

Consolidated Edison Company of New York, Inc

## Index of Schedules

## Financial &amp; Statistical Data

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CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
BALANCE SHEET  
AS OF DECEMBER 31, 2017, 2018, 2019, 2020 AND SEPTEMBER 30, 2021  
(Thousands of Dollars)

EXHIBIT \_\_ (AP - G1)  
SCHEDULE 1  
PAGE 1 OF 2

ACCOUNT NO.	ASSETS AND OTHER DEBITS	December 31,				September 30,
		2017	2018	2019	2020	2021
<u>UTILITY PLANT</u>						
101	Electric Plant In Service	\$ 27,084,686	\$ 28,364,162	\$ 29,701,979	\$ 30,951,201	32,000,425
101	Gas Plant In Service	7,333,184	8,124,737	9,020,548	9,627,794	10,604,372
101	Steam Plant In Service	2,466,514	2,539,628	2,577,399	2,653,227	2,729,879
118.1	Common Utility Plant In Service	2,748,305	3,049,969	3,873,321	4,198,058	4,377,284
105	Electric Plant Held For Future Use	67,279	67,279	67,279	84,219	71,903
107, 118.1	Construction Work In Progress	1,502,017	1,849,526	1,844,120	2,340,130	2,156,619
	Sub-Total	41,201,984	43,995,301	47,084,646	49,854,629	51,940,481
108	Accumulated Provision For Depreciation of Plant In Service	(7,399,699)	(7,883,314)	(8,157,341)	(8,717,531)	(9,164,054)
110	Accumulated Provision For Depreciation of Electric Plant Held For Future Use	(392,705)	(474,009)	(576,960)	(712,759)	(827,325)
111.1	Accumulated Prov. For Amortization and Depletion of Producing Natural Gas Land And Land Rights	-	-	-	-	-
119.1	Accumulated Provision For Depreciation and Amortization of Common Utility Plant	(1,211,822)	(1,352,795)	(1,505,290)	(1,671,914)	(1,812,516)
118	Retirement Work in Progress	(9)	1,618	651	575	267
	Net	32,197,749	34,286,801	36,845,706	38,752,999	40,136,854
120, 120.5	Nuclear Fuel Assemblies - Net	-	-	-	-	-
117	Gas Stored Underground - Non-Current	1,239	1,239	1,239	1,239	1,239
	Total	32,198,988	34,288,040	36,846,945	38,754,238	40,138,093
<u>OTHER PROPERTY AND INVESTMENTS</u>						
121	Nonutility Property	28,687	28,738	27,012	27,012	27,012
122	Accumulated Provision for Depreciation - Non Utility Plant	(24,960)	(25,035)	(25,112)	(25,189)	(25,247)
123.1	Investment In Subsidiary Companies	704	488	559	543	686
124	Other Investments	2,152	2,122	1,766	2,405	2,405
128	Other Special Funds	27,969	32,731	36,689	40,789	40,789
	Total	34,552	39,044	40,914	45,559	45,643
<u>CURRENT AND ACCRUED ASSETS</u>						
131	Cash	(105,472)	(95,112)	(118,150)	(98,855)	(93,514)
132	Interest Special Deposits	-	-	-	-	-
134	Other Special Deposits	2,484	2,484	2,484	2,484	2,484
135	Working Funds	7,351	7,055	7,966	8,523	9,580
136	Temporary Cash Investments	719,750	798,275	918,875	1,000,000	1,700
142	Customer Accounts Receivable	1,521,371	1,612,918	1,694,676	2,256,326	2,621,262
143	Other Accounts Receivable	118,999	224,058	124,527	149,062	153,832
144	Accumulated Provision For Uncollectible Accounts - Credit	(64,978)	(60,891)	(67,745)	(142,717)	(304,809)
146	Accounts Receivable from Associated Companies	64,281	214,497	72,582	133,151	116,096
150	Materials And Supplies	234,624	244,323	241,659	247,197	279,825
158	Allowance Inventory	3,904	5,019	5,958	9,179	8,523
163	Stores Expense Undistributed	-	-	(137,07)	120,44	679
164.1	Gas Stored Underground - Current	50,738	57,406	49,472	42,403	55,588
164.2	Liquefied Natural Gas In Storage	1,752	2,012	1,893	1,783	2,090
165	Prepayments	107,597	113,841	136,248	145,876	710,248
171	Interest And Dividends Receivable	-	-	-	-	-
172	Rents Receivable	-	-	-	-	-
174	Miscellaneous Current and Accrued Assets	388,932	379,545	569,433	718,922	718,493
175, 176	Derivative Instruments - Net	39,832	30,571	46,096	18,795	310,211
	Total	3,091,165	3,535,999	3,685,838	4,492,248	4,592,289
<u>DEFERRED DEBITS</u>						
181	Unamortized Debt Discount And Expense	93,372	106,795	114,565	129,799	139,130
182.2	Unrecovered Plant and Regulatory Study Costs	-	-	-	-	-
182.3	Other Regulatory Assets	3,897,730	3,962,939	4,591,098	5,963,609	5,717,882
183	Preliminary Survey and Investigation Charges	2,619	2,973	2,544	2,664	2,664
184	Clearing Accounts	(28,31)	1,180.60	1,519	1,308	1,587.99
186	Miscellaneous Deferred Debits	80,311	59,745	42,117	80,070	2,315
188	Investment In Research and Development	-	-	-	-	-
189	Unamortized Loss on Reacquired Debt	35,412	33,720	26,214	19,316	15,326
190	Accumulated Deferred Income Taxes	1,587,440	1,647,381	2,018,384	2,252,010	2,132,303
191	Unrecovered Purchased Gas Costs	-	-	-	-	-
	Total	5,696,857	5,814,734	6,796,442	8,448,776	8,011,209
	Grand Total	\$ 41,021,562	\$ 43,677,818	\$ 47,370,139	\$ 51,740,820	\$ 52,787,234

**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.**  
**BALANCE SHEET**  
**AS OF DECEMBER 31, 2017, 2018, 2019, 2020 AND SEPTEMBER 30, 2021**  
(Thousands of Dollars)

EXHIBIT\_\_ (AP - G1)  
SCHEDULE 1  
PAGE 2 OF 2

ACCOUNT	December 31,					
NO.	LIABILITIES AND OTHER CREDITS	2017	2018	2019	2020	September 30, 2021
<u>PROPRIETARY CAPITAL</u>						
Capital Stock						
201	Common Stock Issued	\$ 588,720	\$ 588,720	\$ 588,720	\$ 588,720	\$ 588,720
204	Preferred Stock Issued	-	-	-	-	-
Other Paid-In Capital						
207	Premium on Capital Stock	879,678	879,678	879,678	879,678	879,678
210	Gain on Resale/Cancel. of Reacquired Capital Stock	13,943	13,943	13,943	13,943	13,943
211	Misc. Paid-In Capital, Accumulated OCI	3,755,451	3,875,451	4,775,451	5,276,033	6,376,033
214	Capital Stock Expense	(61,389)	(61,389)	(61,389)	(61,971)	(61,971)
216	Unappropriated Retained Earnings	8,228,234	8,577,678	8,915,297	9,118,304	9,388,611
216.1	Unappropriated Undistributed Subsidiary Earnings	2,358	2,560	2,861	3,133	3,276
217	Reacquired Capital Stock	(962,092)	(962,092)	(962,092)	(962,092)	(962,092)
219	Accumulated Other Comprehensive Income	(6,044)	(4,580)	(5,112)	(7,097)	(5,868)
	Total	<u>12,438,860</u>	<u>12,909,970</u>	<u>14,147,359</u>	<u>14,848,653</u>	<u>16,220,331</u>
<u>LONG-TERM DEBT</u>						
221	Bonds	-	-	-	-	-
224	Other Long-Term Debt	13,385,900	14,289,900	15,114,900	16,964,900	17,824,900
225	Unamortized Premium on Debt	-	-	-	-	-
226	Unamortized Discount on Debt	(27,538)	(31,885)	(35,948)	(45,673)	(48,969)
	Total	<u>13,358,362</u>	<u>14,258,015</u>	<u>15,078,952</u>	<u>16,919,227</u>	<u>17,775,931</u>
<u>OTHER NONCURRENT LIABILITIES</u>						
227	Obligations Under Capital Leases - Noncurrent	885	419	551,543	513,804	507,517
228.2	Accumulated Prov. for Injuries and Damages Reserve	147,073	140,778	124,625	172,319	171,267
228.3	Accumulated Prov. for Pensions and Benefits Reserve	1,195,587	1,012,248	1,307,519	2,016,065	1,257,483
228.4	Accumulated Miscellaneous Operating Provisions	66,893	82,808	90,427	54,220	30,221
229	Accumulated Provision for Rate Refunds	-	-	-	-	-
	Total	<u>1,410,438</u>	<u>1,236,253</u>	<u>2,074,113</u>	<u>2,756,408</u>	<u>1,966,487</u>
<u>CURRENT AND ACCRUED LIABILITIES</u>						
231	Notes Payable	149,977	1,192,233	1,136,748	1,660,021	942,001
232	Accounts Payable	939,402	871,241	797,812	1,049,150	1,005,238
234	Accounts Payable to Associated Companies	82,196	16,484	13,046	22,828	29,441
235	Customer Deposits	333,804	339,185	333,597	296,052	271,704
236	Taxes Accrued	104,789	56,104	70,503	132,269	96,983
237	Interest Accrued	113,522	112,200	113,055	125,801	228,855
238	Dividends Declared	-	-	-	-	-
239	Matured Long-Term Debt	-	-	-	-	-
240	Matured Interest	-	-	-	-	-
241	Tax Collections Payable	13,967	16,661	33,940	26,556	20,518
242	Miscellaneous Current And Accrued Liabilities	1,510,456	1,655,195	1,664,455	1,735,436	1,684,999
243	Obligations Under Capital Leases - Current	412	466	54,217	74,019	85,786
245	Derivative Instruments	43,988	31,687	145,188	267,833	210,532
	Total	<u>3,292,513</u>	<u>4,291,457</u>	<u>4,362,561</u>	<u>5,389,966</u>	<u>4,576,057</u>
<u>DEFERRED CREDITS</u>						
252	Customer Advances For Construction	15,579	15,261	12,699	14,928	14,684
253	Other Deferred Credits	22,778	28,649	10,920	4,881	5,511
254	Other Regulatory Liabilities	3,587,495	3,551,938	3,665,038	3,143,116	3,325,584
255	Accumulated Deferred Investment Tax Credits	27,461	24,028	20,930	18,235	16,409
	Total	<u>3,653,312</u>	<u>3,619,876</u>	<u>3,709,586</u>	<u>3,181,159</u>	<u>3,362,188</u>
<u>ACCUMULATED DEFERRED INCOME TAXES</u>						
281	Accelerated Amortization	-	-	-	-	-
282	Liberalized Depreciation	5,501,643	5,765,308	6,016,147	6,125,778	6,270,718
283	Other	1,366,432	1,596,939	1,981,420	2,519,629	2,615,523
	Total	<u>6,868,075</u>	<u>7,362,247</u>	<u>7,997,567</u>	<u>8,645,408</u>	<u>8,886,241</u>
	Grand Total	<u>\$ 41,021,561</u>	<u>\$ 43,677,818</u>	<u>\$ 47,370,139</u>	<u>\$ 51,740,820</u>	<u>\$ 52,787,234</u>

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
**INCOME STATEMENT**  
**TWELVE MONTHS ENDED DECEMBER 31, 2018**  
(Thousands of Dollars)

EXHIBIT \_\_ (AP-G1)  
**SCHEDULE 2**  
**PAGE 1 OF 4**

Account No.	Electric	Gas	Steam	Total
<u>Utility Operating Income</u>				
400	\$ 8,034,704	\$ 2,084,733	\$ 703,749	\$ 10,823,187
<u>Operating Expenses</u>				
401	3,301,997	961,639	301,646	4,565,283
402	450,443	124,730	46,465	621,638
	3,752,440	1,086,369	348,112	5,186,921
403	983,989	204,713	86,987	1,275,690
404				-
405				-
407				-
408.1	1,676,066	331,767	148,098	2,155,931
409.1	(21,688)	(5,744)	(11,408)	(38,840)
410.1	2,099,489	507,252	189,828	2,796,569
411.0, 411.1	(1,842,381)	(413,354)	(170,347)	(2,426,082)
411.4, .5	(2,419)	(765)	(248)	(3,433)
411.6				-
411.7				-
	6,645,497	1,710,237	591,022	8,946,757
	\$ 1,389,207	\$ 374,496	\$ 112,727	\$ 1,876,430
<u>Other Income</u>				
415,416				-
417				1,901
417.1				(76)
418				(158)
418.1				201
419				8,676
419.1				10,660
421				2,443
421.1				0
				23,647
				1,900,077
<u>Other Income Deductions</u>				
421.2				20
425				14,007
426				14,026
				14,026
<u>Taxes - Other Income &amp; Deductions</u>				
408.2				3,808
409.2, 410.2, 411.2				(2,107)
				1,700
				1,884,350
<u>Interest Charges</u>				
427				647,224
428				14,254
429				35,975
431				(8,749)
432				688,705
				1,195,645

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
**INCOME STATEMENT**  
**TWELVE MONTHS ENDED DECEMBER 31, 2019**  
(Thousands of Dollars)

EXHIBIT \_\_ (AP-G1)  
**SCHEDULE 2**  
**PAGE 2 OF 4**

Account No.	Electric	Gas	Steam	Total
<u>Utility Operating Income</u>				
400	\$ 8,086,284	\$ 2,138,935	\$ 695,120	\$ 10,920,339
Operating Expenses				
401	3,178,272	898,283	295,376	4,371,931
402	435,445	117,596	48,025	601,066
	3,613,717	1,015,879	343,401	4,972,997
403	1,054,200	230,811	89,122	1,374,133
404				-
405				-
407				-
408.1	1,769,250	367,589	158,017	2,294,856
<u>Income Taxes</u>				
409.1	170,580	38,835	(1,210)	208,205
410.1	1,755,407	404,175	153,816	2,313,398
411.0, 411.1	(1,684,989)	(343,475)	(148,082)	(2,176,545)
411.4, .5	(2,082)	(768)	(248)	(3,098)
411.6				-
411.7	-	-	-	-
	6,676,083	1,713,046	594,817	8,983,946
	\$ 1,410,202	\$ 425,889	\$ 100,302	\$ 1,936,392
<u>Other Income</u>				
415,416				-
417				3,144
417.1				(105)
418				(135)
418.1				302
419				15,166
419.1				11,912
421				7,621
421.1				13,607
				51,513
				1,987,905
<u>Other Income Deductions</u>				
421.2				-
425				20
426				13,287
				13,307
<u>Taxes - Other Income &amp; Deductions</u>				
408.2				3,749
409.2, 410.2, 411.2				(6,558)
				(2,809)
				1,977,407
<u>Interest Charges</u>				
427				656,088
428				15,806
429				-
431				67,279
432				(11,685)
				727,488
				\$ 1,249,920

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
**INCOME STATEMENT**  
**TWELVE MONTHS ENDED DECEMBER 31, 2020**  
(Thousands of Dollars)

EXHIBIT \_\_ (AP-G1)  
**SCHEDULE 2**  
**PAGE 3 OF 4**

Account <u>No.</u>	Electric	Gas	Steam	Total
<u>Utility Operating Income</u>				
400	\$ 8,131,314	\$ 2,042,983	\$ 580,521	\$ 10,754,818
<u>Operating Expenses</u>				
401	3,020,909	705,781	258,523	3,985,212
402	439,657	103,961	42,845	586,463
	3,460,566	809,742	301,368	4,571,676
403	1,218,063	295,657	90,245	1,603,965
404				-
405				-
407				-
408.1	1,925,931	386,229	143,724	2,455,884
<u>Income Taxes</u>				
409.1	38,177	37,875	(13,699)	62,352
410.1	2,117,841	454,295	153,186	2,725,323
411.0, 411.1	(2,023,926)	(389,658)	(153,483)	(2,567,066)
411.4, .5	(1,694)	(763)	(237)	(2,694)
411.6				-
411.7				-
	6,734,957	1,593,379	521,104	8,849,440
	Total Operating Expenses			
	Total Utility Operating Income			
	\$ 1,396,357	\$ 449,604	\$ 59,418	\$ 1,905,378
<u>Other Income</u>				
415,416				-
417				2,518
417.1				(79)
418				(92)
418.1				272
419				4,469
419.1				14,351
421				12,185
421.1				-
				33,624
				Total Other Income
				1,939,003
<u>Other Income Deductions</u>				
421.2				-
425				20
426				13,534
				13,554
				Total Other Income Deductions
<u>Taxes - Other Income &amp; Deductions</u>				
408.2				3,744
409.2, 410.2, 411.2				(2,799)
				945
				Total Taxes - Other Income & Deductions
				1,924,504
				Income Before Interest Charges
<u>Interest Charges</u>				
427				702,162
428				16,269
429				-
431				32,876
432				(12,082)
				739,225
				Total Interest Charges
				Net Income
				\$ 1,185,279

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
**INCOME STATEMENT**  
**TWELVE MONTHS ENDED SEPTEMBER 30, 2021**  
(Thousands of Dollars)

EXHIBIT \_\_ (AP-G1)  
**SCHEDULE 2**  
**PAGE 4 OF 4**

Account <u>No.</u>	Electric	Gas	Steam	Total
<u>Utility Operating Income</u>				
400	\$ 8,642,953	\$ 2,264,329	\$ 588,437	\$ 11,495,719
<u>Operating Expenses</u>				
401	3,347,299	761,883	255,214	4,364,396
402	491,961	103,768	39,650	635,379
	3,839,260	865,651	294,864	4,999,775
403	1,276,701	319,557	92,518	1,688,776
404				
405				
407				
408.1	2,030,014	467,706	144,242	2,641,962
<u>Income Taxes</u>				
409.1	54,686	30,965	91	85,743
410.1	2,294,884	537,321	181,000	3,013,206
411.0, 411.1	(2,237,276)	(461,521)	(189,190)	(2,887,987)
411.4, .5	(1,508)	(764)	(227)	(2,499)
411.6				-
411.7				-
	7,256,761	1,758,915	523,298	9,538,974
	Total Operating Expenses			
	Total Utility Operating Income			
	\$ 1,386,191	\$ 505,414	\$ 65,138	\$ 1,956,744
<u>Other Income</u>				
415,416				
417				2,511.59
417.1				(78.64)
418				(106.27)
418.1				200.42
419				3,820.22
419.1				17,926.69
421				17,487.78
421.1				-
				41,762
				Total Other Income
				1,998,506
				Total Income
<u>Other Income Deductions</u>				
421.2				20
425				13,274
426				-
				13,294
				Total Other Income Deductions
<u>Taxes - Other Income &amp; Deductions</u>				
408.2				3,767
409.2, 410.2, 411.2				(4,858)
				(1,091)
				Total Taxes - Other Income & Deductions
				1,986,303
				Income Before Interest Charges
<u>Interest Charges</u>				
427				730,058
428				15,169
429				0
431				18,791
432				(11,286)
				752,732
				Total Interest Charges
				Net Income
				\$ 1,233,571

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
STATEMENT OF UNAPPROPRIATED RETAINED EARNINGS  
YEARS 2017, 2018, 2019, 2020 AND SEPTEMBER 30, 2021  
(Thousands of Dollars)

Account No.	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>September 30, 2021</u>
216, 216.1 Unappropriated Retained Earnings Beginning of Period	\$ 7,922,730	\$ 8,230,593	\$ 8,580,238	\$ 8,918,158	\$ 9,121,437
433 Balance Transferred from Income	1,103,863	1,195,645	1,249,920	1,185,279	1,011,150
439 Adjustments to Retained Earnings	-	-	-	-	-
	9,026,593	9,426,238	9,830,158	10,103,437	10,132,587
437 Dividends Declared - Preferred Stock	-	-	-	-	-
438 Dividends Declared - Common Stock	796,000	846,000	912,000	982,000	740,700
Total	796,000	846,000	912,000	982,000	740,700
216, 216.1 Unappropriated Retained Earnings End of Period	<u>\$ 8,230,593</u>	<u>\$ 8,580,238</u>	<u>\$ 8,918,158</u>	<u>\$ 9,121,437</u>	<u>\$ 9,391,887</u>



**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.**  
**UTILITY OPERATING INCOME - GAS**  
**IN AMOUNT AND EQUIVALENT CENTS PER M DEKATHERM**  
**(BEFORE AND AFTER INCOME TAXES)**  
**YEARS 2018 TO 2020 INCLUSIVE AND**  
**TWELVE MONTHS ENDED SEPTEMBER 30, 2021**  
**(Thousands of Dollars)**

	2018		2019		2020		Twelve Months Ended September 30, 2021	
	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm
Operating Revenues	2,084,733	\$ 673.42	\$ 2,138,935	\$ 733.60	\$ 2,042,983	\$ 740.83	\$ 2,264,329	\$ 820.16
Operation and Maintenance								
Production Expenses	647,479	209.15	611,641	209.78	430,916	156.26	490,085	177.51
Transmission Expenses	18,786	6.07	20,171	6.92	26,908	9.76	28,126	10.19
Distribution Expenses	203,373	65.69	185,589	63.65	179,919	65.24	175,355	63.51
Customer Accounts Expenses	43,581	14.08	44,688	15.33	48,918	17.74	50,081	18.14
Customer Service Expenses	31,635	10.22	23,131	7.93	10,266	3.72	11,877	4.30
Sales Promotion Expenses	338	0.11	454	0.16	313	0.11	105	0.04
Administrative and General Expenses	141,177	45.60	130,204	44.66	112,503	40.80	110,021	39.85
Total Operation and Maintenance	1,086,369	350.92	1,015,879	348.43	809,742	293.63	865,651	313.54
Depreciation	204,713	66.13	230,811	79.16	295,657	107.21	319,557	115.75
Taxes Other Than Income Taxes	331,767	107.17	367,589	126.07	386,229	140.05	467,706	169.41
Total Operating Expenses Before Income Taxes	1,622,849	524.22	1,614,279	553.66	1,491,629	540.89	1,652,914	598.70
Operating Income Before Income Taxes	461,884	149.20	524,656	179.94	551,354	199.94	611,416	221.46
Income Taxes	(5,744)	(1.86)	38,835	13.32	37,875	13.73	30,965	11.22
Provision for Deferred Income Taxes	507,252	163.85	404,175	138.62	454,295	164.74	378,426	137.07
Provision for Deferred Income Taxes - Credit	(413,354)	(133.52)	(343,475)	(117.80)	(389,658)	(141.30)	(302,626)	(109.61)
Investment Tax Credit Adjustments - Net	(765)	(0.25)	(768)	(0.26)	(763)	(0.28)	(764)	(0.28)
Gains from Disposition of Utility Plant	-	-	-	-	-	-	-	-
Losses from Disposition of Utility Plant	-	-	-	-	-	-	-	-
Total Income Tax Expense	87,388	28.22	98,767	33.88	101,750	36.89	106,001	38.40
Operating Income After Income Taxes	\$ 374,496	\$ 120.98	\$ 425,889	\$ 146.06	\$ 449,604	\$ 163.05	\$ 505,414	\$ 183.06
Sales/Transportation of Gas - Per M. Dekatherm	309,574		291,567		275,770		276,085	

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
OPERATING REVENUES - GAS  
IN AMOUNT AND EQUIVALENT CENTS PER DEKATHERM SOLD  
YEARS 2018 TO 2020 INCLUSIVE AND  
TWELVE MONTHS ENDED SEPTEMBER 30, 2021  
(Thousands of Dollars)

Account No.	2018		2019		2020		Twelve Months Ended September 30, 2021	
	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm
<u>Sales of Gas</u>								
480	\$ 1,246,446	\$ 402.63	\$ 1,245,426	\$ 427.15	\$ 1,264,012	\$ 458.36	\$ 1,387,147	\$ 502.43
481	544,893	176.01	525,876	180.36	459,586	166.66	543,361	196.81
482	131,142	42.36	125,201	42.94	124,495	45.14	137,099	49.66
483	(33)	(0.01)		0.00		0.00		0.00
	<u>1,922,448</u>	<u>620.99</u>	<u>1,896,503</u>	<u>650.45</u>	<u>1,848,093</u>	<u>670.16</u>	<u>2,067,607</u>	<u>748.90</u>
<u>Other Operating Revenues</u>								
488	2,143	0.69	2,787	0.96	1,582	0.57	389	0.14
489.3	28,680	9.26	24,813	8.51	24,259	8.80	24,902	9.02
493	6,931	2.24	6,951	2.38	8,640	3.13	8,282	3.00
494	7,129	2.30	7,111	2.44	7,191	2.61	7,766	2.81
495	117,403	37.92	200,770	68.86	153,219	55.56	155,382	56.28
	<u>162,286</u>	<u>52.42</u>	<u>242,432</u>	<u>83.15</u>	<u>194,890</u>	<u>70.67</u>	<u>196,722</u>	<u>71.25</u>
	<u>\$ 2,084,733</u>	<u>\$ 673.42</u>	<u>\$ 2,138,935</u>	<u>\$ 733.60</u>	<u>\$ 2,042,983</u>	<u>\$ 740.83</u>	<u>\$ 2,264,329</u>	<u>\$ 820.16</u>
Sales / Transportation of Gas - M Dekatherm	<u>309,574</u>		<u>291,567</u>		<u>275,770</u>		<u>276,085</u>	



