Cost Index	Company Escalation Percentage	Staff Recommended Current Cost Index	Staff Recommended Cost Index	Staff Recommended Escalation Percentage
Craft Labor	778.00	804.84	3.45%	778.00	795.00	2.19%
Distribution Materials - Stock	1307.00	1465.67	12.14%	1307.00	1625.00	24.33%
Transmission Materials - Stock	952.00	1066.81	12.06%	952.00	879.00	-7.67%
Distribution Materials - Non-Stock	1307.00	1465.67	12.14%	1307.00	1625.00	24.33%
Transmission Materials - Non-Stock	952.00	1066.81	12.06%	952.00	879.00	-7.67%
Equipment	683.00	714.49	4.61%	683.00	776.00	13.62%
Craft Supervision	754.00	780.01	3.45%	778.00	795.00	2.19%
Engineering	0.00	0.00	4.00%	0.00	0.00	4.00%
Project Management	0.00	0.00	4.00%	0.00	0.00	4.00%
Vendor	754.00	780.01	3.45%	778.00	795.00	2.19%
Other	754.00	780.01	3.45%	778.00	795.00	2.19%