**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.**  
**OPERATING REVENUES - GAS**  
**IN AMOUNT AND EQUIVALENT CENTS PER DEKATHERM SOLD**  
**YEARS 2018 TO 2020 INCLUSIVE AND**  
**TWELVE MONTHS ENDED SEPTEMBER 30, 2021**  
(Thousands of Dollars)

EXHIBIT \_\_ (AP - G1)  
SCHEDULE 7

Account No.	2018		2019		2020		Twelve Months Ended September 30, 2021		
	Amount	Equivalent	Amount	Equivalent	Amount	Equivalent	Amount	Equivalent	
		Cents Per Dekatherm		Cents Per Dekatherm		Cents Per Dekatherm		Cents Per Dekatherm	
<b>Sales of Gas</b>									
480	\$ 1,246,446	\$ 402.63	\$ 1,245,426	\$ 427.15	\$ 1,264,012	\$ 458.36	\$ 1,387,147	\$ 502.43	
481	544,893	176.01	525,876	180.36	459,586	166.66	543,361	196.81	
482	131,142	42.36	125,201	42.94	124,495	45.14	137,099	49.66	
483	(33)	(0.01)	-	-	-	-	-	-	
	<b>Total Sales of Gas (A)</b>	<b>1,922,448</b>	<b>620.99</b>	<b>1,896,503</b>	<b>650.45</b>	<b>1,848,093</b>	<b>670.16</b>	<b>2,067,607</b>	<b>748.90</b>
<b>Other Operating Revenue</b>									
4930/41114	Rent from Gas Property	6,931	2.24	6,951	2.25	8,640	2.79	8,282	2.68
4940/41112	Interdepartmental Rents	7,129	2.30	7,111	2.30	7,191	2.32	7,766	2.51
<b>Transportation of Gas of Others</b>									
41032	NYP&A Sale	2,191	0.71	2,191	0.71	2,191	0.71	2,191	0.71
41080	Astoria Scs	4,802	1.55	3,405	1.10	3,110	1.00	3,960	1.28
41092	Gas Transportation	21,687	7.01	19,217	6.12	18,958	6.12	18,750	6.06
4893	<b>Total Revenues from Transportation of Gas</b>	<b>28,680</b>	<b>9.27</b>	<b>24,813</b>	<b>8.02</b>	<b>24,259</b>	<b>7.83</b>	<b>24,902</b>	<b>8.05</b>
<b>Miscellaneous Service Revenues</b>									
41116	Service Fee	2,143	0.69	2,787	0.90	1,582	0.51	389	0.13
41121	Theft of Service	-	-	-	-	-	-	-	-
4880	<b>Total Miscellaneous Service Revenues</b>	<b>2,143</b>	<b>0.69</b>	<b>2,787</b>	<b>0.90</b>	<b>1,582</b>	<b>0.51</b>	<b>389</b>	<b>0.13</b>
<b>Other Gas Revenues</b>									
24055	GAC Over Collection Prior Period Deferral	-	-	-	-	-	-	-	-
24201	RDM Interest Accrual	-	-	-	-	-	-	-	-
24333	Defer Nonfirm Revenue	-	-	-	-	-	-	-	-
41034	Nonfirm Interruptible Sales Credit	1,154	0.37	1,720	0.56	9,178	2.96	6,844	2.21
41035	Mss Gas Program	-	-	-	-	-	-	-	-
41076	Other Revenue	(85,229)	(27.53)	24,324	7.86	(6,196)	(2.00)	(27,903)	(9.01)
41078	Other Rev Amortize Defer Cost	45,652	14.75	45,652	14.75	23,097	7.46	22,265	7.19
41079	Asset Mgt	18,689	6.04	19,969	6.45	15,499	5.01	17,128	5.53
41082	Auction Rate	2,571	0.83	1,211	0.39	(4,281)	(1.38)	(4,615)	(1.49)
41091	GAC Interest	(352)	(0.11)	(1,329)	(0.43)	174	0.06	(466)	(0.15)
41092	Gas Transportation	2,111	0.68	2,904	0.94	(2,267)	(0.73)	(3,759)	(1.21)
41096	Late Payment Charge	7,012	2.26	8,234	2.66	1,105	0.36	413	0.13
41097	The Learning Center Services	74	0.02	181	0.06	584	0.19	567	0.18
41102	Net Unbilled	464	0.15	(20,249)	(6.54)	(8,296)	(2.68)	(9,838)	(3.18)
41104	Property Tax Amortization	-	-	-	-	-	-	-	-
41107	Purchase of Receivables Discount	8,960	2.89	7,046	2.28	2,847	0.92	2,933	0.95
41108	R&D Ventures	-	-	-	-	33	0.01	33	0.01
41109	Rate Case Deferral	(754)	(0.24)	(752)	(0.24)	(2,145)	(0.69)	(1,894)	(0.61)
41110	RDM Reconcile	4,378	1.41	158	0.05	40,595	13.11	60,722	19.61
41114	Rental Property	197	0.06	-	-	-	-	-	-
41115	Retention of Property Tax Incentive	1	-	1	-	-	-	-	-
41116	Service Fee	1,341	0.43	1,245	0.40	751	0.24	957	0.31
41119	System Benefit Charge	95	0.03	278	0.09	281	0.09	126	0.04
41120	Tax Law Change	-	-	-	-	-	-	-	-
41123	Transportation to Others Sale	1,261	0.41	1,362	0.44	1,397	0.45	1,537	0.50
41126	Rate Refund Provision	-	-	-	-	-	-	-	-
41133	Interest Revenue Shortfall Cap Exp	(2,156)	(0.70)	(1,675)	(0.54)	(24,704)	(7.98)	(18,945)	(6.12)
41135	Gas Hedging Program Interest	(8)	-	(50)	(0.02)	(308)	(0.01)	(23)	(0.01)
41136	Other Rev Adjustment	165	0.05	(855)	(0.28)	9,306	3.01	10,054	3.25
41137	Interference	-	-	-	-	-	-	-	-
41138	Carrying Charge	26	0.01	26	0.01	26	0.01	26	0.01
41139	Gas in Storage Reconciliation	905	0.29	94	0.03	(94)	(0.03)	(198)	(0.06)
41140	SBU Balancing Charge	1,604	0.52	1,714	0.55	1,737	0.56	1,733	0.56
41141	Interest on Capital Exp Recon	-	-	-	-	-	-	-	-
41142	Interest on Purchase of Receivable	-	-	-	-	-	-	-	-
41144	Off Peak Penalty	(857)	(0.28)	(232)	(0.07)	(889)	(0.29)	(727)	(0.23)
41153	Interference True Up	289	0.09	326	0.11	-	-	(3,732)	(1.21)
41155	Low Income Adjustment	4,780	1.54	921	0.30	(2,928)	(0.95)	804	0.26
41163	Pipeline Integrity Deferral	(8)	-	(4)	-	-	-	-	-
41164	Plant Addition Deferral	-	-	-	-	-	-	-	-
41165	Prior Gas Supplier Interest Refund	-	-	-	-	81	0.03	390	0.13
41166	R&D Expenditure Deferral	670	0.22	(896)	(0.29)	(53)	(0.02)	1,280	0.41
41171	WBS Demand Charge	-	-	-	-	-	-	-	-
41172	WBS Misc	-	-	-	-	-	-	-	-
41173	EEPS Program Revenue Adjustment	-	-	-	-	-	-	-	-
41176	Gas Revenue Increm Fac	1,215	0.39	1,215	0.39	1,215	0.39	1,215	0.39
41177	Misc Rev Cust Comp Hist Requests	1	-	1	-	2	-	2	-
41180	Daily Delivery Service	103,981	33.59	107,659	34.78	97,225	31.41	97,115	31.37
41181	Line Loss Adjustment	-	-	-	-	-	-	-	-
41182	WTC Carrying Costs	-	-	-	-	-	-	-	-
41183	Credit and Coll Revenue Def	(916)	(0.30)	389	0.13	(109)	(0.04)	770	0.25
41184	Supply Related Charge	70	0.02	164	0.05	85	0.03	262	0.08
41185	Bug Reimbursement Gov Is	-	-	-	-	-	-	-	-
41186	#4 and 6 Oil to Gas Conversions	-	-	-	-	-	-	-	-
41187	Cust Cash Flow Benefit Bonus Depreciation	-	-	-	-	-	-	-	-
41188	ESCOs and Marketers Bill Charges Cubs	-	-	-	-	-	-	-	-
41190	Transportation Gas Adjustment	13	-	17	0.01	1	-	-	-
41191	Preferred Stock Redemp Cost Savings	-	-	-	-	-	-	-	-
41198	POR Credit & Collections Deferral	-	-	-	-	-	-	306	0.10
4950	<b>Total Other Gas Revenues</b>	<b>117,403</b>	<b>37.89</b>	<b>200,770</b>	<b>64.88</b>	<b>153,219</b>	<b>49.50</b>	<b>155,382</b>	<b>50.19</b>
	<b>Total Other Operating Revenues</b>	<b>162,286</b>	<b>52.39</b>	<b>242,432</b>	<b>78.35</b>	<b>194,890</b>	<b>62.95</b>	<b>196,722</b>	<b>63.56</b>
	<b>Total Operating Revenues</b>	<b>\$ 2,084,734</b>	<b>\$ 673.38</b>	<b>\$ 2,138,935</b>	<b>\$ 728.80</b>	<b>\$ 2,042,983</b>	<b>\$ 733.11</b>	<b>\$ 2,264,329</b>	<b>\$ 812.46</b>
	Sales / Transportation of Gas - M Dekatherm	309,574		291,567		275,770		276,085	

**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.**  
**SUMMARY OF OPERATION AND MAINTENANCE EXPENSES - GAS**  
**IN AMOUNT AND EQUIVALENT CENTS PER DEKATHERM SOLD**  
**FOR THE YEARS 2018 TO 2020 INCLUSIVE AND**  
**TWELVE MONTHS ENDED SEPTEMBER 30, 2021**  
 (Thousands of Dollars)

	2018		2019		2020		Twelve Months Ended September 30, 2021	
	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm
<b><u>Operation and Maintenance Expenses</u></b>								
Production Expenses	\$ 647,479	\$ 209.15	\$ 611,641	\$ 209.78	\$ 430,916	\$ 156.26	\$ 490,085	\$ 177.51
Transmission Expenses	18,786	6.07	20,171	6.92	26,908	9.76	28,126	10.19
Distribution Expenses	203,373	65.69	185,589	63.65	179,919	65.24	175,355	63.51
Customer Accounts Expenses	43,581	14.08	44,688	15.33	48,918	17.74	50,081	18.14
Customer Service Expenses	31,635	10.22	23,131	7.93	10,266	3.72	11,866	4.30
Sales Promotion Expenses	338	0.11	454	0.16	313	0.11	116	0.04
Administrative and General Expenses	141,177	45.60	130,204	44.66	112,503	40.80	110,021	39.85
<b>Total</b>	<b>\$ 1,086,369</b>	<b>\$ 350.92</b>	<b>\$ 1,015,879</b>	<b>\$ 348.42</b>	<b>\$ 809,742</b>	<b>\$ 293.63</b>	<b>\$ 865,652</b>	<b>\$ 313.54</b>
<b>Sales / Transportation of Gas - M. Dekatherm</b>	<b>309,574</b>		<b>291,567</b>		<b>275,770</b>		<b>276,085</b>	

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
POWER PRODUCTION EXPENSES - GAS  
CENTS PER KWHR, GENERATED AND PURCHASED  
FOR THE YEARS 2018 TO 2020 INCLUSIVE AND  
TWELVE MONTHS ENDED SEPTEMBER 30, 2021  
(Thousands of Dollars)

Account No.	2018		2019		2020		Twelve Months Ended September 30, 2021	
	Amount	Equivalent	Amount	Equivalent	Amount	Equivalent	Amount	Equivalent
		Cents Per Dekatherm		Cents Per Dekatherm		Cents Per Dekatherm		Cents Per Dekatherm
<b><u>NATURAL GAS PRODUCTION EXPENSES</u></b>								
<b><u>Operations</u></b>								
712	\$ -	\$ -	\$ -	\$ -	\$ 0	\$ -	\$ 3	\$ -
<b><u>OTHER GAS SUPPLY EXPENSES</u></b>								
<b><u>Operations</u></b>								
804	846,374	273	769,847	264	539,327	196	659,233	238.78
807	(2,339)	(0.76)	1,393	0.48	5,822	2.11	2,070	0.75
808.1, 809.1	79,494	25.68	82,011	28.13	66,894	24.26	51,938	18.81
808.2	(79,449)	(25.66)	(66,314)	(22.74)	(54,571)	(19.79)	(65,209)	(23.62)
812	(511)	(0.17)	(535)	(0.18)	(382)	(0.14)	(460)	(0.17)
813	(201,255)	(65.01)	(180,549)	(61.92)	(131,462)	(47.67)	(163,540)	(59.24)
	<b>642,313</b>	<b>207.48</b>	<b>605,853</b>	<b>207.79</b>	<b>425,629</b>	<b>154.34</b>	<b>484,035</b>	<b>175.32</b>
<b><u>OTHER STORAGE EXPENSES</u></b>								
<b><u>Operation</u></b>								
840	405	0.13	257	0.09	241	0.09	330	0.12
841	1,947	0.63	1,632	0.56	2,146	0.78	1,865	0.68
842.1	481	0.16	285	0.10	279	0.10	404	0.15
842.2	320	0.10	201	0.07	201	0.07	217	0.08
842.3	31.39	0.01	252	0.09	104	0.04	49	0.02
-	-	-	-	-	-	-	0	0.00
	<b>3,184</b>	<b>1.03</b>	<b>2,627</b>	<b>0.90</b>	<b>2,971</b>	<b>1.08</b>	<b>2,866</b>	<b>1.04</b>
<b><u>Maintenance</u></b>								
843.1	252	0.08	178	0.06	180	0.07	152	0.06
843.2	617	0.20	707	0.24	361	0.13	730	0.26
843.3	(33)	(0.01)	277	0.10	92	0.03	70	0.03
843.4	129	0.04	169	0.06	95	0.03	231	0.08
843.5	314	0.10	765	0.26	1,001	0.36	1,085	0.39
843.6	251	0.08	179	0.06	188	0.07	337	0.12
843.7	232	0.07	697	0.24	276	0.10	304	0.11
843.8	23	0.01	34	0.01	21	0.01	109	0.04
843.9	196	0.06	154	0.05	102	0.04	165	0.06
-	-	-	-	-	-	-	0	0.00
	<b>1,982</b>	<b>0.64</b>	<b>3,161</b>	<b>1.08</b>	<b>2,317</b>	<b>0.84</b>	<b>3,184</b>	<b>1.15</b>
	<b>5,165</b>	<b>1.67</b>	<b>5,788</b>	<b>1.99</b>	<b>5,288</b>	<b>1.92</b>	<b>6,050</b>	<b>2.19</b>
	<b>\$ 647,479</b>	<b>\$ 209</b>	<b>\$ 611,641</b>	<b>\$ 210</b>	<b>\$ 430,916</b>	<b>\$ 156</b>	<b>\$ 490,085</b>	<b>\$ 178</b>
Sales / Transportation of Gas - M. Dekatherm	309,574		291,567		275,770		276,085	

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
TRANSMISSION EXPENSES - GAS  
FOR THE YEARS 2018 TO 2020 INCLUSIVE AND  
TWELVE MONTHS ENDED SEPTEMBER 30, 2021  
(Thousands of Dollars)

Account No.	2018		2019		2020		Twelve Months Ended September 30, 2021		
	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	
<b>Operations</b>									
850	\$ 536	\$ 0.17	\$ 592	\$ 0.20	\$ 591	\$ 0.21	\$ 615	\$ 0.22	
851	2,113	0.68	2,099	0.72	2,273	0.82	2,502	0.91	
853	350	0.11	196	0.07	232	0.08	210	0.08	
856	2,760	0.89	4,568	1.57	2,699	0.98	3,323	1.20	
857	969	0.31	1,274	0.44	1,268	0.46	1,513	0.55	
859	549	0.18	(567.95)	(0.19)	13,411.63	4.86	13,419	4.86	
-	-	-	-	-	-	-	-	-	
	<b>Sub-Total</b>	<b>7,277</b>	<b>2.35</b>	<b>8,160</b>	<b>2.80</b>	<b>20,475</b>	<b>7.42</b>	<b>21,581</b>	<b>7.82</b>
860	Rents	6,067	1.96	6,623	2.27	0	-	-	14.50
	<b>Total Operation</b>	<b>13,344</b>	<b>4.31</b>	<b>14,784</b>	<b>5.07</b>	<b>20,475</b>	<b>7.42</b>	<b>21,581</b>	<b>22.32</b>
<b>Maintenance</b>									
861	Supervision and Engineering	881	0.28	831	0.29	892	0.32	803	0.29
862	Structures	31	0.01	53	0.02	106	0.04	184	0.07
863	Mains	1,708	0.55	2,224	0.76	2,619	0.95	3,073	1.11
864	Compressor Station Equipment	840	0.27	880	0.30	1,301	0.47	967	0.35
865	Measuring and Regulating Station Equipment	1,982	0.64	1,400	0.48	1,515	0.55	1,518	0.55
866	Communication Equipment	-	-	-	-	-	-	-	-
867	Other Equipment	-	-	-	-	-	-	-	-
-	Accrued Wages	-	-	-	-	-	-	-	-
	<b>Total Maintenance</b>	<b>5,443</b>	<b>1.76</b>	<b>5,388</b>	<b>1.85</b>	<b>6,433</b>	<b>2.33</b>	<b>6,545</b>	<b>2.37</b>
	<b>Total Transmission Expenses</b>	<b>\$ 18,786</b>	<b>\$ 6.07</b>	<b>\$ 20,171</b>	<b>\$ 6.92</b>	<b>\$ 26,908</b>	<b>\$ 9.76</b>	<b>\$ 28,126</b>	<b>\$ 24.69</b>
	<b>Sales / Transportation of Gas - M. Dekatherm</b>	<b>309,574</b>		<b>291,567</b>		<b>275,770</b>		<b>276,085</b>	

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
DISTRIBUTION EXPENSES - GAS  
FOR THE YEARS 2018 TO 2020 INCLUSIVE AND  
TWELVE MONTHS ENDED SEPTEMBER 30, 2021  
(Thousands of Dollars)

Account No.	2018		2019		2020		Twelve Months Ended September 30, 2021	
	Amount	Equivalent Cents Per	Amount	Equivalent Cents Per	Amount	Equivalent Cents Per	Amount	Equivalent Cents Per
		Dekatherm		Dekatherm		Dekatherm		Dekatherm
<b>Operations</b>								
870	\$ 25,759	\$ 8.32	\$ 24,390	\$ 8.37	\$ 25,428	\$ 9.22	\$ 25,036	\$ 9.07
871	-	-	-	-	-	-	-	-
872	-	-	-	-	-	-	-	-
874	28,198	9.11	22,845	7.84	26,873	9.74	21,428	7.76
875	-	-	-	-	-	-	-	-
878	5,363	1.73	4,727	1.62	3,094	1.12	3,773	1.37
879	19,311	6.24	17,603	6.04	16,509	5.99	18,211	6.60
880	7,589	2.45	7,256	2.49	13,026	4.72	12,916	4.68
-	-	-	-	-	-	-	-	-
	<b>Sub-Total</b>	<b>27.85</b>	<b>26.36</b>	<b>30.79</b>	<b>29.48</b>	<b>29.53</b>	<b>29.53</b>	<b>29.53</b>
881	122	0.04	187	0.06	137	0.05	136	0.05
	<b>Total Operation</b>	<b>27.89</b>	<b>26.42</b>	<b>30.84</b>	<b>29.53</b>	<b>29.53</b>	<b>29.53</b>	<b>29.53</b>
<b>Maintenance</b>								
885	9,869	3.19	9,079	3.11	7,901	2.86	7,938	2.88
886	1	-	(8)	-	0	-	0	-
887	92,666	29.93	83,885	28.77	77,342	28.05	75,741	27.43
888	-	-	-	-	-	-	-	-
889	892	0.29	1,138	0.39	1,117	0.41	1,003	0.36
892	13,005	4.20	13,598	4.66	7,702	2.79	8,032	2.91
893	600	0.19	890	0.31	790	0.29	1,142	0.41
-	-	-	-	-	-	-	-	-
	<b>Total</b>	<b>37.80</b>	<b>37.24</b>	<b>34.40</b>	<b>33.99</b>	<b>33.99</b>	<b>33.99</b>	<b>33.99</b>
895.1	-	-	-	-	-	-	-	-
895.2	-	-	-	-	-	-	-	-
	<b>Total Distribution Expenses</b>	<b>65.69</b>	<b>63.66</b>	<b>65.24</b>	<b>63.52</b>	<b>63.52</b>	<b>63.52</b>	<b>63.52</b>
	<b>Sales / Transportation of Gas - M. Dekatherm</b>	<b>309,574</b>	<b>291,567</b>	<b>275,770</b>	<b>276,085</b>	<b>276,085</b>	<b>276,085</b>	<b>276,085</b>



CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
 CUSTOMER ACCOUNTS EXPENSES - GAS  
 FOR THE YEARS 2018 TO 2020 INCLUSIVE AND  
 TWELVE MONTHS ENDED SEPTEMBER 30, 2021  
 (Thousands of Dollars)

Account No.	2018		2019		2020		Twelve Months Ended September 30, 2021	
	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm
901	\$ 1,724	\$ 0.56	\$ 1,641	\$ 0.56	\$ 1,407	\$ 0.51	\$ 1,348	\$ 0.49
902	6,113	1.98	5,627	1.93	7,689	2.79	6,266	2.27
903	25,655	8.30	23,504	8.06	23,609	8.56	24,336	8.81
905	1,455	0.47	2,241	0.77	3,031	1.10	2,922	1.06
-	-	-	-	-	-	-	-	-
	Sub-total	34,947 11.31	33,013 11.32	35,736 12.96	34,872 12.63			
904	Uncollectible Accounts	8,634 2.79	11,675 4.00	13,182 4.78	15,209 5.51			
	Total	\$ 43,581 \$ 14.08	\$ 44,688 \$ 15.30	\$ 48,918 \$ 17.72	\$ 50,081 \$ 18.14			
	Sales / Transportation of Gas - M. Dekatherm	309,574	291,567	275,770	276,085			

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
 CUSTOMER SERVICE EXPENSES - GAS  
 FOR THE YEARS 2018 TO 2020 INCLUSIVE AND  
 TWELVE MONTHS ENDED SEPTEMBER 30, 2021  
 (Thousands of Dollars)

Account No.	2018		2019		2020		Twelve Months Ended September 30, 2021	
	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm
907	\$ 104	\$ 0.03	\$ 125	\$ 0.04	\$ 143	\$ 0.05	\$ 157	\$ 0.06
908	28,981	9.36	20,174	6.92	7,159	2.60	8,548	3.10
909	801	0.26	901	0.31	887	0.32	799	0.29
910	1,749	0.56	1,931	0.66	2,077	0.75	2,361	0.86
-	Accrued Wages	-	-	-	-	-	-	-
	<b>Total</b>	<b>\$ 31,635 \$ 10.21</b>	<b>\$ 23,131 \$ 7.93</b>	<b>\$ 10,266 \$ 3.72</b>	<b>\$ 11,866 \$ 4.31</b>			
	<b>Sales / Transportation of Gas - M. Dekatherm</b>	<b><u>309,574</u></b>	<b><u>291,567</u></b>	<b><u>275,770</u></b>	<b><u>276,085</u></b>			

**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.**  
**SALES PROMOTION EXPENSES - GAS**  
**FOR THE YEARS 2018 TO 2020 INCLUSIVE AND**  
**TWELVE MONTHS ENDED SEPTEMBER 30, 2021**  
 (Thousands of Dollars)

Account No.	2018		2019		2020		Twelve Months Ended September 30, 2021	
	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm
911	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
912	323	0.10	447	0.15	306	0.11	114	0.04
913	-	-	-	-	-	-	-	-
916	15	0.00	7	0.00	7	0.00	2	0.00
-	-	-	-	-	-	-	-	-
<b>Total</b>	<u>\$338</u>	<u>0.10</u>	<u>\$454</u>	<u>0.15</u>	<u>\$313</u>	<u>0.11</u>	<u>\$ 116</u>	<u>0.04</u>
<b>Sales / Transportation of Gas - M. Dekatherm</b>	<u>309,574</u>		<u>291,567</u>		<u>275,770</u>		<u>276,085</u>	

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
ADMINISTRATIVE AND GENERAL EXPENSES - GAS  
FOR THE YEARS 2018 TO 2020 INCLUSIVE AND  
TWELVE MONTHS ENDED SEPTEMBER 30, 2021  
(Thousands of Dollars)

Account No.	2018		2019		2020		Twelve Months Ended September 30, 2021	
	Amount	Equivalent	Amount	Equivalent	Amount	Equivalent	Amount	Equivalent
		Cents Per Dekatherm		Cents Per Dekatherm		Cents Per Dekatherm		Cents Per Dekatherm
<b>Operations</b>								
920	\$ 30,112	\$ 9.73	\$ 34,119	\$ 11.70	\$ 32,775	\$ 11.88	\$ 30,888	\$ 11.19
921	\$ 8,290	2.68	11,117	3.81	20,636	7.48	17,690	6.41
923	\$ 8,966	2.90	4,448	1.53	2,968	1.08	1,685	0.61
924	\$ 589	0.19	593	0.20	650	0.24	721	0.26
925	\$ 24,223	7.82	23,347	8.01	19,931	7.23	21,011	7.61
926	\$ 7,417	2.40	8,342	2.86	8,618	3.13	9,486	3.44
926.1	\$ 19,256	6.22	18,915	6.49	15,683	5.69	17,741	6.43
926.2	\$ 36,714	11.86	27,128	9.30	12,392	4.49	12,392	4.49
926.3	\$ (1,845)	(0.60)	(2,596)	(0.89)	(887)	(0.32)	(867)	(0.31)
928	\$ 10,536	3.40	10,293	3.53	10,640	3.86	10,275	3.72
929	\$ (418)	(0.14)	(346)	(0.12)	(690)	(0.25)	(423)	(0.15)
930.1	\$ 289	0.09	289	0.10	334	0.12	453	0.16
930.2	\$ 7,146	2.31	6,541	2.24	6,241	2.26	5,661	2.05
931	\$ -	0.00	0	0.00	0	0.00	0	0.00
-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>151,274</b>	<b>48.86</b>	<b>142,190</b>	<b>48.76</b>	<b>129,291</b>	<b>46.89</b>	<b>126,714</b>	<b>45.91</b>
922	(10,371)	(3.35)	(12,451)	(4.27)	(17,147)	(6.22)	(16,876)	(6.11)
926.1	-	-	-	-	-	-	-	-
<b>Total Operations</b>	<b>140,903</b>	<b>45.51</b>	<b>129,739</b>	<b>44.49</b>	<b>112,143</b>	<b>40.67</b>	<b>109,838</b>	<b>39.80</b>
<b>Maintenance</b>								
Maintenance of General Plant	273	0.09	465	0.16	359	0.13	183	0.07
<b>Total Administrative and General Expenses</b>	<b>\$ 141,177</b>	<b>\$ 45.60</b>	<b>\$ 130,204</b>	<b>\$ 44.65</b>	<b>\$ 112,503</b>	<b>\$ 40.80</b>	<b>\$ 110,021</b>	<b>\$ 39.87</b>
Sales / Transportation of Gas - M. Dekatherm	309,574		291,567		275,770		276,085	

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
TAXES OTHER THAN INCOME TAXES - GAS  
FOR YEARS 2018 TO 2020 INCLUSIVE AND  
TWELVE MONTHS ENDED SEPTEMBER 30, 2021  
(Thousand of Dollars)

	2018		2019		2020		Twelve Months Ended September 30, 2021	
	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm	Amount	Equivalent Cents Per Dekatherm
<b>Local Taxes</b>								
Real Estate - NYC	\$ 217,007	\$ 70.06	\$ 253,042	\$ 86.77	\$ 290,243	\$ 105.26	\$ 317,693	\$ 115.35
- Upstate and Westchester	56,853	18.35	57,467	19.71	56,963	20.66	57,539	20.89
- Mississippi	33	0.01	38	0.01	46	0.02	49	0.02
Property Tax Reconciliation Deferral	(14,310)	(4.62)	(18,640)	(6.39)	(37,794)	(13.71)	8,679	3.15
Public Utilities Excise	39,822	12.86	41,211	14.13	40,056	14.53	44,258	16.07
Sales and Use	194	0.06	(462)	(0.16)	151	0.05	181	0.07
Motor Vehicle	84	0.03	80	0.03	72	0.03	70	0.03
Subsidiary Capital Tax	-	-	-	-	-	-	-	-
Total Local Taxes	299,683	96.75	332,736	114.10	349,737	126.84	428,469	155.58
<b>State Taxes</b>								
Public Utilities Gross Income	20,197	6.52	20,501	7.03	22,948	8.32	24,664	8.95
Unemployment Insurance	186	0.06	182	0.06	71	0.03	170	0.06
Insurance Premium Tax	20	0.01	18	0.01	29	0.01	56	0.02
MTA Mobility Tax	517	0.17	514	0.18	461	0.17	474	0.17
Vehicle Registration and Highway Use	159	0.05	165	0.06	126	0.05	141	0.05
Sales and Use	(2,600)	(0.84)	(343)	(0.12)	186	0.07	192	0.07
MTA Surcharge	3,197	1.03	3,312	1.14	3,281	1.19	3,691	1.34
Corporate Franchise Tax	15	-	-	-	-	-	-	-
Commercial Rent	-	-	11	-	16	0.01	22	0.01
Other	6	-	10	-	187	0.07	303	0.11
Total State Taxes	21,697	7.00	24,370	8.36	27,305	9.92	29,712	10.78
<b>Federal Taxes</b>								
Unemployment	56	0.02	54	0.02	45	0.02	44	0.02
Insurance Contributions (FICA)	10,315	3.33	10,359	3.55	9,125	3.31	9,422	3.42
Other	16	0.01	69	0.02	17	0.01	60	0.02
Total Federal Taxes	10,387	3.36	10,482	3.59	9,187	3.34	9,526	3.46
Total Taxes Other Than Income Taxes	\$ 331,767	107.11	\$ 367,589	126.05	\$ 386,229	140.10	\$ 467,707	169.82
Sales / Transportation of Gas - M. Dekatherm	309,748		291,617		275,737		275,423	

CONSOLIDATED EDISON OF COMPANY OF NEW YORK, INC.  
CALCULATION OF FEDERAL INCOME TAX - GAS  
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2021

	<u>Amount</u>
<b>Book Income Before Federal Income Tax</b>	<b>\$ 493,458,929</b>
<b><u>PERMANENT</u></b>	
Nondeductible Business Expenses	957,218
Officer's Comp in Excess \$1M	2,130,705
<b>Total for Permanent:</b>	<b>3,087,922</b>
<b><u>TEMPORARY ADDITIONS</u></b>	
Pension (228)	92,919,107
Pension Out Of Balance (228)	66,893,436
Hedging	28,934,215
Interest/Shortfalls CAP (254)	18,944,984
Deferred Fuel (253)	16,966,851
OPEB Cost Retiree - Funding v. Expense (228)	14,453,425
System Benefit Charges (254)	12,972,485
Property Tax Reduction Cost To Achieve (182)	12,253,803
Algonquin Pipeline Upgrade (182)	11,918,150
Accumulated Amortization Operating Lease - Common (101)	7,158,859
Accrued Receivable Unbilled Long Term (182)	6,804,000
Interference Expense (182)	5,838,000
Auction Rate Debt Deferral (254)	5,536,346
SIT Payable (236)	4,168,272
Interference Expense (254)	4,030,000
OPEB Tax Capitalization	3,814,046
OPEB Out of Balance (228)	3,663,085
Superfund Liability - Common (242)	3,657,772
Pension Phase In (182)	3,500,000
Recovered Energy Costs (182)	3,235,857
Inside Gas Meter Reallocation Cost Deferral (182)	3,167,228
Overrecovered Unbilled Net (254)	3,034,000
Transco Heater Odorization Project (Meadowlands) (182)	2,844,000
ST Operating Lease Obligation - Common (224)	2,701,239
Deferral of Employer Payroll Taxes (236)	2,670,564
Management Variable Pay (254)	1,638,443
Deferred Income Plan - Common (228)	1,227,302
Rate Case EE and DM Programs Carrying Charge Defer (254)	1,094,972
Unamortized Loss on Reacquired Debt - Common (182)	871,058
Reserve for Restoration of Docks - Common (242)	558,250
Gas Penalties - Off Peak - (Gas Suppliers Refund) (254)	444,213
Customer Service System Exp True Up (254)	341,480
Sales and Use Tax Reserve - Common (236)	337,471

CONSOLIDATED EDISON OF COMPANY OF NEW YORK, INC.  
CALCULATION OF FEDERAL INCOME TAXES - GAS  
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2021

	<u>Amount</u>
ERRP Interdept Rent Shortfall Recovery from Steam (182)	224,207
Gas in Storage Reconciliation (254)	198,426
Plastic Fusion Remediation Program (254)	190,330
Deferred Cost Stray Voltage Inspection (253)	177,181
Finance Lease Right-Of-Use Asset - Common (101)	162,137
Oil to Gas Conversion (254)	142,370
Gas T&D Reconciliation (182)	135,453
Oil to Gas Conversion (182)	113,965
Building Meter Conversion Study (182)	108,094
NYISO Working Capital Fund Owed To Customer - Common (253)	100,563
Capitalize Lease Obligation - Common (242)	52,635
Climate Vulnerability Study - Common (182)	51,825
Interco Stock Based Compensation - Common (146)	46,575
Interest Rec RDM (174)	33,285
Interruptible Gas Collaborative (182)	24,000
Deferred Workers Compensation Recoveries (254)	22,673
Executive Incentive Plan - Common (242)	19,295
Gas Peak Demand Reduction Collaborative (182)	12,500
Interest Deferred POR Prm Cost (182)	3,837
18A General Assessment Refund 2017 to 2018 (254)	2,692
Other Current Liability - Common (242)	2,360
CATV Pole Attachment Rev - Common (254)	1,182
Hedging Realized and Deferred Loss (182)	901
Sale Of Air Rights - 47th Rd and 11th St LIC - Common (254)	281
<b>Total for Temporary Additions:</b>	<b>350,419,681</b>

**TEMPORARY DEDUCTIONS**

Pension (182)	(89,552,500)
Revenue Decoupling Mechanism (174)	(57,387,301)
Gas Service Line Deferral (182)	(42,014,186)
Federal Tax Reform Transition Period (254)	(31,602,683)
Pension Funding (228)	(29,534,436)
New Efficiency New York (182)	(29,276,481)
Rate Case Pension Defer (182)	(25,974,872)
Pension Book Capitalization Reversal	(23,045,205)
Pipeline Refund (254)	(21,036,906)
OPEB (182)	(14,963,255)
Gas Service Line Recovered through MRA (182)	(14,584,393)
Revenue Decoupling Mechanism (254)	(10,660,148)
Deferred Fuel (254)	(8,111,098)
LT Operating Lease Obligation - Common (227)	(7,599,737)
Property Tax Prepayments NYC - Common (165)	(7,395,074)
Accrued Management Bonus - Common (242)	(6,401,514)

CONSOLIDATED EDISON OF COMPANY OF NEW YORK, INC.  
CALCULATION OF FEDERAL INCOME TAXES - GAS  
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2021

	<u>Amount</u>
Superfund Liability (182)	(5,931,915)
Rate Case Incentives (186)	(5,590,326)
Gas Compliance Settlement (254)	(4,006,168)
OPEB Cost Retiree - Funding v. Expense - Common (228)	(3,752,256)
Floral Park Incident Reserve (254)	(3,663,464)
East Harlem Incident - Fire Dept. Funding (254)	(3,470,086)
Refundable Energy Costs (242)	(3,235,857)
Negative Revenue Adjustments (254)	(3,178,000)
Stock Compensation - Common (242)	(2,866,052)
Operating Lease Right-Of-Use Asset - Common (101)	(2,690,236)
BQDM & Rev Demo Carrying Charge Deferral (254)	(1,483,524)
OPEB Book Capitalization Reversal	(1,444,367)
Interruptible Sales Credit (254)	(1,387,869)
R&D Reconciliation (254)	(1,309,592)
Prepaid Insurance - Common (165)	(987,811)
Low Income Credit Reconciliation (174)	(803,704)
System Benefit Charges (182)	(802,045)
Credit & Collection Deferral (254)	(770,404)
Accrued Vacation Pay - Common (242)	(694,389)
Interco Stock Based Compensation Payable - Common (234)	(590,867)
POR C&C RY 1 (182)	(380,373)
Rate Case Opeb Defer (182)	(356,414)
Interest on Rate Case Deferral (254)	(339,287)
Plastic Fusion Deferral (182)	(319,163)
POR Credit And Collections Liability (254)	(309,676)
Additional 18A Assessment (254)	(309,250)
MTA Business Tax Surcharge (182)	(291,684)
Supply Related Charge Deferral (254)	(262,304)
Gas Demand Response Pilot Program Deferral (182)	(216,753)
MTA Grt Prior (182)	(210,425)
Capitalize Lease Obligation - Common (227)	(138,287)
Gas Rate Case Pipe Def-03-g-1671 (254)	(123,000)
Miscellaneous Temporary Adjustment	(112,849)
Deposit Rec From ISO - Common (186)	(100,563)
Smart Solutions Customer Programs Costs (182)	(89,977)
Divested Stations - Unauthorized Gas Use Charge (254)	(73,550)
IRS Audit Recovery - Common (182)	(66,371)
Sales Tax Refunds - Common (254)	(56,878)
Repair Allowance Interest (254)	(42,083)
Deferred Rent NYC NFMR Vaults Asset (186)	(40,855)
Management Audit - Common (182)	(37,848)



CONSOLIDATED EDISON OF COMPANY OF NEW YORK, INC.  
CALCULATION OF FEDERAL INCOME TAXES - GAS  
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2021

	<u>Amount</u>
New York Facilities National Grid Agreement (254)	(31,995)
Deferred Credits - Insurance Reimbursements - Common (254)	(24,218)
Oil to Gas Conversion - Common (254)	(22,680)
Property Tax Refund (254)	(20,750)
FELIX Settlement (254)	(20,635)
Non-Pipelines Alternative Recovered Through MRA (182)	(19,020)
Supp Defined Contrib Plan - Common (228)	(18,363)
Interest on WTC (254)	(15,900)
Gas Leak Prone Pipe and Backlog Deferral (182)	(8,950)
Sale Of Air Rights- 282 Exterior St Bronx - Common (254)	(8,656)
Property Tax Reduction Cost To Achieve - Common (182)	(7,187)
ST Finance Lease Obligation - Common (224)	(5,902)
Brooklyn Queens Demand Management Program - Common (182)	(4,993)
Sale of Property (254)	(4,968)
Sale of Property - Common (182)	(4,761)
Environmental Cost (254)	(2,360)
Provision for Deferred Compensation - Common (242)	(715)
Accrued Local Property Tax (236)	-
Other Regulatory Liabilities (254)	-
<b>Total for Temporary Deductions:</b>	<b><u>(471,898,360)</u></b>
 <b><u>FLOW-THROUGH</u></b>	
Bad Debts - Common (144)	31,060,949
COVID-19 Deferrals (182)	(25,860,967)
GAC GCR Interest Overcollection (254)	147,143
Injuries & Damages Reserve - Common (228)	1,035,819
Injuries & Damages Reserve FT - Common (182)	13,476
Injuries & Damages Reserve - Common (254)	840,014
Injury and Damage Receivable Noncurrent - Common (183)	560,979
Interest on Interruptible Sales Credit (254)	(65,711)
Loss on Reaquired Preferred Stock - Common (182)	479
Loss on Reaquired Preferred Stock (182)	146,036
Property Tax Adjustment (Lien Date) - (165) - FT	(10,733)
<b>Total for Flow-Through:</b>	<b><u>7,867,484</u></b>
 <b><u>PT PROPERTY FEDERAL</u></b>	
Accelerated Tax Depr-Federal-FT	(794,225)
Accelerated Tax Depr-Federal-FT-Common	52,319
Accelerated Tax Depr-Federal-Norm	(170,330,651)
Accelerated Tax Depr-Federal-Norm-Common	(6,578,463)
Accrued Bonus-Federal-Norm	(4,994,795)

CONSOLIDATED EDISON OF COMPANY OF NEW YORK, INC.  
CALCULATION OF FEDERAL INCOME TAXES - GAS  
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2021

	<u>Amount</u>
AFUDC Debt-Federal	(3,440,362)
AFUDC Debt-Federal-Common	(140,354)
AFUDC Debt-Federal-FT	51,384
AFUDC Debt-Federal-FT-Common	2,889
AFUDC Equity-Federal-FT	(3,906,734)
AFUDC Equity-Federal-FT-Common	51,929
Capitalized Software-Federal-FT	22
Capitalized Software-Federal-Norm-Common	2,378,019
CIAC-Federal-Norm	11,617,930
CIAC-Federal-Norm-Common	(4,009)
Cost of Removal-Federal-FT	55,419,303
Cost of Removal-Federal-FT-Common	(1,978,095)
Credits and Incentives-Federal-Norm-Common	13,303
Expensed Software-Federal-Norm-Common	(793,822)
Materials and Supplies-Federal-Norm	(1,922,801)
Misc Other-Federal-FT	(331,872)
Misc Other-Federal-FT-Common	63,995
Misc Other-Federal-Norm	(738,776)
Misc Other-Federal-Norm-Common	(1,482)
MSC-Federal-Norm	(18,715,933)
MSC-Federal-Norm-Common	2,160
OPEB-Federal-Norm	(836,529)
Payroll Tax Pensions Health-Federal-FT	(534,338)
Payroll Tax Pensions Health-Federal-FT-Common	2,839
Pension Book Diff-Federal-Norm	(21,073,731)
Pension Book Diff-Federal-Norm-Common	(9,788)
Repair Allowance-Federal-Norm	3,097,180
Sales and Comp Use Tax-Federal-FT	3,000
Sales and Comp Use Tax-Federal-FT-Common	1,183
Tax Capitalized Interest-Federal-FT	(355,533)
Tax Capitalized Interest-Federal-FT-Common	(3,235)
Tax Capitalized Interest-Federal-Norm	6,012,532
Tax Capitalized Interest-Federal-Norm-Common	(97,990)
Tax Cost Var - Ind Contra-Federal-FT	(8,750)
Tax Cost Var - Invol Con-Federal-FT	5
Tax Repair Expense-Federal-Norm	1,739,815
Vacation Pay Accrual-Federal-Norm	(28,841)
<b>Total for PT Property Federal:</b>	<b><u>(157,111,297)</u></b>

CONSOLIDATED EDISON OF COMPANY OF NEW YORK, INC.  
CALCULATION OF FEDERAL INCOME TAXES - GAS  
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2021

	<u>Amount</u>
<b><u>PT PROPERTY CWIP</u></b>	
AFUDC Debt-PT Reversal-CWIP	3,512,391
AFUDC Debt-PT Reversal-CWIP-Common	284,472
AFUDC Equity-PT Reversal-CWIP	4,000,640
AFUDC Equity-PT Reversal-CWIP-Common	328,163
Cap Interest-PT Reversal-CWIP	(6,482,269)
Cap Interest-PT Reversal-CWIP-Common	(513,077)
CIAC-PT Reversal-CWIP	(16,577,541)
<b>Total for PT Property CWIP:</b>	<b><u>(15,447,221)</u></b>
 <b><u>CWIP INCURRED</u></b>	
AFUDC Debt-Incurred-CWIP	(3,407,303)
Cap Interest-Incurred-CWIP	7,910,303
CIAC-Incurred-CWIP	8,346,483
<b>Total for CWIP Incurred:</b>	<b><u>12,849,483</u></b>
 <b>State and Local Current Tax</b>	 (5,176,650)
 <b>FEDERAL TAXABLE INCOME - ELECTRIC</b>	 <b>\$ 218,049,971</b>

CONSOLIDATED EDISON OF COMPANY OF NEW YORK, INC.  
CALCULATION OF FEDERAL INCOME TAX - GAS  
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2021

	<u>Amount</u>
<b><u>CURRENT FEDERAL INCOME EXPENSE</u></b>	
Current Federal Income Tax @ statutory rate*	\$ 45,790,494
Tax Credits	(820,278)
Carryforward Losses	(4,480,509)
Prior Period Adjustments	(9,082,148)
<b>TOTAL CURRENT FIT ACCOUNT 409</b>	<b><u>31,407,560</u></b>
<b><u>DEFERRED FEDERAL INCOME TAX</u></b>	
Temporary Adjs. @ statutory rate	51,807,421
Flow Thru Items	(14,952,286)
Deferred Only Adjustments	3,609,033
Carryforward Losses	3,994,175
Prior Period Adjustments	-
	<b><u>44,458,343</u></b>
<b><u>AMORTIZATION OF DEFERRED FIT</u></b>	
FBOS on Deferral of Current MTA net of Amort of Current MTA	223,205
	<b><u>223,205</u></b>
<b><u>NET DEFERRED FIT ACCOUNT 410 &amp; 411</u></b>	<b><u>44,681,548</u></b>
<b><u>AMORTIZATION OF ITC</u></b>	<b><u>(762,958)</u></b>
<b><u>TOTAL FEDERAL INCOME TAX EXPENSE</u></b>	<b><u>\$ 75,326,149</u></b>

CONSOLIDATED EDISON OF COMPANY OF NEW YORK, INC.  
CALCULATION OF STATE INCOME TAX - GAS  
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2021

	<u>Amount</u>
<b>Book Income Before State Income Tax</b>	<b>\$ 493,458,929</b>
<b><u>PERMANENT</u></b>	
Officer's Comp in Excess \$1M	2,130,705
<b>Total for Permanent:</b>	<b>2,130,705</b>
<b><u>TEMPORARY ADDITIONS</u></b>	
Pension (228)	92,919,107
Pension Out Of Balance (228)	66,893,436
Hedging	28,934,215
Interest/Shortfalls CAP (254)	18,944,984
Deferred Fuel (253)	16,966,851
OPEB Cost Retiree - Funding v. Expense (228)	14,453,425
System Benefit Charges (254)	12,972,485
Property Tax Reduction Cost To Achieve (182)	12,253,803
Algonquin Pipeline Upgrade (182)	11,918,150
Accumulated Amortization Operating Lease - Common (101)	7,158,859
Accrued Receivable Unbilled Long Term (182)	6,804,000
Interference Expense (182)	5,838,000
Auction Rate Debt Deferral (254)	5,536,346
Interference Expense (254)	4,030,000
OPEB Tax Capitalization	3,814,046
OPEB Out of Balance (228)	3,663,085
Superfund Liability - Common (242)	3,657,772
Pension Phase In (182)	3,500,000
Recovered Energy Costs (182)	3,235,857
Inside Gas Meter Reallocation Cost Deferral (182)	3,167,228
Overrecovered Unbilled Net (254)	3,034,000
Transco Heater Odorization Project (Meadowlands) (182)	2,844,000
ST Operating Lease Obligation - Common (224)	2,701,239
Deferral of Employer Payroll Taxes (236)	2,670,564
Management Variable Pay (254)	1,638,443
Deferred Income Plan - Common (228)	1,227,302
Rate Case EE and DM Programs Carrying Charge Defer (254)	1,094,972
Unamortized Loss on Reacquired Debt - Common (182)	871,058
Reserve for Restoration of Docks - Common (242)	558,250
Gas Penalties - Off Peak - (Gas Suppliers Refund) (254)	444,213
Customer Service System Exp True Up (254)	341,480
Sales and Use Tax Reserve - Common (236)	337,471
ERRP Interdept Rent Shortfall Recovery from Steam (182)	224,207
Gas in Storage Reconciliation (254)	198,426

CONSOLIDATED EDISON OF COMPANY OF NEW YORK, INC.  
CALCULATION OF STATE INCOME TAX - GAS  
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2021

	<u>Amount</u>
Plastic Fusion Remediation Program (254)	190,330
Deferred Cost Stray Voltage Inspection (253)	177,181
Finance Lease Right-Of-Use Asset - Common (101)	162,137
Oil to Gas Conversion (254)	142,370
Gas T&D Reconciliation (182)	135,453
Oil to Gas Conversion (182)	113,965
Building Meter Conversion Study (182)	108,094
NYISO Working Capital Fund Owed To Customer - Common (253)	100,563
Capitalize Lease Obligation - Common (242)	52,635
Climate Vulnerability Study - Common (182)	51,825
Interco Stock Based Compensation - Common (146)	46,575
Interest Rec RDM (174)	33,285
Interruptible Gas Collaborative (182)	24,000
Deferred Workers Compensation Recoveries (254)	22,673
Executive Incentive Plan - Common (242)	19,295
Gas Peak Demand Reduction Collaborative (182)	12,500
Interest Deferred POR Prm Cost (182)	3,837
18A General Assessment Refund 2017 to 2018 (254)	2,692
Other Current Liability - Common (242)	2,360
CATV Pole Attachment Rev - Common (254)	1,182
Hedging Realized and Deferred Loss (182)	901
Sale Of Air Rights - 47th Rd and 11th St LIC - Common (254)	281
Accrued Local Property Tax (236)	-
Other Regulatory Liabilities (254)	-
<b>Total Temporary Additions:</b>	<b><u>346,251,408</u></b>

**TEMPORARY DEDUCTIONS**

Pension (182)	(89,552,500)
Revenue Decoupling Mechanism (174)	(57,387,301)
Gas Service Line Deferral (182)	(42,014,186)
Federal Tax Reform Transition Period (254)	(31,602,683)
Pension Funding (228)	(29,534,436)
New Efficiency New York (182)	(29,276,481)
Rate Case Pension Defer (182)	(25,974,872)
Pension Book Capitalization Reversal	(23,045,205)
Pipeline Refund (254)	(21,036,906)
OPEB (182)	(14,963,255)
Gas Service Line Recovered through MRA (182)	(14,584,393)
Revenue Decoupling Mechanism (254)	(10,660,148)
Deferred Fuel (254)	(8,111,098)
LT Operating Lease Obligation - Common (227)	(7,599,737)

CONSOLIDATED EDISON OF COMPANY OF NEW YORK, INC.  
CALCULATION OF STATE INCOME TAX - GAS  
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2021

	<u>Amount</u>
Property Tax Prepayments NYC - Common (165)	(7,395,074)
Accrued Management Bonus - Common (242)	(6,401,514)
Superfund Liability (182)	(5,931,915)
Rate Case Incentives (186)	(5,590,326)
Gas Compliance Settlement (254)	(4,006,168)
OPEB Cost Retiree - Funding v. Expense - Common (228)	(3,752,256)
Floral Park Incident Reserve (254)	(3,663,464)
East Harlem Incident - Fire Dept. Funding (254)	(3,470,086)
Refundable Energy Costs (242)	(3,235,857)
Negative Revenue Adjustments (254)	(3,178,000)
Stock Compensation - Common (242)	(2,866,052)
Operating Lease Right-Of-Use Asset - Common (101)	(2,690,236)
BQDM & Rev Demo Carrying Charge Deferral (254)	(1,483,524)
OPEB Book Capitalization Reversal	(1,444,367)
Interruptible Sales Credit (254)	(1,387,869)
R&D Reconciliation (254)	(1,309,592)
Prepaid Insurance - Common (165)	(987,811)
Low Income Credit Reconciliation (174)	(803,704)
System Benefit Charges (182)	(802,045)
Credit & Collection Deferral (254)	(770,404)
Accrued Vacation Pay - Common (242)	(694,389)
Interco Stock Based Compensation Payable - Common (234)	(590,867)
POR C&C RY 1 (182)	(380,373)
Rate Case Opeb Defer (182)	(356,414)
Interest on Rate Case Deferral (254)	(339,287)
Plastic Fusion Deferral (182)	(319,163)
POR Credit And Collections Liability (254)	(309,676)
Additional 18A Assessment (254)	(309,250)
MTA Business Tax Surcharge (182)	(291,684)
Supply Related Charge Deferral (254)	(262,304)
Gas Demand Response Pilot Program Deferral (182)	(216,753)
MTA Grt Prior (182)	(210,425)
Capitalize Lease Obligation - Common (227)	(138,287)
Gas Rate Case Pipe Def-03-g-1671 (254)	(123,000)
Miscellaneous Temporary Adjustment	(112,849)
Deposit Rec From ISO - Common (186)	(100,563)
Smart Solutions Customer Programs Costs (182)	(89,977)
Divested Stations - Unauthorized Gas Use Charge (254)	(73,550)
IRS Audit Recovery - Common (182)	(66,371)
Sales Tax Refunds - Common (254)	(56,878)
Repair Allowance Interest (254)	(42,083)

CONSOLIDATED EDISON OF COMPANY OF NEW YORK, INC.  
CALCULATION OF STATE INCOME TAX - GAS  
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2021

	<u>Amount</u>
Deferred Rent NYC NFMR Vaults Asset (186)	(40,855)
Management Audit - Common (182)	(37,848)
New York Facilities National Grid Agreement (254)	(31,995)
Deferred Credits - Insurance Reimbursements - Common (254)	(24,218)
Oil to Gas Conversion - Common (254)	(22,680)
Property Tax Refund (254)	(20,750)
FELIX Settlement (254)	(20,635)
Non-Pipelines Alternative Recovered Through MRA (182)	(19,020)
Supp Defined Contrib Plan - Common (228)	(18,363)
Interest on WTC (254)	(15,900)
Gas Leak Prone Pipe and Backlog Deferral (182)	(8,950)
Sale Of Air Rights- 282 Exterior St Bronx - Common (254)	(8,656)
Property Tax Reduction Cost To Achieve - Common (182)	(7,187)
ST Finance Lease Obligation - Common (224)	(5,902)
Brooklyn Queens Demand Management Program - Common (182)	(4,993)
Sale of Property (254)	(4,968)
Sale of Property - Common (182)	(4,761)
Environmental Cost (254)	(2,360)
Provision for Deferred Compensation - Common (242)	(715)

**Total Temporary Deductions:** (471,898,360)

**FLOW-THROUGH**

Bad Debts - Common (144)	31,060,949
COVID-19 Deferrals (182)	(25,860,967)
GAC GCR Interest Overcollection (254)	147,143
Injuries & Damages Reserve - Common (228)	1,035,819
Injuries & Damages Reserve - Common (254)	840,014
Injuries & Damages Reserve FT - Common (182)	13,476
Injury and Damage Receivable Noncurrent - Common (183)	560,979
Interest on Interruptible Sales Credit (254)	(65,711)
Loss on Reaquired Preferred Stock (182)	146,514
Property Tax Adjustment (Lien Date) - (165) - FT	(10,733)

**Total for Flow-Through:** 7,867,484

**PT PROPERTY STATE**

Accelerated Tax Depr-New York-Norm	(323,638,087)
Accelerated Tax Depr-New York-Norm-Common	(10,301,900)
Accrued Bonus-New York-Norm	(4,994,795)
AFUDC Debt-New York-Norm	(3,388,978)
AFUDC Debt-New York-Norm-Common	(137,465)



CONSOLIDATED EDISON OF COMPANY OF NEW YORK, INC.  
CALCULATION OF STATE INCOME TAX - GAS  
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2021

	<u>Amount</u>
AFUDC Equity-New York-FT	(3,919,286)
AFUDC Equity-New York-Norm	12,552
AFUDC Equity-New York-Norm-Common	51,929
Capitalized Software-New York-Norm	22
Capitalized Software-New York-Norm-Common	2,378,019
CIAC-New York-Norm	11,317,226
CIAC-New York-Norm-Common	(4,882)
Cost of Removal-New York-Norm	55,419,303
Cost of Removal-New York-Norm-Common	(1,978,095)
Credits and Incentives-New York-Norm-Common	1,689
Expensed Software-New York-Norm-Common	(793,822)
Materials and Supplies-New York-Norm	(1,922,801)
Misc Other-New York-Norm	(1,551,209)
Misc Other-New York-Norm-Common	(18,747)
MSC-New York-Norm	(18,715,933)
MSC-New York-Norm-Common	2,160
OPEB-New York-Norm	(836,529)
Payroll Tax Pensions Health-New York-Norm	(534,338)
Payroll Tax Pensions Health-New York-Norm-Common	2,839
Pension Book Diff-New York-Norm	(21,073,731)
Pension Book Diff-New York-Norm-Common	(9,788)
Repair Allowance-New York-Norm	3,097,180
Sales and Comp Use Tax-New York-Norm	3,000
Sales and Comp Use Tax-New York-Norm-Common	1,183
Tax Capitalized Interest-New York-Norm	5,654,676
Tax Capitalized Interest-New York-Norm-Common	(89,895)
Tax Cost Var - Ind Contra-New York-Norm	(8,750)
Tax Cost Var - Invol Con-New York-Norm	5
Tax Repair Expense-New York-Norm	1,739,815
Vacation Pay Accrual-New York-Norm	(28,841)
<b>Total for PT Property State:</b>	<b><u>(314,266,274)</u></b>

**PT PROPERTY CWIP**

AFUDC Debt-PT Reversal-CWIP	3,512,391
AFUDC Debt-PT Reversal-CWIP-Common	284,472
AFUDC Equity-PT Reversal-CWIP	4,000,640
AFUDC Equity-PT Reversal-CWIP-Common	328,163
Cap Interest-PT Reversal-CWIP	(6,482,269)
Cap Interest-PT Reversal-CWIP-Common	(513,077)
CIAC-PT Reversal-CWIP	(16,577,541)
	-
<b>Total for PT Property CWIP:</b>	<b><u>(15,447,221)</u></b>

CONSOLIDATED EDISON OF COMPANY OF NEW YORK, INC.  
CALCULATION OF STATE INCOME TAX - GAS  
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2021

	<u>Amount</u>
<b><u>CWIP INCURRED</u></b>	
AFUDC Debt-Incurred-CWIP	(3,407,303)
Cap Interest-Incurred-CWIP	7,910,303
CIAC-Incurred-CWIP	8,346,483
<b>Total for CWIP Incurred:</b>	<b><u>12,849,483</u></b>
<b>STATE TAXABLE INCOME - ELECTRIC</b>	<b>\$ 61,903,372</b>
Statutory State Rate	
Statutory MTA Rate**	
x Statutory Tax Rate	
Current State Tax before adjustments	5,176,650
Less Current MTA - Deferred	(1,152,930)
Current State Tax Expense per Provision	4,023,719
Amortization of Recoverable MTA	391,027
Carryforward Losses	(2,705,231)
Prior Period / Other Adjustments	(2,152,151)
<b><u>Total Current State Tax</u></b>	<b><u>(442,635)</u></b>
Temporary Adjustments (above)	434,643,480
Statutory Tax Rate	
Deferred State Income Tax	36,346,921
Less Deferred MTA	(8,095,095)
State ITC Amortization	(816)
Amortization of Excess Deferred State Income Taxes & MTA	886,977
Carryforward Losses	2,705,231
Prior Period / Other Adjustments	(725,620)
<b><u>Total Deferred State Tax</u></b>	<b><u>31,117,598</u></b>
<b><u>Total State Income Tax Expense</u></b>	<b><u>\$ 30,674,963</u></b>

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
HISTORIC BOOK COST OF UTILITY PLANT - GAS  
AS OF DECEMBER 31, 2017, 2018, 2019, 2020 AND SEPTEMBER 30, 2021  
(Thousands of Dollars)

Account No.	2017	2018	2019	2020	September 30, 2021
101 <u>Gas Plant in Service</u>					
<u>Natural Gas Storage Plant</u>					
360 Land and Land Rights	\$ 245	\$ 245	\$ 245	\$ 245	\$ 245
361 Structures and Improvements	15,409	25,194	25,258	37,701	38,607
362 Gas Holders	17,351	17,241	17,203	17,203	17,203
363 Purification Equipment	2,080	2,080	2,080	2,080	3,058
363.1 Liquefaction Equipment	5,361	5,362	5,362	5,362	4,862
363.2 Vaporizing Equipment	11,181	11,100	11,131	11,131	21,554
363.3 Compressor Equipment	7,467	8,137	8,161	8,165	8,165
363.4 Measuring and Regulating Equipment	2,125	2,125	2,125	2,125	2,125
363.5 Other Equipment	29,870	25,156	25,133	41,469	43,093
Total	<u>91,089</u>	<u>96,639</u>	<u>96,698</u>	<u>125,481</u>	<u>138,911</u>
<u>Transmission Plant</u>					
365.1 Land and Land Rights	420	420	420	420	420
366 Structures and Improvements	32,077	61,682	69,341	69,509	68,325
367 Mains	535,858	577,133	600,914	619,912	771,454
368 Compressor Station Equipment	5,938	5,938	5,938	5,938	5,938
369 Measuring and Regulating Station Equipment	168,838	179,138	197,977	202,677	210,266
371 Underground Gas Storage	1,239	1,239	1,239	1,239	1,239
Total	<u>744,370</u>	<u>825,551</u>	<u>875,829</u>	<u>899,696</u>	<u>1,057,642</u>
<u>Distribution Plant</u>					
374 Land and Land Rights	-	-	-	-	-
375 Structures and Improvements	-	-	-	-	-
376 Mains	3,706,420	4,199,735	4,754,316	5,104,103	5,706,962
377 Compressor Station Equipment	-	-	-	-	-
378 Measuring and Regulating Station Equipment	-	-	-	-	-
380 Services	2,275,462	2,441,015	2,597,228	2,729,940	2,837,888
381 Meter Purchases	182,839	209,808	242,350	279,270	290,759
382 Meter Installations	282,485	302,415	325,937	342,764	364,941
383 House Regulators Purchases	19,929	20,573	21,872	23,943	25,018
384 House Regulators Installations	16,251	16,264	16,269	16,280	16,269
303 Capitalized Software Distr. Plant	15,579	13,977	91,287	91,310	138,999
Total	<u>6,498,964</u>	<u>7,203,786</u>	<u>8,049,259</u>	<u>8,587,611</u>	<u>9,380,837</u>
<u>General Plant</u>					
397 Communication Equipment	-	-	-	15,006	26,982
Total	<u>-</u>	<u>-</u>	<u>-</u>	<u>15,006</u>	<u>26,982</u>
Grand Total - Gas Plant in Service	<u>\$ 7,334,423</u>	<u>\$ 8,125,976</u>	<u>\$ 9,021,787</u>	<u>\$ 9,627,793</u>	<u>\$ 10,604,371</u>

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
HISTORIC BOOK COST OF UTILITY PLANT - GAS  
AS OF DECEMBER 31, 2017, 2018, 2019, 2020 AND SEPTEMBER 30, 2021  
(Thousands of Dollars)

Account No.	2017	2018	2019	2020	September 30, 2021
118.1 <u>Common Utility Plant in Service*</u>					
<u>General Plant</u>					
303 Capitalized Software	\$ 83,024	\$ 116,423	\$ 131,792	\$ 156,502	\$ 172,254
389 Land and Land Rights	4,555	4,880	4,880	4,880	4,880
390 Structures and Improvements	168,615	177,112	183,724	193,610	202,953
391 Office Furniture and Equipment	73,135	76,789	80,838	89,924	93,829
392 Transportation Equipment	55,449	57,643	70,048	81,195	84,845
393 Stores Equipment	1,201	1,239	1,151	1,151	1,160
394 Tools, Shop and Garage Equipment	18,487	19,251	19,641	20,183	20,426
395 Laboratory Equipment	17,856	18,136	18,626	19,109	19,120
396 Power Operated Equipment	127	125	122	121	119
397 Communication Equipment	35,406	36,898	42,260	50,627	61,118
398 Miscellaneous Equipment	9,356	9,999	10,259	10,503	10,631
Total	<u>467,212</u>	<u>518,495</u>	<u>563,342</u>	<u>627,805</u>	<u>671,336</u>
<u>Construction Work in Progress</u>					
Gas	375,854	521,411	566,827	845,936	617,868
118.1 Common*	<u>34,185</u>	<u>46,166</u>	<u>47,249</u>	<u>49,238</u>	<u>53,467</u>
Total	<u>265,385</u>	<u>169,108</u>	<u>293,810</u>	<u>410,099</u>	<u>551,074</u>
Grand Total - Electric Plant in Service	<u>\$ 24,123,388</u>	<u>\$ 25,233,447</u>	<u>\$ 26,657,882</u>	<u>\$ 27,940,181</u>	<u>\$ 29,142,017</u>

\* 17% of Common Utility Plant is applicable to Gas Operations

EXHIBIT \_\_ (AP-G1)  
SCHEDULE 13

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
ACCUMULATED PROVISION FOR DEPRECIATION OF GAS PLANT IN SERVICE  
AS OF DECEMBER 31, 2018, 2019, 2020 AND SEPTEMBER 30, 2021  
(Thousands of Dollars)

PSC Account No.	2018	December 31, 2019	2020	September 30, 2021
108				
	<u>Gas Plant in Service</u>			
	<u>Other Storage Plant</u>			
Land and Land Rights	\$ -	\$ -	\$ -	\$ -
Structures And Improvements	5,580	6,456	7,295	8,003
Gas Holders	21,818	22,079	22,384	22,743
Purification Equipment	39	91	26	101
Liquefaction Equipment	324	497	765	462
Vaporizing Equipment	3,325	3,034	2,998	3,525
Compressor Equipment	5,276	5,557	5,899	6,156
Measuring And Regulating Equipment	1,195	1,290	1,393	1,470
Other Equipment	13,048	13,283	14,836	16,530
Total	<u>50,605</u>	<u>52,287</u>	<u>55,596</u>	<u>58,990</u>
	<u>Transmission Plant</u>			
Land and Land Rights	-	-	-	-
Structures And Improvements	4,737	6,560	7,897	7,116
Mains & Tunnels	185,613	195,531	209,396	221,441
Compressor Station Equipment	9,453	9,671	9,394	9,187
Measuring And Regulating Equipment	38,163	41,718	46,072	50,068
Total	<u>237,966</u>	<u>253,480</u>	<u>272,759</u>	<u>287,812</u>
	<u>Distribution Plant</u>			
Mains	638,205	696,765	778,079	853,155
Services	497,325	509,616	544,750	574,610
Meters	33,393	30,297	30,014	26,947
Meter Installations	45,513	39,379	39,175	38,561
AMI meters	64	283	817	1,509
AMI meters install.	143	857	2,456	4,322
House Regulators	(7,218)	(6,716)	(6,159)	(5,711)
House Regulators Installations	5,306	5,693	6,054	6,325
Capitalized Software-Distr Plant	9,549	10,051	23,800	38,690
Total	<u>1,222,280</u>	<u>1,286,225</u>	<u>1,418,986</u>	<u>1,538,408</u>
	<u>General Plant</u>			
Communication EQ NG Detector			1,405	4,624
Communication EQ				10
Total	<u>0</u>	<u>0</u>	<u>1,405</u>	<u>4,634</u>
118				
Retirement Work-in-Progress	-	-		
Total Accum. Provision for Depreciation - Gas	<u>\$ 1,510,851</u>	<u>\$ 1,591,992</u>	<u>\$ 1,748,746</u>	<u>\$ 1,889,844</u>

**Consolidated Edison Company of New York, Inc**  
Index of Schedules  
Initial Filing  
Gas Rate Base

Average Twelve Months Ended September 2021 and Average Twelve Months Ending December 31, 2023, 2024  
and 2025

SCHEDULE TITLE OF SCHEDULE

- |   |  |
|---|--|
| 1 | Rate Base  |
| 2 | Net Plant  |
| 3 | Working Capital  |
| 4 | Regulatory Deferral                                    |
| 5 | Accumulated Deferred Tax                               |
| 6 | Computation of Earnings Base/Capitalization Adjustment |

**Consolidated Edison Company of New York, Inc**

Initial Filing  
Rate Base - Gas  
Case 22-G-xxxx

Average Twelve Months Ended September 2021 and Average Twelve Months Ending December 31, 2023, 2024 and 2025  
(\$000's)

Line No.	For The Twelve Months Ending September 30, 2021	RY 1			RY 2		RY 3		Line No.	
		Initial Normalizing Adjustment	Initial Update	As Updated	Rate Year Adjustments	Rate Year as Adjusted	Rate Year Adjustments	Rate Year as Adjusted		
1	<b>Utility Plant</b>								1	
2	Gas Plant In Service	\$ 9,931,241	\$ -	\$ 2,749,727	\$ 12,680,968	\$ 1,103,740	\$ 13,784,707	\$ 1,188,704	\$ 14,973,411	2
3	Common Utility Plant (Gas Allocation)	617,073	-	101,191	718,264	157,108	875,371	53,891	929,262	3
4	Total	10,548,314	-	2,850,918	13,399,232	1,260,847	14,660,079	1,242,594	15,902,673	4
5	<b>Utility Plant Reserves:</b>									5
6	Accumulated Reserve for Depreciation - Plant in Service	(1,795,825)	-	(554,844)	(2,350,669)	(295,185)	(2,645,854)	(317,553)	(2,963,407)	6
7	Accumulated Reserve for Depreciation - Common Plant (Gas Allocation)	(210,795)	-	(33,729)	(244,524)	(21,325)	(265,848)	(18,957)	(284,806)	7
8	Total	(2,006,620)	-	(588,573)	(2,595,193)	(316,509)	(2,911,702)	(336,510)	(3,248,213)	8
9	Net Plant	8,541,694	-	2,262,345	10,804,039	944,338	11,748,377	906,084	12,654,460	9
10	Non-Interest Bearing CWIP	624,925	-	-	624,925	-	624,925	-	624,925	10
11	Working Capital - Materials/Supplies, Prepayment and Cash Working Capital	132,297	427	58,075	190,800	19,402	210,202	14,360	224,562	11
12	Unamortized Premium & Discount	31,175	-	(974)	30,201	(538)	29,663	(345)	29,318	12
13	Unamortized Preferred Stock Expense	3,061	-	(329)	2,732	(146)	2,586	(146)	2,440	13
14	Customer Advance Construction	(2,482)	-	-	(2,482)	-	(2,482)	-	(2,482)	14
15	Net Deferrals / Credits from Reconciliation Mechanisms	118,729	-	77,646	196,375	47,132	243,507	57,630	301,137	15
16	<b>Accumulated Deferred Income Taxes</b>									16
17	Accumulated Deferred Federal Income Taxes	(1,606,033)	-	(71,149)	(1,677,182)	(36,276)	(1,713,457)	(52,408)	(1,765,865)	17
18	Accumulated Deferred State Income Taxes	(207,513)	-	(51,957)	(259,470)	(22,302)	(281,772)	(23,766)	(305,538)	18
19	Total	(1,813,546)	-	(123,105)	(1,936,651)	(58,578)	(1,995,229)	(76,174)	(2,071,404)	19
20	Average Rate Base	7,635,853	427	2,273,658	9,909,938	951,609	10,861,547	901,409	11,762,956	20
21	Earnings Base Capitalization Adjustment to Rate Base	142,667			142,667		142,667		142,667	21
22	Pension/OPEB Reduction		(16,201)		(16,201)		(16,201)		(16,201)	22
23	Former Employees/Contractor Proceeding Rate Base Reduction		(4,019)		(4,019)	193	(3,826)	193	(3,633)	23
24	2018 Sales and Use Tax Refund		(2,330)		(2,330)	130	(2,200)	128	(2,072)	24
25	Total Average Rate Base	\$ 7,778,520	\$ (22,123)	\$ 2,273,658	\$ 10,030,055	\$ 951,932	\$ 10,981,987	\$ 901,730	\$ 11,883,717	25

**Consolidated Edison Company of New York, Inc**

Initial Filing

Average Gas Net Plant Summary

Case 22-G-xxxx

Average Twelve Months Ended September 2021 and Average Twelve Months Ending December 31, 2023, 2024 and 2025

(\$000's)

<u>Line</u> <u>No.</u>	<u>Description</u>	RY 1			RY 2		RY 3		<u>Line</u> <u>No.</u>	
		For The Twelve Months Ending September 30, 2021	Initial Normalizing Adjustment	Initial Update	As Updated	Rate Year Adjustments	Rate Year as Adjusted	Rate Year Adjustments		Rate Year as Adjusted
1	<u>Utility Plant</u>								1	
2	Gas Plant In Service	\$ 9,931,241		\$ 2,749,727	\$ 12,680,968	\$ 1,103,740	\$ 13,784,707	\$1,188,704	\$14,973,411	2
3	Common Utility Plant (Gas Allocation)	617,073		101,191	718,264	157,108	875,371	53,891	929,262	3
4	Total	10,548,314	-	2,850,918	13,399,232	1,260,847	14,660,079	1,242,594	15,902,673	4
5										5
6	<u>Utility Plant Reserves:</u>									6
7	Accumulated Reserve for Depreciation - Plant in Service	(1,795,825)		(554,844)	(2,350,669)	(295,185)	(2,645,854)	(317,553)	(2,963,407)	7
8	Accumulated Reserve for Depreciation - Common Plant (Gas Allocation)	(210,795)		(33,729)	(244,524)	(21,325)	(265,848)	(18,957)	(284,806)	8
9	Total	(2,006,620)	-	(588,573)	(2,595,193)	(316,509)	(2,911,702)	(336,510)	(3,248,213)	9
10										10
11	Net Plant	8,541,694	-	2,262,345	10,804,039	944,338	11,748,377	906,084	12,654,460	11
12										12
13	Non-Interest Bearing CWIP	624,925			624,925		624,925		624,925	13



**Consolidated Edison Company of New York, Inc**

Initial Filing  
Working Capital - Gas  
Case 22-G-xxxx

Average Twelve Months Ended September 2021 and Average Twelve Months Ending December 31, 2023, 2024 and 2025  
(\$000's)

Line No.	RY 1				RY 2		RY 3		Line No.
	For The Twelve Months Ending September 30, 2021	Initial Normalizing Adjustment	Initial Update	As Updated	Rate Year Adjustments	Rate Year as Adjusted	Rate Year Adjustments	Rate Year as Adjusted	
1	\$ -			\$ -		\$ -		\$ -	1
2	22,198		1,845	24,043	824	24,867	852	25,718	2
3									3
4	48,442		50,305	98,747	15,407	114,154	16,973	131,127	4
5	1,403		117	1,519	52	1,571	54	1,625	5
6	6,180		514	6,693	229	6,922	237	7,160	6
7	4,336		360	4,697	161	4,858	166	5,024	7
8	1,851		154	2,005	69	2,073	71	2,144	8
9	450		37	488	17	504	17	522	9
10	2,829		235	3,064	105	3,169	109	3,278	10
11	-		-	-	-	-	-	-	11
12	65,491	-	51,722	117,213	16,040	133,252	17,627	150,880	12
13									13
14	865,651	(5,086)	454,658	1,315,223	11,391	1,326,614	(29,182)	1,297,431	14
15									15
16	484,492	-	420,950	905,442	(11,230)	894,212	2,697	896,909	16
17	15,209	-	(2,315)	12,895	2,312	15,207	1,075	16,282	17
18	295	-	(41)	254	-	254	-	254	18
19	4	-	-	4	-	4	-	4	19
20	5,212	(5,212)	-	-	-	-	-	-	20
21	3,293	(3,293)	-	-	-	-	-	-	21
22	-	-	-	-	-	-	-	-	22
23	274	-	-	274	-	274	-	274	23
24	xxx			-		-		-	24
25	356,872	3,419	36,064	396,355	20,309	416,664	(32,955)	383,709	25
26	44,609	427	4,508	49,544	2,539	52,083	(4,119)	47,964	26
27									27
28	31,175		(974)	30,201	(538)	29,663	(345)	29,318	28
29									29
30	3,061		(329)	2,732	(146)	2,586	(146)	2,440	30
31									31
32	(2,482)			(2,482)		(2,482)		(2,482)	32
33	\$ 164,051	\$ 427	\$ 56,772	\$ 221,251	\$ 18,718	\$ 239,968	\$ 13,869	\$ 253,838	33

**Consolidated Edison Company of New York, Inc**

Initial Filing

Regulatory Deferrals - Gas

Case 22-G-xxxx

Average Twelve Months Ended September 2021 and Average Twelve Months Ending December 31, 2023, 2024 and 2025  
(\$000's)

Line No.	Initial Update	As Updated	RY 2		RY 3		Line No.	
			Rate Year Adjustments	Rate Year as Adjusted	Rate Year Adjustments	Rate Year as Adjusted		
1		\$ (148)	\$ (148)	\$ 59	\$ (89)	\$ 59	\$ (30)	1
2		(99)	(99)	39	(60)	39	(21)	2
3		(27,891)	(27,891)	11,156	(16,735)	11,157	(5,578)	3
4		(78)	(78)	31	(47)	31	(16)	4
5		4	4	(2)	2	(1)	1	5
6		105,876	105,876	55,526	161,402	68,448	229,850	6
7		(1,471)	(1,471)	589	(882)	589	(293)	7
8		616	616	(247)	369	(247)	122	8
9		(143)	(143)	57	(86)	57	(29)	9
10		1,023	1,023	(409)	614	(409)	205	10
11		(6,196)	(6,196)	2,478	(3,718)	2,478	(1,240)	11
12		1,279	1,279	(512)	767	(512)	255	12
13		(2,326)	(2,326)	931	(1,395)	931	(464)	13
14		101	101	(40)	61	(41)	20	14
15		22,719	22,719	(9,088)	13,631	(9,088)	4,543	15
16		(285)	(285)	114	(171)	114	(57)	16
17		(1,925)	(1,925)	770	(1,155)	770	(385)	17
18		(824)	(824)	329	(495)	329	(166)	18
19		6,361	6,361	1,280	7,641	(1,142)	6,499	19
20		64	64	(26)	38	(26)	12	20
21		39,154	39,154	(15,662)	23,492	(15,662)	7,830	21
22		(3,413)	(3,413)	1,365	(2,048)	1,365	(683)	22
23		18,587	18,587	(2,186)	16,401	(2,186)	14,215	23
24		(1,340)	(1,340)	536	(804)	536	(268)	24
25		(155)	(155)	62	(93)	62	(31)	25
26		496	496	(199)	297	(199)	98	26
27		(328)	(328)	132	(196)	131	(65)	27
28		(113)	(113)	45	(68)	45	(23)	28
29		(4)	(4)	2	(2)	1	(1)	29
30		(1)	(1)	0	(1)	1	-	30
38		-	-	-	-	-	-	38
39	<b>Subtotal</b>	<b>149,538</b>	<b>149,538</b>	<b>47,132</b>	<b>196,670</b>	<b>57,630</b>	<b>254,300</b>	39
40	<u>Less: (Items reflected separately or excluded from Rate Base)</u>							40
41			-		-		-	41
42								42
43								43
44	<u>Add: (Items not from AP-E3 Sch 4)</u>							44
45	Unbilled Revenue Taxes (Excluded Deferred Fuel)	45,598	45,598		45,598		45,598	45
46	Gas Stored Underground - NonCurrent FERC 1171	1,239	1,239		1,239		1,239	46
47								47
48	<b>Total Deferred Balance</b>	<b>196,375</b>	<b>196,375</b>	<b>47,132</b>	<b>243,507</b>	<b>57,630</b>	<b>301,137</b>	48

**Consolidated Edison Company of New York, Inc**

Initial Filing  
Accumulated Deferred Tax - Gas  
Case 22-G-xxxx

Average Twelve Months Ended September 2021 and Average Twelve Months Ending December 31, 2023, 2024 and 2025  
(\$'000's)

Line No.	Accumulated Deferred Federal Income Taxes (Net of SIT)	RY 1		RY 2		RY 3		Line No.		
		For The Twelve Months Ending September 30, 2021	Initial Normalizing Adjustment	Initial Update	As Updated	Rate Year Adjustments	Rate Year as Adjusted		Rate Year Adjustments	Rate Year as Adjusted
1	Statutory Tax Depreciation MACRS - Normalized	\$ (1,378,803)		\$ (144,772)	\$ (1,523,575)	\$ (34,584)	\$ (1,558,158)	\$ (48,902)	\$ (1,607,060)	1
2	Change of Accounting Section 263A	(133,616)		40,215	(93,401)	(3,243)	(96,644)	(3,082)	(99,726)	2
3	Repair Allowance	(67,869)		29,428	(38,441)	817	(37,625)	844	(36,780)	3
4	Cost of Removal	3,872		(3,978)	(106)	(1,377)	(1,483)	(1,547)	(3,030)	4
5	Materials and Supplies Deduction (Tang Prop Regs)	(22,583)		1,278	(21,305)	(1,724)	(23,030)	(1,670)	(24,699)	5
6	Vested Vacation (nonplant portion)	2,399		200	2,599	89	2,688	92	2,780	6
7	Prepaid Insurance Expenses	(899)		(75)	(974)	(33)	(1,007)	(35)	(1,042)	7
8	Unbilled Revenues	4,252		(0)	4,252	-	4,252	-	4,252	8
9	Call Premium	(561)		0	(561)	-	(561)	-	(561)	9
10	EDFIT Non Property	(12,225)		6,554	(5,671)	3,780	(1,890)	1,890	-	10
11	Net Accumulated Deferred Federal Income Taxes	\$ (1,606,033)	\$ -	\$ (71,149)	\$ (1,677,182)	\$ (36,276)	\$ (1,713,457)	\$ (52,408)	\$ (1,765,865)	11
12										12
13										13
14	<u>Accumulated Deferred State Income Taxes</u>									14
15	Statutory Tax Depreciation - Normalized	\$ (151,056)		\$ (60,005)	\$ (211,061)	\$ (27,546)	\$ (238,608)	\$ (29,904)	\$ (268,512)	15
16	Change of Accounting Section 263A	(29,009)		(1,963)	(30,972)	(1,072)	(32,045)	(1,016)	(33,061)	16
17	Repair Allowance	(13,434)		582	(12,852)	281	(12,572)	291	(12,281)	17
18	Cost of Removal	(10,391)		11,122	731	6,588	7,319	7,395	14,714	18
19	Materials and Supplies Deduction (Tang Prop Regs)	(5,340)		(1,734)	(7,074)	(570)	(7,645)	(552)	(8,196)	19
20	Vested Vacation (nonplant portion)	794		66	860	30	890	31	920	20
21	Prepaid Insurance Expenses	(298)		(24)	(322)	(11)	(333)	(11)	(345)	21
22	Unbilled Revenues	1,407		0	1,407	-	1,407	-	1,407	22
23	Call Premium	(186)		0	(186)	-	(186)	-	(186)	23
24										24
25	Net Accumulated Deferred State Income Taxes	\$ (207,513)	\$ -	\$ (51,957)	\$ (259,470)	\$ (22,302)	\$ (281,772)	\$ (23,766)	\$ (305,538)	25
26										26
27	Total	\$ (1,813,546)	\$ -	\$ (123,105)	\$ (1,936,651)	\$ (58,578)	\$ (1,995,229)	\$ (76,174)	\$ (2,071,404)	27

**Consolidated Edison Company of New York, Inc**  
Rate Base & EBCap Adjustment Calculation Summary  
For The Twelve Months Ending September 30, 2021  
(\$000's)

	Actual			
	Electric	Gas	Steam	Total
<b>Rate Base Calculation (Asset/(Liab))</b>				
<u>Utility Plant</u>				
Plant In Service	31,326,400	9,931,241	2,677,981	43,935,622
Plant Held For Future Use	82,400	-	-	82,400
Common Utility Plant	3,051,517	625,009	-	3,676,526
Oracle Liability Offset	(66,862)	(7,937)	-	(74,799)
Subtotal	34,393,454	10,548,314	2,677,981	47,619,749
<u>Utility Plant Reserves:</u>				
Accumulated Reserve for Depreciation - Plant in Service	(7,458,816)	(1,795,825)	(843,976)	(10,098,617)
Accumulated Reserve for Depreciation - Common Plant	(1,029,173)	(210,795)	-	(1,239,968)
Subtotal	(8,487,989)	(2,006,620)	(843,976)	(11,338,585)
Net Plant Subtotal	25,905,465	8,541,694	1,834,005	36,281,164
Non-Interest Bearing CWIP	856,530	624,925	73,718	1,555,173
Working Capital	1,009,285	132,297	91,498	1,233,080
Unamortized Premium & Discount (1810, 1890 & 2250 to 2270)	151,672	31,175	12,607	195,454
Preferred Stock Redemption (15235/1823)(Steam 24577/2540)	16,157	3,061	2,314	21,532
Customer Advance Construction (FERC 2520)	(6,428)	(2,482)	(2,551)	(11,461)
Net Deferrals / Credits from Reconciliation Mechanisms	368,137	118,729	3,791	490,657
<u>Accumulated Deferred Income Taxes</u>				
Accumulated Deferred Income Taxes (FERC 2820)	(5,308,138)	(1,808,229)	(446,868)	(7,563,235)
Non Plant FIT	(12,593)	(7,034)	-	(19,627)
Non Plant SIT	17,589	1,717	-	19,306
ADT Subtotal	(5,303,142)	(1,813,546)	(446,868)	(7,563,556)
<b>Rate Base Before Adjustment</b>	<b>22,997,676</b>	<b>7,635,853</b>	<b>1,568,514</b>	<b>32,202,043</b>
Rate Base Allocation Percentage	71.21%	23.95%	4.84%	100.00%
<b>Capitalization Calculation (Liab/(asset)):</b>				
Common Equity Less OCI				15,182,148
Long - Term Debt				17,140,733
Customer Deposits				284,257
Short Term Debt - Commercial Paper (base on daily average)				1,097,766
Temporary Cash Investments - (base on daily average)				(34,940)
Non-Utility Property				(1,803)
Net Receivables / Payables From Subsidiaries (FERC 1450, 1460, 2340)				(140,087)
Other Special deposit (FERC 1340)				(1,490)
Other Investments (FERC 1240)				(2,305)
Investment in Subsidiaries (FERC 1231)				(650)
Divestiture Proceeds (122608 TCC Proceeds)				(15,077)
Subtotal	23,862,221	8,023,727	1,622,604	33,508,552
Accumulated Deferred I.T.C	4,463	9,787	3,395	17,645
CWIP Interest Bearing	(442,118)	(201,650)	(14,785)	(658,553)
				-
Other Interest Bearing Items	(2,604)	(53,344)	(13,850)	(69,798)
Interest Bearing Item Subtotal	(440,259)	(245,207)	(25,239)	(710,706)
Total Capitalization	23,421,962	7,778,520	1,597,365	32,797,846
Earnings Base Capitalization Adjustment to Rate Base	424,286	142,667	28,851	595,803

**Consolidated Edison Company of New York, Inc**  
Index of Schedules  
Initial Filing  
Gas Operating Income  
For The Twelve Months Ended December 31, 2023, 2024 and 2025

<u>SCHEDULE</u>	<u>TITLE OF SCHEDULE</u>
1	Major Cost Drivers
2	Revenue Requirement
3	Sales Delivery at Current Rates - Gas
4	Amortization of Regulatory Deferrals - Gas
5	Other Operating Revenues - Gas
6	Gas Operation and Maintenance Expenses
7.1	Plant Depreciation Expense Current - Gas
7.2	Plant Depreciation Expense Proposed Rates - Gas
8	Taxes Other Than Income Taxes - Gas
9	State Income Tax - Gas
10	Federal Income Tax - Gas
11	Interest Expense - Gas
12	Fund Requirements and Sources
13	Interest Coverage Ratios
14	General Inflation Factors
15	Labor Escalation
16	Adjustment Summary
17	Summary of Planned Update

**Consolidated Edison Company of New York, Inc**

Revenue Requirement - Gas

Major Cost Drivers

(millions of dollars)

	<u>R Y 1</u>	
Infrastructure		
- Return on Rate Base @ current ROE	\$ 114	
- Depreciation on Plant Additions	<u>47</u>	
		\$ 161
Cost of Capital	<u>\$ 77</u>	\$ 77
Sales Revenues	<u>\$ 77</u>	\$ 77
Other Operating Revenues	<u>\$ 7</u>	\$ 7
O&M Expenses	<u>\$ 32</u>	\$ 32
Regulatory Amortizations	<u>(1)</u>	\$ (1)
Book Depreciation Changes	<u>\$ 64</u>	\$ 64
Property and other taxes		
Property Taxes	\$ 75	
All Other Taxes	<u>(1)</u>	
		\$ 74
Income Taxes	<u>\$ 12</u>	\$ 12
		<u><u>\$ 503</u></u>

**Consolidated Edison Company of New York, Inc**

Revenue Requirement - Gas  
Major Cost Drivers  
(millions of dollars)

	RY1	RY2	RY3
Base Rate Increase - RY1	\$ 503		
Operating Revenues			
Sales Revenue (Net of Fuel & Revenue Taxes)		12	(9)
Other Operating Revenues		1	1
Subtotal (1)		<u>13</u>	<u>(8)</u>
Operating Expenses			
Operation & Maintenance Expense (excl. fuel)			
- Labor & General Escalations		13	14
- Pension and OPEBs		7	(49)
- All Other		-	1
Depreciation		43	34
Regulatory Amortizations		15	17
Property and Other Taxes		77	85
Return on Rate Base		84	80
Income Tax Expense		8	28
Subtotal (2)		<u>247</u>	<u>210</u>
Increase in Net Operating Expenses (2) - (1)		234	218
Net Rate Change	<u>\$ 503</u>	<u>\$ 234</u>	<u>\$ 218</u>

**Consolidated Edison Company of New York, Inc**  
Revenue Requirement  
Initial Filing  
Computation of Gas Revenue Requirement  
For The Twelve Months Ended December 31, 2023, 2024 and 2025  
(\$000's)

	RY1 Initially Filed	RY2	RY3
Gas Rate Base	\$ 10,030,055	\$ 10,981,987	\$ 11,883,717
Rate of Return	7.10%	7.11%	7.12%
Required Return	712,134	780,819	846,121
Income Available for Return	350,678	612,841	689,331
Deficiency	361,456	167,978	156,789
Retention Factor*	71.91%	71.91%	71.91%
Additional Revenue Requirement	<u>\$ 502,650</u>	<u>\$ 233,595</u>	<u>\$ 218,036</u>

\* Calculation of Retention Factor:

Additional Revenue		100.00%	\$ 502,650	\$ 233,595	\$ 218,036
Less: Revenue Taxes		2.5800%	12,991	6,037	5,635
Late Payment Charges Revenue		-0.4800%	(2,413)	(1,121)	(1,047)
Advertising Factor		0.0800%	402	187	174
Uncollectibles		0.4600%	2,312	1,075	1,003
Subtotal		97.3600%	489,358	227,417	212,271
Less: SIT on above @	6.5%	6.3300%	31,808	14,782	13,798
FIT on above @	21%	19.1200%	96,085	44,653	41,679
Retention Factor		<u>71.9100%</u>	<u>\$ 361,465</u>	<u>\$ 167,982</u>	<u>\$ 156,794</u>



**Consolidated Edison Company of New York, Inc.**  
Revenue Requirement  
Initial Filing  
Gas Operating Income, Rate Base & Rate of Return  
For The Twelve Months Ended December 31, 2023, 2024 and 2025  
(\$000's)

Ref	RY 1						RY 2				RY 3				
	For The Twelve Months Ending September 30, 2021		Initial Normalizing Adjustment	Initial Update	As Updated	Proposed Rate Increase	Rate Year as Adjusted for Proposed Rate Increase	Rate Year Adjustments	Rate Year As Adjusted	Proposed Rate Increase	Rate Year as Adjusted for Proposed Rate Increase	Rate Year Adjustments	Rate Year As Adjusted	Proposed Rate Increase	Rate Year as Adjusted for Proposed Rate Increase
	2021														
<b>Operating Revenues</b>															
Sales & Deliveries to Public	Sch 3	\$ 2,067,607	\$ 24,902	\$ 683,205	\$ 2,775,714	\$ 502,650	\$ 3,278,364	\$ 101	\$ 3,278,465	\$ 233,595	\$ 3,512,060	\$ (5,829)	\$ 3,506,231	\$ 218,036	\$ 3,724,267
Sales for Resale	Sch 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sales Revenues		2,067,607	24,902	683,205	2,775,714	502,650	3,278,364	101	3,278,465	233,595	3,512,060	(5,829)	3,506,231	218,036	3,724,267
Other Operating Revenues	Sch 5	196,722	(173,621)	10,791	33,892	2,413	36,305	550	36,855	1,121	37,976	719	38,696	1,047	39,743
Total Operating Revenues		2,264,329	(148,719)	693,996	2,809,606	505,063	3,314,669	652	3,315,320	234,716	3,550,036	(5,110)	3,544,926	219,083	3,764,009
<b>Operating Expenses</b>															
Purchased Power	Sch 6	484,492	-	420,950	905,442		905,442	(11,230)	894,212		894,212	2,697	896,909		896,909
Operations & Maintenance Expense	Sch 6	381,158	(5,086)	33,709	409,781	2,714	412,495	19,907	432,402	1,262	433,664	(33,142)	400,522	1,177	401,699
Depreciation	Sch 7.2	319,411	-	150,081	469,492		469,492	41,873	511,365		511,365	33,157	544,522		544,522
Regulatory Amortization	Sch 4	146	-	37,725	37,871		37,871	14,427	52,298		52,298	16,739	69,037		69,037
Taxes Other Than Income Taxes	Sch 8	467,707	(8,679)	136,984	596,012	12,991	609,003	74,769	683,772	6,037	689,809	82,380	772,189	5,635	777,824
Total Operating Expenses		1,652,915	(13,765)	779,449	2,418,598	15,705	2,434,303	139,745	2,574,049	7,299	2,581,348	101,831	2,683,179	6,812	2,689,991
Operating Income Before Income Taxes		611,415	(134,954)	(85,453)	391,008	489,358	880,366	(139,094)	741,272	227,417	968,689	(106,942)	861,747	212,271	1,074,018
<b>Income Taxes</b>															
New York State Income Taxes	Sch 9	75,325	-	(63,802)	11,523	31,808	43,331	(10,415)	32,916	14,782	47,698	(8,270)	39,428	13,798	53,225
Federal Income Taxes	Sch 10	30,676	-	(1,869)	28,807	96,085	124,892	(29,377)	95,515	44,653	140,168	(7,180)	132,988	41,679	174,668
Total Income Taxes		106,001	-	(65,671)	40,330	127,894	168,223	(39,793)	128,431	59,435	187,866	(15,450)	172,416	55,477	227,893
Operating Income		\$ 505,414	\$ (134,954)	\$ (19,782)	\$ 350,678	\$ 361,464	\$ 712,142	\$ (99,301)	\$ 612,841	\$ 167,982	\$ 780,823	\$ (91,491)	\$ 689,331	\$ 156,794	\$ 846,125
Gas Rate Base	AP G-2				\$ 10,030,055		\$ 10,030,055	\$ 951,932	\$ 10,981,987		\$ 10,981,987	\$ 901,730	\$ 11,883,717		\$ 11,883,717
Rate Of Return					<u>3.50%</u>		<u>7.10%</u>				<u>7.11%</u>				<u>7.12%</u>

**Consolidated Edison Company of New York, Inc**  
 Sales Delivery at Current Rates - Gas  
 Initial Filing  
 For The Twelve Months Ended December 31, 2023, 2024 and 2025  
 (\$000's)

	RY 1				RY 2		RY 3	
	For The Twelve Months Ending September 30, 2021	Initial Normalizing Adjustment	Initial Update	As Updated	Rate Year Adjustments	Rate Year as Adjusted	Rate Year Adjustments	Rate Year as Adjusted
	Sales Revenues	2,067,607	\$ 24,902	\$ 683,205	\$ 2,775,714	\$ 101	\$ 2,775,815	\$ (5,829)

**Consolidated Edison Company of New York, Inc**  
Amortization of Regulatory Deferrals - Gas  
Initial Filing  
(\$000's)

<u>Line</u> <u>No.</u>	<u>Regulatory Assets and Liabilities</u>	<u>Balance @</u> <u>09/30/2021</u>	<u>Projected</u> <u>Deferrals</u> <u>10/1/2021-</u> <u>12/31/2022</u>	<u>Amortization</u> <u>10/1/2021-</u> <u>12/31/2022</u>	<u>Projected</u> <u>Balance</u> <u>12/31/2022</u>	<u>RY1</u> <u>Deferral</u>	<u>RY 2</u> <u>Deferral</u>	<u>RY 3</u> <u>Deferral</u>	<u>RY1</u> <u>Amortization</u>	<u>RY2</u> <u>Amortization</u>	<u>RY3</u> <u>Amortization</u>	<u>Amortization</u> <u>Period</u>	<u>Line</u> <u>No.</u>
1	Additional 18A Assessment	(240)			(240)				80	80	80	3	1
2	AMI Customer Engagement	(160)			(160)				53	53	53	3	2
3	Carrying Charges (Net Plant Reconciliation)	(41,117)	(4,025)	(169)	(45,312)				15,104	15,104	15,104	3	3
4	Carrying Cost - SIR Deferred Balances	(125)	(42)	40	(127)				42	42	42	3	4
5	Customer Cash Flow Benefits - Bonus Depreciation	6			6				(2)	(2)	(2)	3	5
6	Energy Efficiency	30,757	93,207	(11,686)	112,279	81,493	119,564	142,706	(19,377)	(31,334)	(45,604)	10	6
7	Energy Efficiency and DM Programs Carrying Charge Deferral	(1,633)	(756)		(2,390)				797	797	797	3	7
8	Federal Tax Reform Transition Period	(6,889)		7,890	1,001				(334)	(334)	(334)	3	8
9	Former Employees/Contractor Proceeding	(232)			(232)				77	77	77	3	9
10	Interest on Deferrals	1,014	326	323	1,662				(554)	(554)	(554)	3	10
11	Interest Rate True-Up (Auction Rate / LT Debt)	(3,145)	(5,769)	(1,151)	(10,065)				3,355	3,355	3,355	3	11
12	Interference	4,911	19	(2,851)	2,079				(693)	(693)	(693)	3	12
13	Management Variable Pay	(3,405)	(374)		(3,779)				1,260	1,260	1,260	3	13
14	NYSIT Rate Change	164			164				(55)	(55)	(55)	3	14
15	Pensions/OPEBs	49,309	(12,631)	230	36,908				(12,303)	(12,303)	(12,303)	3	15
16	Prop Tax Refund City	(463)			(463)				154	154	154	3	16
17	Property Tax Deferrals	20,773	(15,040)	(8,860)	(3,127)				1,042	1,042	1,042	3	17
18	Sales and Use Tax Refund	(1,823)		483	(1,339)				446	446	446	3	18
19	SIR net of Shared Earnings	5,966	6,280	(5,524)	6,722	9,028	7,408	7,408	(5,250)	(7,720)	(10,189)	3	19
20	Building Meter Conversion Study	227		(123)	105				(35)	(35)	(35)	3	20
21	Gas Service Line	29,176	42,400	(7,968)	63,608				(21,203)	(21,203)	(21,203)	3	21
22	Inside Gas Meters	(2,852)	2,491	(5,184)	(5,545)				1,848	1,848	1,848	3	22
23	Meadowlands Heaters	30,199		(3,555)	26,644				(2,960)	(2,960)	(2,960)	9	23
24	Penalties on Off-peak / interruptible customers	(2,531)		354	(2,177)				726	726	726	3	24
25	Pipeline Integrity	(406)		154	(252)				84	84	84	3	25
26	Pipeline Updgrade Projects	552	254		806				(269)	(269)	(269)	3	26
27	Positive Incentive Revenue Adjustments	5,047		(5,580)	(533)				178	178	178	3	27
28	R and D Recon	(183)			(183)				61	61	61	3	28
29	Transition Gas Adjustment	(6)			(6)				2	2	2	3	29
30	Unauthorized Use Charge - Divested Stations	(2)			(2)				1	1	1	3	30
	Total	\$ 112,889	\$ 106,339	\$ (43,177)	\$ 176,050	\$ 90,522	\$ 126,972	\$ 150,114	\$ (37,725)	\$ (52,152)	\$ (68,891)		

**Consolidated Edison Company of New York, Inc.**  
Other Operating Revenues - Gas  
Initial Filing  
For The Twelve Months Ended December 31, 2023, 2024 and 2025  
(\$000's)

Line No.	RY1					RY 2				RY 3				
	For The Twelve	Initial Normalizing	Initial Update	As Updated	Proposed Rate	Rate Year as	Rate Year As	Proposed Rate	Rate Year as	Rate Year	Rate Year As	Proposed Rate	Rate Year as	
	Months Ending													Adjustment
September 30, 2021				Increase	Proposed Rate	Adjusted	Increase	Proposed Rate	Adjusted	Increase	Proposed Rate	Adjusted	Increase	
<b>Miscellaneous Service &amp; Other Revenues</b>														
1	AMI Opt Out Fees	3		90	93	93		(5)	88	88		(5)	83	83
2	Meter Recovery	19		29	48	48			48	48			48	48
3	No Access Charge	(8)		801	793	793		(737)	56	56			56	56
4	Miscellaneous Service Revenues	-		-	-	-		-	-	-		-	-	-
5	Reconnection Fee Waiver	-		(75)	(75)	(75)			(75)	(75)			(75)	(75)
6	Gas Reconnect Fees	-		-	-	-		-	-	-		-	-	-
7	Late Payment Charges	413		9,213	9,626	2,413		0	12,039	1,121		(28)	13,133	1,047
8	Learning Center Revenues	567		(133)	434	434		9	443	443		9	452	452
9	POR Discount	2,933			2,933	2,933			2,933	2,933			2,933	2,933
10	Net Unbilled Revenue	(9,838)	9,838		-	-			-	-			-	-
11	Reimbursement To National Grid - Governor's Island	(37)			(37)	(37)			(37)	(37)			(37)	(37)
12	R&D Ventures	33		(22)	11	11			11	11			11	11
13	Miscellaneous	377		(375)	2	2			2	2			2	2
14	Total	(5,538)	9,838	9,528	13,828	2,413		(733)	15,508	1,121		(24)	16,606	1,047
<b>Rents</b>														
15	Interdepartmental Rents	7,766		1,112	8,878	8,878		1,153	10,031	10,031		886	10,917	10,917
16	New York Facilities	7,954			7,954	7,954			7,954	7,954			7,954	7,954
17	Real Estate Rents	329		154	483	483		136	619	619		(136)	483	483
	Total	16,049	-	1,266	17,315	-		1,289	18,604	-		750	19,354	-
<b>Transmission System Reinforcement Recoveries</b>														
18	NYPA Variable and Maintenance	1,537		(137)	1,400	1,400			1,400	1,400			1,400	1,400
19	Steam Department - ERRP Incremental Charges	1,215			1,215	1,215			1,215	1,215			1,215	1,215
	Total	2,752	-	(137)	2,615	-		-	2,615	-		-	2,615	-
<b>Revenues Offset in Sales Revenues, Energy Clauses (MSC/MAC) or O&amp;M:</b>														
20	Gas Purchased From Transportation Customers	(3,759)	3,759		-	-			-	-			-	-
21	Gas Penalties - Off Peak/Interruptible	(727)			-	-			-	-			-	-
22	Nonfirm interruptible sales credit	6,844		(6,844)	-	-			-	-			-	-
23	Asset Management Revenue	17,128		(17,128)	-	-			-	-			-	-
24	Hedging Program Interest	(23)			-	-			-	-			-	-
25	ESCOS/Marketers - Bill Charges	957		(957)	-	-			-	-			-	-
26	Research and Development True-Up and Surcharge	1,279		-	-	-			-	-			-	-
27	Rdm Reconciliation	60,722		(60,722)	-	-			-	-			-	-
28	Low Income Program	804		(804)	-	-			-	-			-	-
29	Gas In Storage Reconciliation	(198)		198	-	-			-	-			-	-
30	Credits and Collections	770		(770)	-	-			-	-			-	-
31	Gas SBC Revenue Deferral	126		(126)	-	-			-	-			-	-
32	Supply Related Charge Revenues Deferral	262		(262)	-	-			-	-			-	-
33	Gas Daily Delivery Service	97,115		(97,115)	-	-			-	-			-	-
34	SBU Balancing Charges	1,733		(1,733)	-	-			-	-			-	-
35	GAC Interest	(466)		466	-	-			-	-			-	-
36	Gas Line Cost Recovery	(11,185)		11,185	-	-			-	-			-	-
37	Prior Gas Supplier Interest Refund	390		(390)	-	-			-	-			-	-
	Total	171,772	(171,772)	-	-	-		-	-	-		-	-	-
<b>Regulatory Accounting (Reconciliations / Amortizations):</b>														
38	GRT public utility tax	113		(113)	-	-			-	-			-	-
39	Amortization of Deferrals	22,571		(22,571)	-	-			-	-			-	-
40	Accounting Reserve	10,054		(10,054)	-	-			-	-			-	-
41	Net Plant Carrying Charges	(19,256)		19,256	-	-			-	-			-	-
42	Incentive for NY Facilities Agreement	41		(41)	-	-			-	-			-	-
43	Interest Accrual on Deferred Leak Prone Pipe O&M	(2,793)		2,793	-	-			-	-			-	-
44	Pipeline Recovery	(12,450)		12,450	-	-			-	-			-	-
45	Carrying Charge On Energy Efficiency Programs	(1,095)		1,095	-	-			-	-			-	-
46	Climate Study	(145)		145	-	-			-	-			-	-
47	Federal Tax Reform Transition Period	(14)		14	-	-			-	-			-	-
48	Interference Reconciliation	(3,732)		3,732	-	-			-	-			-	-
49	Interest Rate True-Up (Auction Rate / Long Term Debt)	(4,615)		4,615	-	-			-	-			-	-
50	Management variable pay	(1,894)		1,894	-	-			-	-			-	-
	Total	(13,215)	13,215	-	-	-		-	-	-		-	-	-
51	Revenue imputation - Cases 09-M-0114 and 09-M-0243			134	134	134		(6)	128	128		(7)	121	121
52	NYPA related revenues	24,902	(24,902)		-	-			-	-			-	-
	Total Other Operating Revenues	\$ 196,722	\$ (173,621)	\$ 10,791	\$ 33,892	\$ 2,413	\$ 36,305	\$ 550	\$ 36,855	\$ 1,121	\$ 37,976	\$ 719	\$ 38,696	\$ 1,047

**Consolidated Edison Company of New York, Inc.**  
Gas Operation and Maintenance Expenses  
Initial Filing  
For The Twelve Months Ended December 31, 2023, 2024 and 2025  
(S000's)

3.43% 2.26% RY2  
3.43% 2.26% RY3

		RY1					RY2					RY3							
		8.31%		4.53%															
Line No.	For The Twelve Months Ending September 30, 2021	Initial Normalizing Adjustment	Initial Program Changes	Initial General Escalation	Initial Labor Escalation	As Updated	Proposed Rate Increase	Rate Year as Adjusted for Proposed Rate Increase	Rate Year Adjustments	Escalation	Proposed Rate Increase	Rate Year as Adjusted for Proposed Rate Increase	Rate Year Adjustments	Escalation	Proposed Rate Increase	Rate Year as Adjusted for Proposed Rate Increase	Line No.	General Escalation	Labor Escalation
1	Fuel and Purchased Power	\$ 484,492	\$ -	\$ 420,950	\$ -	\$ -	\$ 905,442	\$ 905,442	\$ (11,230)	\$ -	\$ 894,212	\$ 2,697	\$ -	\$ 896,909	1	N	N		
2	A&G, Health Ins. Cap.	\$ (8,525)	\$ 132	\$ -	\$ -	\$ (8,774)	\$ -	\$ (8,774)	\$ -	\$ (199)	\$ (8,972)	\$ -	\$ (203)	\$ (9,175)	35	N	N		
3	Advanced Metering Infrastructure	\$ 4,956	\$ -	\$ 65	\$ 417	\$ -	\$ 5,438	\$ 5,438	\$ (21)	\$ 166	\$ 5,602	\$ 28	\$ 193	\$ 5,823	3	Y	N		
4	Bargaining Unit Contract Cost	\$ -	\$ -	\$ 72	\$ 6	\$ -	\$ 81	\$ 81	\$ -	\$ 3	\$ 84	\$ -	\$ 3	\$ 87	4	Y	N		
5	Bond Administration & Bank Fees	\$ 1,488	\$ -	\$ -	\$ 124	\$ -	\$ 1,612	\$ 1,612	\$ -	\$ 55	\$ 1,667	\$ -	\$ 57	\$ 1,724	5	Y	N		
6	Company Labor - Advanced Metering Infrastructure	\$ 782	\$ -	\$ 1,482	\$ -	\$ 102	\$ 2,346	\$ 2,346	\$ 83	\$ 55	\$ 2,484	\$ 35	\$ 57	\$ 2,576	6	N	Y		
7	Company Labor - Central Engineering	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	7	N	Y		
8	Company Labor - Construction Management	\$ 6,704	\$ -	\$ -	\$ -	\$ 304	\$ 7,008	\$ 7,008	\$ -	\$ 159	\$ 7,167	\$ -	\$ 162	\$ 7,329	8	N	Y		
9	Company Labor - Corporate & Shared Services	\$ 40,410	\$ -	\$ 1,617	\$ -	\$ 1,904	\$ 43,931	\$ 43,931	\$ 363	\$ 1,002	\$ 45,296	\$ 220	\$ 1,029	\$ 46,545	9	N	Y		
10	Company Labor - Customer Energy Solutions	\$ 3,490	\$ -	\$ -	\$ -	\$ 158	\$ 3,648	\$ 3,648	\$ -	\$ 83	\$ 3,731	\$ -	\$ 84	\$ 3,815	10	N	Y		
11	Company Labor - Customer Information System	\$ 67	\$ -	\$ -	\$ -	\$ 3	\$ 71	\$ 71	\$ -	\$ 2	\$ 72	\$ -	\$ 2	\$ 74	11	N	Y		
12	Company Labor - Customer Operations	\$ 23,440	\$ -	\$ 2,552	\$ -	\$ 1,178	\$ 27,169	\$ 27,169	\$ 188	\$ 619	\$ 27,976	\$ 373	\$ 641	\$ 28,990	12	N	Y		
13	Company Labor - Electric Operations	\$ 537	\$ -	\$ -	\$ -	\$ 24	\$ 561	\$ 561	\$ -	\$ 13	\$ 574	\$ -	\$ 13	\$ 587	13	N	Y		
14	Company Labor - Gas Operations	\$ 66,817	\$ -	\$ 17,190	\$ -	\$ 3,806	\$ 87,813	\$ 87,813	\$ 154	\$ 1,991	\$ 89,958	\$ (412)	\$ 2,024	\$ 91,570	14	N	Y		
15	Company Labor - Production	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	15	N	Y		
16	Company Labor - Substation Operations (SSO)	\$ 2	\$ -	\$ -	\$ -	\$ 0	\$ 2	\$ 2	\$ -	\$ 0	\$ 2	\$ -	\$ 0	\$ 2	16	N	Y		
17	Company Labor - System & Transmission Operations (STO)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	17	N	Y		
18	Corporate & Shared Services	\$ 6,834	\$ -	\$ 3,021	\$ 819	\$ -	\$ 10,675	\$ 10,675	\$ (2,737)	\$ 272	\$ 8,209	\$ (41)	\$ 280	\$ 8,448	18	Y	N		
19	Corporate Fiscal Expenses	\$ 1,067	\$ -	\$ -	\$ 89	\$ -	\$ 1,155	\$ 1,155	\$ -	\$ 40	\$ 1,195	\$ -	\$ 41	\$ 1,236	19	Y	N		
20	Customer Energy Solutions	\$ 131	\$ -	\$ 2,400	\$ 210	\$ -	\$ 2,741	\$ 2,741	\$ 142	\$ 99	\$ 2,982	\$ -	\$ 102	\$ 3,084	20	Y	N		
21	Customer Information System	\$ 232	\$ -	\$ 4,131	\$ 363	\$ -	\$ 4,725	\$ 4,725	\$ (784)	\$ 135	\$ 4,076	\$ (590)	\$ 119	\$ 3,606	21	Y	N		
22	Dynamic Load Management	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	22	N	N		
23	Duplicate Misc. Charges	\$ (479)	\$ -	\$ -	\$ -	\$ -	\$ (479)	\$ (479)	\$ -	\$ -	\$ (479)	\$ -	\$ -	\$ (479)	23	N	N		
24	Employee Welfare Expense	\$ 26,986	\$ (958)	\$ 2,284	\$ -	\$ 28,312	\$ 28,312	\$ 28,312	\$ -	\$ 970	\$ 29,282	\$ -	\$ 1,003	\$ 30,285	24	Y	N		
25	Environmental Affairs	\$ 739	\$ -	\$ -	\$ 61	\$ -	\$ 800	\$ 800	\$ -	\$ 27	\$ 827	\$ -	\$ 28	\$ 856	25	Y	N		
26	ERRP Major Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26	N	N		
27	Executive MVP	\$ 1,176	\$ (1,176)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	27	N	N		
28	External Audit Services	\$ 471	\$ 229	\$ 30	\$ 61	\$ -	\$ 791	\$ 791	\$ -	\$ 27	\$ 818	\$ -	\$ 28	\$ 846	28	Y	N		
29	Facilities & Field Services	\$ 7,436	\$ 244	\$ 32	\$ 641	\$ -	\$ 8,353	\$ 8,353	\$ 287	\$ 296	\$ 8,936	\$ 112	\$ 310	\$ 9,358	29	Y	N		
30	Finance & Accounting Operations	\$ 483	\$ -	\$ -	\$ 40	\$ -	\$ 523	\$ 523	\$ -	\$ 18	\$ 541	\$ -	\$ 19	\$ 559	30	Y	N		
31	Indian Point Contingency	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	31	N	N		
32	Information Technology	\$ 15,390	\$ 378	\$ 12,710	\$ 2,367	\$ -	\$ 30,846	\$ 30,846	\$ 3,605	\$ 1,180	\$ 35,631	\$ 2,793	\$ 1,316	\$ 39,741	32	Y	N		
33	Informational Advertising	\$ 1,556	\$ 685	\$ -	\$ 186	\$ -	\$ 2,427	\$ 2,427	\$ -	\$ 97	\$ 3,113	\$ -	\$ 107	\$ 3,394	33	Y	N		
34	Injuries & Damages / Workers Compensation	\$ 10,561	\$ -	\$ (749)	\$ 816	\$ -	\$ 10,627	\$ 10,627	\$ -	\$ 364	\$ 10,991	\$ -	\$ 377	\$ 11,368	34	Y	N		
35	Institutional Dues & Subscription	\$ 860	\$ (685)	\$ -	\$ 15	\$ -	\$ 190	\$ 190	\$ -	\$ 7	\$ 196	\$ -	\$ 7	\$ 203	35	Y	N		
36	Insurance Premium	\$ 7,387	\$ -	\$ 1,449	\$ -	\$ -	\$ 8,835	\$ 8,835	\$ -	\$ -	\$ 8,835	\$ -	\$ -	\$ 8,835	36	N	N		
37	Intercompany Shared Services	\$ (2,288)	\$ 967	\$ -	\$ (110)	\$ -	\$ (1,431)	\$ (1,431)	\$ (49)	\$ -	\$ (1,480)	\$ -	\$ (51)	\$ (1,530)	37	Y	N		
38	Load Dispatching and PJM TEC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	38	N	N		
39	New York Facilities	\$ 3,675	\$ -	\$ -	\$ -	\$ -	\$ 3,675	\$ 3,675	\$ -	\$ -	\$ 3,675	\$ -	\$ -	\$ 3,675	39	N	N		
40	Ops - Central Engineering	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	40	Y	N		
41	Ops - Construction Management	\$ 1,050	\$ -	\$ -	\$ 87	\$ -	\$ 1,137	\$ 1,137	\$ -	\$ 39	\$ 1,176	\$ -	\$ 40	\$ 1,217	41	Y	N		
42	Ops - Customer Operations	\$ 7,583	\$ 1,222	\$ 2,969	\$ 979	\$ -	\$ 12,752	\$ 12,752	\$ 85	\$ 440	\$ 13,277	\$ (650)	\$ 433	\$ 13,060	42	Y	N		
43	Ops - Electric Operations	\$ (18)	\$ -	\$ -	\$ (2)	\$ -	\$ (20)	\$ (20)	\$ -	\$ (1)	\$ (20)	\$ -	\$ (1)	\$ (21)	43	Y	N		
44	Ops - Gas Operations	\$ 59,041	\$ 428	\$ 21,546	\$ 6,735	\$ -	\$ 87,750	\$ 87,750	\$ (965)	\$ 2,973	\$ 89,758	\$ (695)	\$ 3,051	\$ 92,114	44	Y	N		
45	Ops - Interference	\$ 24,581	\$ -	\$ 15,175	\$ 3,305	\$ -	\$ 43,060	\$ 43,060	\$ -	\$ 1,475	\$ 44,536	\$ -	\$ 1,526	\$ 46,061	45	Y	N		
46	Ops - Production	\$ (0)	\$ -	\$ -	\$ (0)	\$ -	\$ (0)	\$ (0)	\$ -	\$ (0)	\$ (0)	\$ -	\$ (0)	\$ (0)	46	Y	N		
47	Ops - Substation Operations (SSO)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	47	Y	N		
48	Ops - System & Transmission Operations (STO)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	48	Y	N		
49	Other Compensation (Long-Term Equity)	\$ 243	\$ (117)	\$ 688	\$ 68	\$ -	\$ 881	\$ 881	\$ (4)	\$ 30	\$ 908	\$ (5)	\$ 31	\$ 934	49	Y	N		
50	Outside Legal Services	\$ 147	\$ -	\$ -	\$ 12	\$ -	\$ 159	\$ 159	\$ -	\$ 5	\$ 164	\$ -	\$ 6	\$ 170	50	Y	N		
51	Pension and OPEB Costs	\$ 11,525	\$ 26,147	\$ (82,821)	\$ -	\$ -	\$ (45,148)	\$ (45,148)	\$ 6,336	\$ -	\$ (38,813)	\$ (47,318)	\$ -	\$ (86,130)	51	N	N		
52	RCA - Amort. of MGP/Superfund	\$ 3,293	\$ (3,293)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	52	N	N		
53	RCA - Amort. of Energy Efficiency Programs	\$ 5,212	\$ (5,212)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	53	N	N		
54	Regional Gas Greenhouse Initiative (RGGI)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	54	N	N		
55	Regulatory Commission Expense - All Other	\$ 181	\$ -	\$ 556	\$ 61	\$ -	\$ 798	\$ 798	\$ -	\$ 27	\$ 825	\$ -	\$ 28	\$ 854	55	Y	N		
56	Regulatory Commission Expense - General and R&D	\$ 10,094	\$ -	\$ (502)	\$ 797	\$ -	\$ 10,390	\$ 10,390	\$ -	\$ 356	\$ 10,746	\$ -	\$ 368	\$ 11,114	56	Y	N		
57	Rents - ERRP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	57	N	N		
58	Rents - General	\$ 132	\$ -	\$ -	\$ 11	\$ -	\$ 143	\$ 143	\$ -	\$ 5	\$ 148	\$ -	\$ 5	\$ 153	58	Y	N		
59	Rents - Interdepartmental	\$ 4	\$ -	\$ -	\$ -	\$ -	\$ 4	\$ 4	\$ -	\$ -	\$ 4	\$ -	\$ -	\$ 4	59	N	N		
60	Research & Development	\$ 4,476	\$ (3,513)	\$ 500	\$ 122	\$ -	\$ 1,585	\$ 1,585	\$ -	\$ 54	\$ 1,639	\$ (500)	\$ 39	\$ 1,178	60	Y	N		
61	Security	\$ 133	\$ -	\$ -	\$ 11	\$ -	\$ 144	\$ 144	\$ -	\$ 5	\$ 149	\$ -	\$ 5	\$ 154	61	Y	N		
62	Storm Reserve	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	62	Y	N		
63	System Benefit Charge	\$ 274	\$ -	\$ -	\$ -	\$ -	\$ 274	\$ 274	\$ -	\$ -	\$ 274	\$ -	\$ -	\$ 274	63	N	N		
64	Uncollectible Reserve - Customer	\$ 15,209	\$ -	\$ (2,315)	\$ -	\$ -	\$ 12,895	\$ 12,895	\$ 2,312	\$ 15,207	\$ -	\$ 1,075	\$ 16,282	\$ -	\$ 1,003	\$ 17,285	64	N	N
65	Uncollectible Reserve - Sundry	\$ 295	\$ -	\$ (41)	\$ -	\$ -	\$ 254	\$ 254	\$ -	\$ -	\$ 254	\$ -	\$ -	\$ 254	65	N	N		
66	Worker's Comp NYS Assessment	\$ 241	\$ -	\$ 62	\$ 25	\$ -	\$ 329	\$ 329	\$ -	\$ 11	\$ 340	\$ -	\$ 12	\$ 351	66	Y	N		
67	All Other	\$ 15,076	\$ (14,365)	\$ -	\$ 59	\$ -	\$ 770	\$ 770	\$ -	\$ 26	\$ 797	\$ 0	\$ 27	\$ 824	67	Y	N		
68	Company Labor - Fringe Benefit Adjustment	\$ -	\$ -	\$ 3,832	\$ 319	\$ -	\$ 4,150	\$ 4,150	\$ 132	\$ 147	\$ 4,429	\$ 36	\$ 153	\$ 4,618	68	Y	N		
69	Business Cost Optimization	\$ -	\$ (6,200)	\$ -	\$ -	\$ -	\$ (6,200)	\$ (6,200)	\$ -	\$ -	\$ (6,200)	\$ -	\$ -	\$ (6,200)	69	N	N		
<b>Total Operation &amp; Maintenance Expenses</b>		<b>\$ 865,651</b>	<b>\$ (5,086)</b>	<b>\$ 428,865</b>	<b>\$ 18,694</b>	<b>\$ 7,099</b>	<b>\$ 1,315,223</b>	<b>\$ 2,714</b>	<b>\$ 1,317,937</b>	<b>\$ (4,367)</b>	<b>\$ 13,043</b>	<b>\$ 1,262</b>	<b>\$ 1,327,876</b>	<b>\$ (43,916)</b>	<b>\$ 13,471</b>	<b>\$ 1,177</b>	<b>\$ 1,298,608</b>		

**Consolidated Edison Company of New York, Inc**  
 Plant Depreciation Expense Current - Gas  
 For The Twelve Months Ended December 31, 2023, 2024 and 2025  
 (\$000's)

	For The Twelve Months Ending September 30, 2021	RY1			RY2			RY3		
		Initial Normalizing Adjustment	Initial Update	As Updated	Rate Year as Adjusted for Proposed Rate Increase	Rate Year Adjustments	Rate Year As Adjusted	Rate Year as Adjusted for Proposed Rate Increase	Rate Year Adjustments	Rate Year As Adjusted
Depreciation Expense	\$ 311,411	\$ 88,067	\$ 399,478	\$ 399,478	\$ 37,964	\$ 437,442	\$ 437,442	\$ 28,728	\$ 466,170	\$ 466,170
Reserve Deficiency	8,000	\$ -	8,000	8,000	-	8,000	8,000	-	8,000	8,000
Total Depreciation Expense	\$ 319,411	\$ -	\$ 407,478	\$ 407,478	\$ 37,964	\$ 445,442	\$ 445,442	\$ 28,728	\$ 474,170	\$ 474,170

**Consolidated Edison Company of New York, Inc**  
 Plant Depreciation Expense Proposed Rates - Gas  
 Initial Filing  
 For The Twelve Months Ended December 31, 2023, 2024 and 2025  
 (\$000's)

	RY1				RY2			RY3			
	For The Twelve Months Ending September 30, 2021	Initial Normalizing Adjustment	Initial Update	As Updated	Rate Year as Adjusted for Proposed Rate Increase	Rate Year Adjustments	Rate Year As Adjusted	Rate Year as Adjusted for Proposed Rate Increase	Rate Year Adjustments	Rate Year As Adjusted	Rate Year as Adjusted for Proposed Rate Increase
Depreciation Expense	\$ 311,411		\$ 135,627	\$ 447,038	\$ 447,038	\$ 41,873	\$ 488,911	\$ 488,911	\$ 33,157	\$ 522,068	\$ 522,068
Reserve Deficiency	8,000		\$ 14,454	22,454	22,454	-	22,454	22,454	-	22,454	22,454
Total Depreciation Expense	\$ 319,411	\$ -	\$ 150,081	\$ 469,492	\$ 469,492	\$ 41,873	\$ 511,365	\$ 511,365	\$ 33,157	\$ 544,522	\$ 544,522

**Consolidated Edison Company of New York, Inc**  
Taxes Other Than Income Taxes - Gas  
Initial Filing  
For The Twelve Months Ended December 31, 2023, 2024 and 2025  
(\$000's)

	RY 1						RY 2				RY 3			
	For The Twelve Months Ending September 30, 2021	Initial Normalizing Adjustment	Initial Update	As Updated	Proposed Rate Increase	Rate Year as Adjusted for Proposed Rate Increase	Rate Year Adjustments	Rate Year As Adjusted	Proposed Rate Increase	Rate Year as Adjusted for Proposed Rate Increase	Rate Year Adjustments	Rate Year As Adjusted	Proposed Rate Increase	Rate Year as Adjusted for Proposed Rate Increase
<b>Property Taxes</b>														
New York City	\$ 317,693	\$ -	\$ 132,340	\$ 450,033	\$ -	\$ 450,033	\$ 73,535	\$ 523,568	\$ -	\$ 523,568	\$ 81,045	\$ 604,613	\$ -	\$ 604,613
Upstate & Westchester	\$ 57,588	\$ -	\$ 2,293	59,881	-	59,881	1,048.00	60,929	-	60,929	1,066	61,995	-	61,995
	375,281	-	134,633	509,914	-	509,914	74,583	584,497	-	584,497	82,111	666,608	-	666,608
<b>Property Tax Over/ (Under) Collections</b>														
Property Tax Deferral	8,679	(8,679)	-	-	-	-	-	-	-	-	-	-	-	-
	8,679	(8,679)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Property Taxes</b>	383,960	(8,679)	134,633	509,914	-	509,914	74,583	584,497	-	584,497	82,111	666,608	-	666,608
Payroll Taxes	10,110	-	3,136	13,246		13,246	488	13,734		13,734	438	14,171		14,171
Revenue Taxes	72,613	-	(870)	71,743	12,991	84,734	(340)	84,395	6,037	90,432	(208)	90,224	5,635	95,859
<b>Other Taxes</b>														
Sales and Use Tax	700	-	58	758		758	26	784		784	27	811		811
Other Taxes	324	-	27	351		351	12	363		363	12	375		375
	1,024	-	85	1,109	-	1,109	38	1,147	-	1,147	39	1,186	-	1,186
<b>Total Taxes Other than Income Taxes</b>	467,707	(8,679)	136,984	596,012	12,991	609,003	74,769	683,772	6,037	689,809	82,380	772,189	5,635	777,824
<b>Total Taxes Other than Income Taxes, Excluding Revenue Taxes</b>	\$ 395,094	\$ (8,679)	\$ 137,854	\$ 524,269	\$ -	\$ 524,269	\$ 75,109	\$ 599,377	\$ -	\$ 599,378	\$ 82,588	\$ 681,965	\$ -	\$ 681,965



**Consolidated Edison Company of New York, Inc**  
State Income Tax - Gas  
Initial Filing  
For The Twelve Months Ending December 31, 2023, 2024 and 2025  
(\$'000's)

	RY1			RY2				RY3			
	Initial Update	Proposed Rate Increase	Rate Year as Adjusted for	Rate Year Adjustments	Rate Year As Adjusted	Proposed Rate Increase	Rate Year as Adjusted for	Rate Year Adjustments	Rate Year As Adjusted	Proposed Rate Increase	Rate Year as Adjusted for
			Proposed Rate Increase				Proposed Rate Increase				Proposed Rate Increase
Operating Income Before Income Tax	\$ 391,008	\$ 489,358	\$ 880,366	\$ (139,094)	\$ 741,272	\$ 227,417	\$ 968,689	\$ (106,942)	\$ 861,747	\$ 212,271	\$ 1,074,018
Interest Expense	(214,866)		(214,866)	(21,109)	(235,975)		(235,975)	(20,235)	(256,210)		(256,210)
Operating Income Before Federal Income Tax	176,142	489,358	665,500	(160,203)	505,297	227,417	732,714	(127,177)	605,538	212,271	817,809
<b>Permanent Differences</b>											
Non-deductible transit expenses	280		280		280		280		280		280
Non-deductible parking expenses	458		458		458		458		458		458
Total Permanent Differences	738	-	738	-	738	-	738	-	738	-	738
<b>Normalized Items</b>											
Tax Depreciation	(652,487)		(652,487)	(53,728)	(706,215)		(706,215)	(53,678)	(759,893)		(759,893)
Tax Gain/(Loss)	(21,733)		(21,733)	(8,933)	(30,666)		(30,666)	459	(30,208)		(30,208)
Book Depreciation	250,434		250,434	21,383	271,817		271,817	44,682	316,499		316,499
Computer Software	66,785		66,785	7,573	74,358		74,358	(25,388)	48,970		48,970
Book Depreciation on Cost of Removal	140,146		140,146	12,826	152,972		152,972	13,379	166,351		166,351
Cost of Removal Expense	(44,870)		(44,870)	(673)	(45,543)		(45,543)	(683)	(46,227)		(46,227)
Accrued Bonus	(4,632)		(4,632)	(139)	(4,771)		(4,771)	(143)	(4,914)		(4,914)
Materials and Supplies	(11,196)		(11,196)	-	(11,196)		(11,196)	-	(11,196)		(11,196)
MSC	(28,323)		(28,323)	-	(28,323)		(28,323)	-	(28,323)		(28,323)
OPEB	(1,342)		(1,342)	(15)	(1,356)		(1,356)	(57)	(1,414)		(1,414)
Pension Book Diff	(24,321)		(24,321)	(832)	(25,153)		(25,153)	(1,185)	(26,338)		(26,338)
Repair Tax Expense	-		-	-	-		-	-	-		-
Vacation Pay Accrual	(204)		(204)	(6)	(210)		(210)	(6)	(216)		(216)
Total Normalized Items	(331,743)	-	(331,743)	(22,544)	(354,287)	-	(354,287)	(22,621)	(376,908)	-	(376,908)
NYS Taxable Income	(154,863)	489,358	334,495	(182,747)	151,748	227,417	379,165	(149,798)	229,367	212,271	441,638
<b>Tax Computation</b>											
Current NYS Income Tax	(10,066)	31,808	21,742	(11,879)	9,864	14,782	24,646	(9,737)	14,909	13,798	28,706
Deferred NYS Income Tax	21,589		21,589	1,463	23,052		23,052	1,467	24,519		24,519
Total New York State Income Tax	\$ 11,523	\$ 31,808	\$ 43,331	\$ (10,415)	\$ 32,916	\$ 14,782	\$ 47,698	\$ (8,270)	\$ 39,428	\$ 13,798	\$ 53,225

**Consolidated Edison Company of New York, Inc**  
Federal Income Tax - Gas  
Initial Filing  
For The Twelve Months Ending December 31, 2023, 2024 and 2025  
(\$000's)

	RY1			RY2				RY3			
	Initial Update	Proposed Rate Increase	Rate Year as Adjusted for Proposed Rate Increase	Rate Year Adjustments	Rate Year As Adjusted	Proposed Rate Increase	Rate Year as Adjusted for Proposed Rate Increase	Rate Year Adjustments	Rate Year As Adjusted	Proposed Rate Increase	Rate Year as Adjusted for Proposed Rate Increase
Operating Income Before Income Tax	\$ 391,008	\$ 489,358	\$ 880,366	\$ (139,094)	\$ 741,272	\$ 227,417	\$ 968,689	\$ (106,942)	\$ 861,747	\$ 212,271	\$ 1,074,018
Interest Expense	(214,866)		(214,866)	(21,109)	(235,975)		(235,975)	(20,235)	(256,210)		(256,210)
Operating Income Before Federal Income Tax	176,142	489,358	665,500	(160,203)	505,297	227,417	732,714	(127,177)	605,538	212,271	817,809
<b>Permanent Differences</b>											
Non-deductible transit expenses	280		280	-	280		280	-	280		280
Non-deductible parking expenses	458		458	-	458		458	-	458		458
Total Permanent Differences	738	-	738	-	738	-	738	-	738	-	738
<b>Flow Through Items</b>											
Pre 1981 FT Depreciation	(62)		(62)	11	(51)		(51)	19	(32)		(32)
Book Depreciation on Cost of Removal	140,146		140,146	12,826	152,972		152,972	13,379	166,351		166,351
Removal Costs	(44,870)		(44,870)	(673)	(45,543)		(45,543)	(683)	(46,227)		(46,227)
Total Flow-Through Items	95,213	-	95,213	12,164	107,377	-	107,377	12,714	120,092	-	120,092
<b>Normalized Items</b>											
Tax Depreciation	(520,828)		(520,828)	(62,731)	(583,559)		(583,559)	(64,268)	(647,826)		(647,826)
Tax Gain/(Loss) on Disposition of Assets	(17,227)		(17,227)	(9,683)	(26,910)		(26,910)	(167)	(27,077)		(27,077)
Book Depreciation	250,434		250,434	21,383	271,817		271,817	44,682	316,499		316,499
Computer Software	66,785		66,785	7,573	74,358		74,358	(25,388)	48,970		48,970
Accrued Bonus	(4,632)		(4,632)	(139)	(4,771)		(4,771)	(143)	(4,914)		(4,914)
Materials and Supplies	(11,196)		(11,196)	-	(11,196)		(11,196)	-	(11,196)		(11,196)
MSC	(28,323)		(28,323)	-	(28,323)		(28,323)	-	(28,323)		(28,323)
OPEB	(1,342)		(1,342)	(15)	(1,356)		(1,356)	(57)	(1,414)		(1,414)
Pension Book Difference	(24,321)		(24,321)	(832)	(25,153)		(25,153)	(1,185)	(26,338)		(26,338)
Repair Tax Expense	-		-	-	-		-	-	-		-
Vacation Pay Accrual	(204)		(204)	(6)	(210)		(210)	(6)	(216)		(216)
Total Normalized Items	(290,854)	-	(290,854)	(44,449)	(335,303)	-	(335,303)	(46,532)	(381,835)	-	(381,835)
Total Adjustments to Income	(194,903)	-	(194,903)	(32,285)	(227,188)	-	(227,188)	(33,818)	(261,006)	-	(261,006)
Taxable Income Before Current State Tax Deduction	(18,761)	489,358	470,597	(192,488)	278,109	227,417	505,526	(160,994)	344,532	212,271	556,803
Less: Current State Tax	10,066	(31,808)	(21,742)	11,879	(9,864)	(14,782)	(24,646)	9,737	(14,909)	(13,798)	(28,706)
Federal Taxable Income	(8,695)	457,550	448,855	(180,609)	268,246	212,635	480,881	(151,257)	329,623	198,473	528,096
<b>Tax Computation</b>											
Current Federal Income Tax	(1,826)	96,085	94,259	(37,928)	56,332	44,653	100,985	(31,764)	69,221	41,679	110,900
Deferred Federal Income Tax	55,159		55,159	8,989	64,147		64,147	9,431	73,578		73,578
Excess Deferred Federal Income Tax - Protected	(7,065)		(7,065)	(475)	(7,540)		(7,540)	(473)	(8,013)		(8,013)
Excess Deferred Federal Income Tax - Unprotected	(11,926)		(11,926)	(0)	(11,926)		(11,926)	11,926	-		-
Excess Deferred Federal Income Tax - Non-Plant	(3,780)		(3,780)	-	(3,780)		(3,780)	3,780	-		-
Amortization of Deferred ITC	(750)		(750)	5	(745)		(745)	-	(745)		(745)
R&D Tax Credit	(1,005)		(1,005)	32	(973)		(973)	(80)	(1,053)		(1,053)
<b>Total Federal Income Tax</b>	<b>\$ 28,807</b>	<b>\$ 96,085</b>	<b>\$ 124,892</b>	<b>\$ (29,377)</b>	<b>\$ 95,515</b>	<b>\$ 44,653</b>	<b>\$ 140,168</b>	<b>\$ (7,180)</b>	<b>\$ 132,988</b>	<b>\$ 41,679</b>	<b>\$ 174,668</b>

**Consolidated Edison Company of New York, Inc**

Interest Expense - Gas

Initial Filing

For The Twelve Months Ending December 31, 2023, 2024 and 2025

(\$000's)

	<u>RY1</u>	<u>RY2</u>	<u>RY3</u>
	<u>Initially Filed</u>		
Rate Base	\$ 10,030,055	\$ 10,981,987	\$ 11,883,717
Interest Bearing CWIP	201,650	201,650	201,650
Dividends Declared	-	-	-
Total	10,231,705	11,183,637	12,085,367
Interest Cost Factor (Debt + Customer Deposits)	2.10%	2.11%	2.12%
Allowable Interest Deduction	<u>\$ 214,866</u>	<u>\$ 235,975</u>	<u>\$ 256,210</u>

**Consolidated Edison Company of New York, Inc**  
Fund Requirements and Sources  
For The Twelve Months Ending December 31, 2023  
(\$000's)

	<u>Amount</u>
<u>Sources of Funds:</u>	
Internal	
Earnings Retained	1,476
Depreciation at proposed rates	1,842
Amortization of deferred Costs / (Credits)	(250)
Working Capital	112
Deferred Federal & State Income Taxes	229
Total Internal Sources of Funds	3,409
External	
Commercial Paper / Temporary Investments	925
Bond Proceeds	1,011
Total External Sources of Funds	1,936
Total Sources	5,344
<u>Application of Funds:</u>	
Construction Expenditures (Net of AFUDC)	5,344
Debt Maturities	-
Total Application of Funds	5,344

**Consolidated Edison Company of New York, Inc**

Interest Coverage Ratios  
Initial Filing  
For The Twelve Months Ending  
(\$000's)

	December 2017 Actual	December 2018 Actual	December 2019 Actual	December 2020 Actual	September 2021 Actual
<b>Earnings</b>					
Net Income	\$ 1,104	\$ 1,196	\$ 1,250	\$ 1,185	\$ 1,234
Federal Income & State Tax	685	326	335	215	204
Total Earnings Before Federal and State Income Tax	1,789	1,522	1,585	1,400	1,438
<b>Fixed Charges*</b>	657	725	768	779	795
Total Earnings Before Federal and State Income Tax and Fixed Charges	<u>\$2,446</u>	<u>\$2,247</u>	<u>\$2,353</u>	<u>\$2,179</u>	<u>\$2,233</u>
* Fixed Charges					
Interest on Long-Term Debt	602	647	656	702	730
Amortization of Debt Discount, Premium and Expense	13	14	16	16	15
Interest Component on Lease Payment	28	28	29	28	31
Other Interest	14	36	67	33	19
Total Fixed Charges	<u>\$657</u>	<u>\$725</u>	<u>\$768</u>	<u>\$779</u>	<u>795</u>
Interest Coverage (Times)	<u>3.72</u>	<u>3.10</u>	<u>3.06</u>	<u>2.80</u>	<u>2.81</u>

**Consolidated Edison Company of New York, Inc**

General Inflation Factors  
Initial Filing  
GDP Deflator 2012=100  
Forecast Prepared November 2021

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Forecast				
											2021	2022	2023	2024	2025
Mar. 31	97.35	99.31	101.14	102.94	104.11	104.90	107.03	109.26	111.51	113.35	115.65	121.10	125.25	129.54	133.98
Jun. 30	97.99	99.71	101.43	103.53	104.68	105.64	107.37	110.23	112.15	112.86	117.41	121.80	125.97	130.29	134.75
Sep. 30	98.60	100.23	101.91	103.98	104.99	105.93	107.90	110.60	112.52	113.89	119.05	122.50	126.70	131.04	135.53
Dec. 31	98.71	100.74	102.52	104.15	104.98	106.49	108.67	111.18	112.98	114.44	120.30	123.20	127.42	131.79	136.30
<b>Average</b>	<b>98.16</b>	<b>100.0</b>	<b>101.7</b>	<b>103.6</b>	<b>104.7</b>	<b>105.7</b>	<b>107.7</b>	<b>110.3</b>	<b>112.3</b>	<b>113.6</b>	<b>118.1</b>	<b>122.2</b>	<b>126.3</b>	<b>130.7</b>	<b>135.1</b>
<b>Annual Average</b>															
Year-over-year % change	2.1%	1.9%	1.7%	1.9%	1.0%	1.0%	1.9%	2.4%	1.8%	1.2%	3.9%	3.4%	3.4%	3.4%	3.4%

Average 12 months Ended September 30, 2021	(Test Year)	116.6388
Average 12 months Ending December 31, 2023	(Forecast)	126.3346
Average 12 months Ending December 31, 2024	(Forecast)	130.6626
Average 12 months Ending December 31, 2025	(Forecast)	135.1388

Escalation rate for the 12 Months Ending 9/30/2021 to the 12 Months Ending 12/31/23 - Rate Year 1	<b>1.0831</b> <b>8.31%</b>
Rate Year 2 (increase over Rate Year 1)	<b>1.0343</b> <b>3.43%</b>
Rate Year 3 (increase over Rate Year 2)	<b>1.0343</b> <b>3.43%</b>

Notes: Actual GDP Deflator from BEA.  
Quarterly Forecasts for 2021 through 2022 from Blue Chip dated Nov 2021.  
Annual Forecasts for 2023 on are from 2022 Forecast in Blue Chip dated Nov 2021  
The quarterly values for 2023 on are extrapolated by applying the year-over-year rate to the prior year's corresponding quarter

**Consolidated Edison Company of New York, Inc**

Labor Escalation

Initial Filing

COMPUTATION OF LABOR FACTOR TO BRING  
THE TWELVE MONTHS ENDED SEPTEMBER 30, 2021 TO  
THE TWELVE MONTHS ENDED DECEMBER 31, 2023

	Management	Weekly No Progression	Weekly Progression
Average straight time at September 2021	\$12,139	\$1,817	\$1,817
Average straight time at December 2023	\$12,878	\$1,928	\$1,967
Percentage increase	6.09%	6.11%	8.26%

*Progression factor	56.82%
Blended weekly based on progression factor	7.32%

	Management	Weekly	Total
Total Pay for 12 months ended September 2021	\$734,197,771	\$913,174,000	\$1,647,371,771
Percentage of total pay between weekly and management	44.6%	55.4%	100.0%

Labor Factor for rate year ended December 2023 6.77%

Productivity factor for rate years:

From October 2021 to December 2021	0.25%
From January 2022 to December 2022	1.00%
From January 2023 to December 2023	0.99%
RY 1	2.24%

Total RY 1 labor factor with productivity: 4.53%

**Consolidated Edison Company of New York, Inc**

Labor Escalation

Initial Filing

COMPUTATION OF LABOR FACTOR TO BRING  
THE TWELVE MONTHS ENDED DECEMBER 31, 2023 TO  
THE TWELVE MONTHS ENDED DECEMBER 31, 2024

	Management	Weekly No Progression	Weekly Progression
Average straight time at December 2023	\$12,878	\$1,928	\$1,967
Average straight time at December 2024	\$13,265	\$1,986	\$2,042
Percentage increase	3.01%	3.01%	3.81%

*Progression factor	56.82%
Blended weekly based on progression factor	3.47%

	Management	Weekly	Total
Total Pay for 12 months ended September 2021	\$734,197,771	\$913,174,000	\$1,647,371,771
Percentage of total pay between weekly and management	44.6%	55.4%	100.0%

Labor Factor for rate year ended December 2024 3.26%

Total RY 2 labor factor with productivity: 2.26%



**Consolidated Edison Company of New York, Inc**  
Labor Escalation  
Initial Filing  
COMPUTATION OF LABOR FACTOR TO BRING  
THE TWELVE MONTHS ENDED DECEMBER 31, 2024 TO  
THE TWELVE MONTHS ENDED DECEMBER 31, 2025

	Management	Weekly No Progression	Weekly Progression
Average straight time at December 2024	\$13,265	\$1,986	\$2,042
Average straight time at December 2025	\$13,663	\$2,045	\$2,121
Percentage increase	3.00%	2.97%	3.87%
*Progression factor		56.82%	
Blended weekly based on progression factor		3.47%	
	Management	Weekly	Total
Total Pay for 12 months ended September 2021	\$734,197,771	\$913,174,000	\$1,647,371,771
Percentage of total pay between weekly and management	44.6%	55.4%	100.0%
Labor Factor for rate year ended December 2025	3.26%		
Total RY 3 labor factor with productivity:	2.26%		



**Consolidated Edison Company of New York, Inc**  
Initial Filing  
Adjustment Summary  
For The Twelve Months Ended December 31, 2023, 2024 and 2025  
(\$000's)

	For The Twelve Months Ending September 30, 2021	RY1		RY2	RY3
		Initial Normalization	Initial Adjustment	Initial Adjustment	Initial Adjustment
46 Ops - Production	(0)	-	-	-	-
47 Ops - Substation Operations (SSO)	-	-	-	-	-
48 Ops - System & Transmission Operations (STO)	-	-	-	-	-
49 Other Compensation (Long-Term Equity)	243	(117)	688	(4)	(5)
50 Outside Legal Services	147	-	-	-	-
51 Pension and OPEB Costs	11,525	26,147	(82,821)	6,336	(47,318)
52 RCA - Amort of MGP/Superfund	3,293	(3,293)	-	-	-
53 RCA - Amort. of Energy Efficiency Programs	5,212	(5,212)	-	-	-
54 Regional Gas Greenhouse Initiative (RGGI)	-	-	-	-	-
55 Regulatory Commission Expense - All Other	181	-	556	-	-
56 Regulatory Commission Expense - General and R&D	10,094	-	(502)	-	-
57 Rents - ERRP	-	-	-	-	-
58 Rents - General	132	-	-	-	-
59 Rents - Interdepartmental	4	-	-	-	-
60 Research & Development	4,476	(3,513)	500	-	(500)
61 Security	133	-	-	-	-
62 Storm Reserve	-	-	-	-	-
63 System Benefit Charge	274	-	-	-	-
64 Uncollectible Reserve - Customer	15,209	-	(2,315)	-	-
65 Uncollectible Reserve - Sundry	295	-	(41)	-	-
66 Worker's Comp NYS Assessment	241	-	62	-	-
67 All Other	15,076	(14,353)	-	-	-
68 Company Labor - Fringe Benefit Adjustment	-	-	3,832	132	36
69 Business Cost Optimization	-	(6,200)	-	-	-
<b>Total O&amp;M</b>	<b>865,651</b>	<b>(5,074)</b>	<b>428,865</b>	<b>(4,367)</b>	<b>(43,916)</b>
<b>D Depreciation</b>					
1 To adjust Depreciation - Proposed	311,411	-	135,627	41,873	33,157
2 To adjust Reserve Deficiency-Proposed	8,000	-	14,454	-	-
3 To adjust Depreciation -Current	311,411	-	88,067	37,964	28,728
4 To adjust Reserve Deficiency-Current	8,000	-	-	-	-
<b>E Taxes Other Than Income Taxes</b>					
<u>Property Taxes</u>					
1 New York City	317,693	-	132,340	73,535	81,045
2 Upstate & Westchester	57,588	-	2,293	1,048	1,066
3 Property Tax Over/ (Under) Collections	8,679	(8,679)	-	-	-
4 Payroll Taxes	10,110	-	3,136	488	438
5 Revenue Taxes	72,613	-	(870)	(340)	(208)
6 Sales and Use Tax	700	-	58	26	27
7 Other Taxes	324	-	27	12	12
	<b>467,707</b>	<b>(8,679)</b>	<b>136,984</b>	<b>74,769</b>	<b>82,380</b>

**Consolidated Edison Company of New York, Inc**

Summary of Planned Update

Schedule /Line No.	EOE	Witness
	<b>Sales Revenues</b>	Forecasting Panel
	<b>Rate Case Amortizations</b>	Accounting Panel
	<b>Depreciation</b>	Depreciation Panel/Accounting Panel
	<b>Taxes other than Income Taxes</b>	Property Tax Panel / Accounting Panel
	<b>Rate Base</b>	Various Panels
	<b>Operations and Maintenance Expenses</b>	
10	Company Labor - Customer Energy Solutions	Accounting Panel
20	Customer Energy Solutions	Accounting Panel
32	Information Technology	IT Panel
51	Pension and OPEB Costs	Accounting Panel
63	System Benefit Charge	Accounting Panel
69	Business Cost Optimization	

**Consolidated Edison Company of New York**

INDEX OF SCHEDULES

Estimated Net Plant and Capital Expenditures - Gas

<b><u>SCHEDULE</u></b>	<b><u>TITLE OF SCHEDULE</u></b>	<b><u>WITNESS</u></b>
1	Estimated Net Plant	Accounting Panel
2	Construction Work In Progress	"
3	Capital Forecast	"

Consolidated Edison Company of New York Inc.  
Average Gas Net Plant summary - Existing  
Average Twelve Months Ending December 31, 2023  
(\$000's)

Month Ended	Utility Plant				Utility Plant Reserves			Total Net Plant
	Gas Plant In Service	Common Utility Plant	Oracle Liability	Total	Gas Plant In Service	Common Utility Plant	Total	
December 31, 2022	\$ 12,152,643	\$ 703,134	\$ (2,055)	\$ 12,853,722	\$ (2,192,000)	\$ (233,398)	\$ (2,425,398)	\$ 10,428,325
January 31, 2023	12,239,196	704,037	(2,061)	12,941,172	(2,213,817)	(235,324)	(2,449,141)	10,492,031
February 28, 2023	12,322,056	704,869	(2,067)	13,024,857	(2,235,804)	(237,257)	(2,473,061)	10,551,796
March 31, 2023	12,437,998	708,562	(2,074)	13,144,487	(2,257,954)	(239,194)	(2,497,148)	10,647,339
April 30, 2023	12,521,916	709,476	(2,080)	13,229,312	(2,280,332)	(241,162)	(2,521,495)	10,707,817
May 31, 2023	12,601,208	710,446	(2,086)	13,309,568	(2,302,876)	(243,134)	(2,546,010)	10,763,557
June 30, 2023	12,684,590	711,601		13,396,191	(2,325,575)	(245,111)	(2,570,686)	10,825,504
July 31, 2023	12,764,485	715,175		13,479,659	(2,348,437)	(247,095)	(2,595,532)	10,884,127
August 31, 2023	12,847,036	716,187		13,563,222	(2,371,457)	(249,089)	(2,620,546)	10,942,677
September 30, 2023	12,934,721	717,199		13,651,920	(2,394,638)	(251,088)	(2,645,726)	11,006,194
October 31, 2023	13,026,858	718,301		13,745,159	(2,417,992)	(253,093)	(2,671,085)	11,074,074
November 30, 2023	13,110,745	727,367		13,838,112	(2,441,527)	(255,103)	(2,696,629)	11,141,483
December 31, 2023	13,231,758	848,763		14,080,521	(2,465,226)	(257,201)	(2,722,427)	11,358,094
Average Twelve Month Ended								
December 31, 2023	\$ 12,681,917	\$ 718,264	\$ (950)	\$ 13,399,232	\$ (2,326,585)	\$ (245,162)	\$ (2,571,748)	\$ 10,827,484

Consolidated Edison Company of New York Inc.  
Average Gas Net Plant summary - Proposed  
Average Twelve Months Ending December 31, 2023  
(\$000's)

Month Ended	Utility Plant				Utility Plant Reserves			Total Net Plant
	Gas Plant In Service	Common Utility Plant	Oracle Liability	Total	Gas Plant In Service	Common Utility Plant	Total	
December 31, 2022	\$ 12,152,643	\$ 703,134	\$ (2,055)	\$ 12,853,722	\$ (2,192,000)	\$ (233,398)	\$ (2,425,398)	\$ 10,428,325
January 31, 2023	12,239,196	704,037	(2,061)	12,941,172	(2,217,730)	(235,217)	(2,452,947)	10,488,225
February 28, 2023	12,322,056	704,869	(2,067)	13,024,857	(2,243,657)	(237,043)	(2,480,700)	10,544,157
March 31, 2023	12,437,998	708,562	(2,074)	13,144,487	(2,269,775)	(238,873)	(2,508,648)	10,635,839
April 30, 2023	12,521,916	709,476	(2,080)	13,229,312	(2,296,158)	(240,735)	(2,536,894)	10,692,418
May 31, 2023	12,601,208	710,446	(2,086)	13,309,568	(2,322,734)	(242,601)	(2,565,335)	10,744,232
June 30, 2023	12,684,590	711,601		13,396,191	(2,349,492)	(244,472)	(2,593,963)	10,802,227
July 31, 2023	12,764,485	715,175		13,479,659	(2,376,440)	(246,349)	(2,622,789)	10,856,871
August 31, 2023	12,847,036	716,187		13,563,222	(2,403,570)	(248,237)	(2,651,808)	10,911,415
September 30, 2023	12,934,721	717,199		13,651,920	(2,430,890)	(250,131)	(2,681,021)	10,970,900
October 31, 2023	13,026,858	718,301		13,745,159	(2,458,410)	(252,030)	(2,710,440)	11,034,719
November 30, 2023	13,110,745	727,367		13,838,112	(2,486,142)	(253,934)	(2,740,075)	11,098,036
December 31, 2023	13,231,758	848,763		14,080,521	(2,514,065)	(255,923)	(2,769,988)	11,310,533
Average Twelve Month Ended								
December 31, 2023	\$ 12,681,917	\$ 718,264	\$ (950)	\$ 13,399,232	\$ (2,350,669)	\$ (244,524)	\$ (2,595,193)	\$ 10,804,039

Consolidated Edison Company of New York Inc.  
Average Gas Net Plant summary - Existing  
Average Twelve Months Ending December 31, 2022  
(\$000's)

Month Ended	Utility Plant				Utility Plant Reserves			Total Net Plant
	Gas Plant In Service	Common Utility Plant	Oracle Liability	Total	Gas Plant In Service	Common Utility Plant	Total	
September 30, 2021	\$ 10,710,513	\$ 624,456	\$ (5,354)	\$ 11,329,615	\$ (1,892,987)	\$ (222,347)	\$ (2,115,334)	\$ 9,214,281
October 31, 2021	10,806,079	626,728	(5,371)	11,427,437	(1,910,262)	(224,635)	(2,134,897)	9,292,540
November 30, 2021	10,903,186	629,281	(5,387)	11,527,080	(1,927,769)	(226,932)	(2,154,701)	9,372,379
December 31, 2021	11,002,201	651,313	(5,404)	11,648,110	(1,945,509)	(229,240)	(2,174,748)	9,473,362
January 31, 2022	11,124,678	685,263	(5,421)	11,804,521	(1,963,051)	(236,701)	(2,199,752)	9,604,769
February 28, 2022	11,213,679	684,902	(5,437)	11,893,144	(1,982,961)	(236,498)	(2,219,459)	9,673,685
March 31, 2022	11,304,605	683,313	(5,454)	11,982,464	(2,003,047)	(236,278)	(2,239,325)	9,743,138
April 30, 2022	11,393,408	680,528	(5,471)	12,068,465	(2,023,314)	(236,038)	(2,259,352)	9,809,113
May 31, 2022	11,481,053	677,453	(5,487)	12,153,018	(2,043,758)	(235,769)	(2,279,528)	9,873,491
June 30, 2022	11,581,723	677,505	(2,016)	12,257,212	(2,064,377)	(235,473)	(2,299,849)	9,957,363
July 31, 2022	11,669,533	674,096	(2,023)	12,341,606	(2,085,196)	(235,181)	(2,320,377)	10,021,229
August 31, 2022	11,757,635	670,705	(2,029)	12,426,311	(2,106,189)	(234,861)	(2,341,050)	10,085,261
September 30, 2022	11,845,882	667,416	(2,036)	12,511,262	(2,127,358)	(234,511)	(2,361,869)	10,149,393
October 31, 2022	11,941,821	677,857	(2,042)	12,617,636	(2,148,703)	(234,133)	(2,382,836)	10,234,800
November 30, 2022	12,049,743	678,112	(2,048)	12,725,807	(2,170,244)	(233,761)	(2,404,005)	10,321,802
December 31, 2022	12,152,643	703,134	(2,055)	12,853,722	(2,192,000)	(233,398)	(2,425,398)	10,428,325
Average Twelve Month Ended								
December 31, 2022	\$ 11,578,432	\$ 677,865	\$ (3,599)	\$ 12,252,697	\$ (2,065,579)	\$ (235,044)	\$ (2,300,623)	\$ 9,952,074



Consolidated Edison Company of New York Inc.  
 Historical CWIP - Gas  
 Average Twelve Months Ending September 2021  
 (\$000's)

Month Ended	Interest Bearing	Non-Interest Bearing	Total
Sep-20	\$ 188,194	\$ 594,366	\$ 782,560
Oct-20	200,899	636,646	837,545
Nov-20	213,914	642,929	856,843
Dec-20	230,778	667,950	898,728
Jan-21	233,963	612,055	846,018
Feb-21	240,651	623,514	864,165
Mar-21	248,602	634,020	882,622
Apr-21	155,970	611,190	767,160
May-21	194,560	613,977	808,537
Jun-21	181,652	667,171	848,823
Jul-21	195,249	704,424	899,673
Aug-21	152,979	526,099	679,078
Sep-21	152,979	523,875	676,854
<hr/>			
Twelve Month Average			
September 2021	\$ 201,650	\$ 624,925	\$ 826,575

Consolidated Edison Company of New York Inc.  
Gas Capital Forecast  
Year 2022 to 2026  
(\$ in Millions)

		RY - 1	RY - 2	RY - 3	
	FY22	FY23	FY24	FY25	FY26
AX010 - AMI Meter	\$ 48	\$ 7	\$ -	\$ -	\$ -
AX020 - AMI-Capitalized Software	7	2	0	0	0
AX051 - Build And Yards	21	37	25	25	24
AX070 - Capitalized Software	51	82	91	63	36
AX080 - Communications	2	7	8	8	3
AX090 - Computers	1	4	4	5	4
AX230 - Lab Eq	0	1	1	1	1
AX271 - Lng	23	30	19	4	0
AX310 - Misc Eq	0	1	1	1	1
AX331 - Office Buildings	0	1	1	1	0
AX340 - Office Furniture	0	0	0	0	0
AX370 - Power Eq	1	2	1	1	1
AX410 - Shop Eq	0	0	0	0	0
AX480 - Stores Eq	0	0	0	0	0
AX491 - Trans and Dist	1,052	984	1,018	1,016	1,019
AX500 - Trans and Dist Inter	7	4	7	6	6
AX530 - Vehicles	6	9	10	13	6
<b>Total Gas</b>	<b>\$ 1,220</b>	<b>\$ 1,170</b>	<b>\$ 1,185</b>	<b>\$ 1,143</b>	<b>\$ 1,101</b>

**Consolidated Edison Company of New York, Inc**

## Index of Schedules

## Capital Structure/Cost of Capital

<b><u>SCHEDULE</u></b>	<b><u>TITLE OF SCHEDULE</u></b>	<b><u>WITNESS</u></b>
1	Capital Structure Actual at September 30, 2021	Accounting Panel
2	Rate of Return Required for the Rate Year - Forecast for December 31, 2023	"
3	Rate of Return Required for the Rate Year - Forecast for December 31, 2024	"
4	Rate of Return Required for the Rate Year - Forecast for December 31, 2025	"
5	Long-Term Debt - Actual at September 30, 2021	"
6	Long-Term Debt - Forecast for December 31, 2023	"
7	Long-Term Debt - Forecast for December 31, 2024	"
8	Long-Term Debt - Forecast for December 31, 2025	"

**Consolidated Edison Company of New York, Inc**  
Capital Structure and Rate of Return  
Actual Capital Structure As of September 30, 2021

	<u>Balance</u>	<u>Ratio</u>	<u>Cost Rate</u>	<u>Weighted Cost</u>
Long term Debt	17,304,900,000	51.17%	4.35%	2.23%
Customer Deposits	284,500,000	0.84%	0.05%	0.00%
Common Equity	<u>16,226,200,000</u>	<u>47.98%</u>	8.80%	<u>4.22%</u>
Total Capitalization	<u><u>\$ 33,815,600,000</u></u>	<u><u>100.00%</u></u>		<u><u>6.45%</u></u>

**Consolidated Edison Company of New York, Inc**  
Rate of Return Required for the Rate Year  
Average Capital Structure As of December 31, 2023

	<u>Average Balance</u>	<u>Calculated Ratio</u>	<u>Rate Making Ratio</u>	<u>Cost Rate</u>	<u>Weighted Cost</u>
Long term Debt	19,733,200,000	50.87%	49.11%	4.30%	2.10%
Customer Deposits	356,200,000	0.92%	0.89%	0.05%	0.00%
Common Equity	<u>18,699,900,000</u>	<u>48.21%</u>	<u>50.00%</u>	10.00%	<u>5.00%</u>
Total Capitalization	<u>\$ 38,789,300,000</u>	<u>100.00%</u>	<u>100.00%</u>		<u>7.10%</u>

**Consolidated Edison Company of New York, Inc**  
Rate of Return Required for the Rate Year  
Average Capital Structure As of December 31, 2024

	<u>Average Balance</u>	<u>Calculated Ratio</u>	<u>Rate Making Ratio</u>	<u>Cost Rate</u>	<u>Weighted Cost</u>
Long term Debt	20,879,100,000	50.49%	49.06%	4.32%	2.11%
Customer Deposits	398,600,000	0.96%	0.94%	0.05%	0.00%
Common Equity	<u>20,077,000,000</u>	<u>48.55%</u>	<u>50.00%</u>	10.00%	<u>5.00%</u>
Total Capitalization	<u>\$ 41,354,700,000</u>	<u>100.00%</u>	<u>100.00%</u>		<u>7.11%</u>

**Consolidated Edison Company of New York, Inc**  
Rate of Return Required for the Rate Year  
Average Capital Structure As of December 31, 2025

	<u>Average Balance</u>	<u>Calculated Ratio</u>	<u>Rate Making Ratio</u>	<u>Cost Rate</u>	<u>Weighted Cost</u>
Long term Debt	21,949,900,000	49.73%	49.00%	4.35%	2.12%
Customer Deposits	445,900,000	1.01%	1.00%	0.05%	0.00%
Common Equity	<u>21,744,000,000</u>	<u>49.26%</u>	<u>50.00%</u>	10.00%	<u>5.00%</u>
Total Capitalization	<u>\$ 44,139,800,000</u>	<u>100.00%</u>	<u>100.00%</u>		<u>7.12%</u>

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
LONG TERM DEBT  
Actual - Ended September 30, 2021

CECONY	Rate	Issue Date	Maturity Date	a Amount Outstanding	b Original Issue Amount	c Premium or Discount	d Expense of Issuance	e = b + c + d Net Proceeds	f = g / a Cost of Debt	g Effective Annual Cost	
Debtentures:											
2003	Series A	5.875%	4/7/03	04/01/33	175,000,000	175,000,000	(1,022,000)	(1,662,326)	172,315,674	5.93%	10,370,728
2003	Series C	5.100%	6/10/03	06/15/33	200,000,000	200,000,000	(336,000)	(1,866,135)	197,797,865	5.14%	10,273,404
2004	Series B	5.700%	2/9/04	02/01/34	200,000,000	200,000,000	(538,000)	(1,864,406)	197,597,594	5.74%	11,480,080
2005	Series A	5.300%	3/7/05	03/01/35	350,000,000	350,000,000	(1,193,500)	(3,541,534)	345,264,966	5.35%	18,707,834
2005	Series B	5.250%	6/20/05	07/01/35	125,000,000	125,000,000	(731,250)	(1,142,914)	123,125,836	5.30%	6,624,972
2006	Series A	5.850%	3/6/06	03/15/36	400,000,000	400,000,000	(60,000)	(3,616,500)	396,323,500	5.88%	23,522,550
2006	Series B	6.200%	6/13/06	06/15/36	400,000,000	400,000,000	(756,000)	(3,669,000)	395,575,000	6.24%	24,947,500
2006	Series E	5.700%	11/28/06	12/01/36	250,000,000	250,000,000	(712,500)	(2,262,500)	247,025,000	5.74%	14,349,167
2007	Series A	6.300%	8/23/07	08/15/37	525,000,000	525,000,000	(2,924,250)	(4,751,250)	517,324,500	6.35%	33,330,850
2008	Series B	6.750%	4/1/08	04/01/38	600,000,000	600,000,000	(1,758,000)	(5,449,750)	592,792,250	6.79%	40,740,258
2009	Series C	5.500%	12/2/09	12/01/39	600,000,000	600,000,000	(2,268,000)	(5,673,813)	592,058,187	5.54%	33,264,727
2010	Series B	5.700%	6/2/10	05/01/40	350,000,000	350,000,000	(1,701,000)	(3,306,369)	344,992,631	5.75%	20,116,912
2012	Series A	4.200%	3/13/12	03/15/42	400,000,000	400,000,000	(1,424,000)	(4,228,381)	394,347,619	4.25%	16,988,413
2013	Series A	3.950%	2/28/13	03/01/43	700,000,000	700,000,000	(4,872,000)	(6,866,027)	688,261,973	4.01%	28,041,268
2014	Series A	4.450%	3/6/14	03/15/44	850,000,000	850,000,000	(714,000)	(8,804,659)	840,481,341	4.49%	38,142,289
2014	Series B	3.300%	11/24/14	12/01/24	250,000,000	250,000,000	(867,500)	(2,042,196)	247,090,304	3.42%	8,540,970
2014	Series C	4.625%	11/24/14	12/01/54	750,000,000	750,000,000	(1,912,500)	(7,814,167)	740,273,333	4.66%	34,930,667
2015	Series A	4.500%	11/17/15	12/01/45	650,000,000	650,000,000	(650,000)	(6,906,434)	642,443,566	4.54%	29,501,881
2016	Series A	3.850%	6/17/16	06/15/46	550,000,000	550,000,000	(775,500)	(5,899,245)	543,325,255	3.89%	21,397,492
2016	Series B	2.900%	11/16/16	12/01/26	250,000,000	250,000,000	(1,017,500)	(2,112,299)	246,870,201	3.03%	7,562,980
2016	Series C	4.300%	11/16/16	12/01/56	500,000,000	500,000,000	(4,355,000)	(5,350,674)	490,294,326	4.35%	21,742,642
2017	Series A	3.875%	6/8/17	06/15/47	500,000,000	500,000,000	(1,850,000)	(5,417,927)	492,732,073	3.92%	19,617,264
2017	Series B	3.125%	11/16/17	11/15/27	350,000,000	350,000,000	(91,000)	(2,986,898)	346,922,102	3.21%	11,245,290
2017	Series C	4.000%	11/15/17	11/15/57	350,000,000	350,000,000	(1,386,000)	(3,774,237)	344,839,763	4.04%	14,129,006
2018	Series A	3.800%	5/10/18	05/15/28	300,000,000	300,000,000	(51,000)	(2,548,344)	297,400,656	3.89%	11,659,934
2018	Series B	4.500%	5/10/18	05/15/58	700,000,000	700,000,000	(3,227,000)	(7,515,512)	689,257,488	4.54%	31,768,563
2018	Series C	3mL + 0.40%	6/26/18	06/25/21	480,000,000	640,000,000	0	(3,554,657)	636,445,343	0.79%	3,768,664
2018	Series D	4.0000%	11/30/18	11/01/28	500,000,000	500,000,000	(370,000)	(4,250,155)	495,379,845	4.09%	20,462,016
2018	Series E	4.6500%	11/30/18	11/01/48	600,000,000	600,000,000	(2,310,000)	(6,449,960)	591,240,040	4.70%	28,191,999
2019	Series A	4.125%	5/7/19	05/15/49	700,000,000	700,000,000	(245,000)	(7,654,480)	692,100,520	4.16%	29,138,316
2019	Series B	3.700%	11/8/19	11/01/49	600,000,000	600,000,000	(5,334,000)	(6,644,469)	588,021,531	3.77%	22,599,282
2020	Series A	3.350%	3/31/20	04/01/30	600,000,000	600,000,000	(1,368,000)	(5,240,323)	593,391,677	3.46%	20,760,832
2020	Series B	3.950%	3/31/20	04/01/50	1,000,000,000	1,000,000,000	(6,620,000)	(10,916,951)	982,463,049	4.01%	40,084,565
2020	Series C	3.000%	9/13/20	12/01/60	600,000,000	600,000,000	(3,612,000)	(6,612,593)	589,775,407	3.04%	18,255,615
2021	Series A	2.400%	6/8/21	06/15/31	250,000,000	750,000,000	(1,860,000)	(6,496,752)	741,643,248	2.51%	6,278,558
2021	Series B	3.600%	6/8/21	06/15/61	250,000,000	750,000,000	(3,007,500)	(8,184,126)	738,808,374	3.64%	9,093,264
					<b>16,855,000,000</b>	<b>18,015,000,000</b>	<b>(61,920,000)</b>	<b>(177,077,963)</b>	<b>17,776,002,037</b>	<b>4.40%</b>	<b>741,630,751</b>
Tax Exempt Debt Issue through New York State											
2004	Series C	VAR	11/5/04	11/01/39	99,000,000	99,000,000	-	(1,834,951)	97,165,049	1.07%	1,056,669
2005	Series A	VAR	5/19/05	05/01/39	126,300,000	126,300,000	-	(1,842,329)	124,457,671	1.02%	1,291,967
2010	Series A	VAR	11/9/10	06/01/36	224,600,000	224,600,000	-	(4,906,341)	219,693,659	1.09%	2,443,800
					<b>449,900,000</b>	<b>449,900,000</b>	<b>-</b>	<b>(8,583,622)</b>	<b>441,316,378</b>	<b>1.07%</b>	<b>4,792,437</b>
Subtotals					<b>17,304,900,000</b>	<b>18,464,900,000</b>	<b>(61,920,000)</b>	<b>(185,661,585)</b>	<b>18,217,318,415</b>	<b>4.31%</b>	<b>746,423,187</b>
Redemption of Preferred Stock										996,442	
Unamortized Loss on Recquired Debt Expense										5,461,177	
<b>Total CECONY</b>					<b>\$ 17,304,900,000</b>				<b>4.35%</b>	<b>\$ 752,880,806</b>	

Note:

\* Outstanding debt balances and annual costs are prorated for the number of months outstanding during the 12-month period.



CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
LONG TERM DEBT  
Forecast - Rate Year Ended December 31, 2023

CECONY	Rate	Issue Date	Maturity Date	a Amount Outstanding	b Original Issue Amount	c Premium or Discount	d Expense of Issuance	e = b + c + d Net Proceeds	f = g / a Cost of Debt	g Effective Annual Cost	
Debtentures:											
2003	Series A	5.875%	4/7/03	04/01/33	175,000,000	175,000,000	(1,022,000)	(1,662,326)	172,315,674	5.93%	10,370,728
2003	Series C	5.100%	6/10/03	06/15/33	200,000,000	200,000,000	(336,000)	(1,866,135)	197,797,865	5.14%	10,273,404
2004	Series B	5.700%	2/9/04	02/01/34	200,000,000	200,000,000	(538,000)	(1,864,406)	197,597,594	5.74%	11,480,080
2005	Series A	5.300%	3/7/05	03/01/35	350,000,000	350,000,000	(1,193,500)	(3,541,534)	345,264,966	5.35%	18,707,834
2005	Series B	5.250%	6/20/05	07/01/35	125,000,000	125,000,000	(731,250)	(1,142,914)	123,125,836	5.30%	6,624,972
2006	Series A	5.850%	3/6/06	03/15/36	400,000,000	400,000,000	(60,000)	(3,616,500)	396,323,500	5.88%	23,522,550
2006	Series B	6.200%	6/13/06	06/15/36	400,000,000	400,000,000	(756,000)	(3,669,000)	395,575,000	6.24%	24,947,500
2006	Series E	5.700%	11/28/06	12/01/36	250,000,000	250,000,000	(712,500)	(2,262,500)	247,025,000	5.74%	14,349,167
2007	Series A	6.300%	8/23/07	08/15/37	525,000,000	525,000,000	(2,924,250)	(4,751,250)	517,324,500	6.35%	33,330,850
2008	Series B	6.750%	4/1/08	04/01/38	600,000,000	600,000,000	(1,758,000)	(5,449,750)	592,792,250	6.79%	40,740,258
2009	Series C	5.500%	12/2/09	12/01/39	600,000,000	600,000,000	(2,268,000)	(5,673,813)	592,058,187	5.54%	33,264,727
2010	Series B	5.700%	6/2/10	05/01/40	350,000,000	350,000,000	(1,701,000)	(3,306,369)	344,992,631	5.75%	20,116,912
2012	Series A	4.200%	3/13/12	03/15/42	400,000,000	400,000,000	(1,424,000)	(4,228,381)	394,347,619	4.25%	16,988,413
2013	Series A	3.950%	2/28/13	03/01/43	700,000,000	700,000,000	(4,872,000)	(6,866,027)	688,261,973	4.01%	28,041,268
2014	Series A	4.450%	3/6/14	03/15/44	850,000,000	850,000,000	(714,000)	(8,804,659)	840,481,341	4.49%	38,142,289
2014	Series B	3.300%	11/24/14	12/01/24	250,000,000	250,000,000	(867,500)	(2,042,196)	247,090,304	3.42%	8,540,970
2014	Series C	4.625%	11/24/14	12/01/54	750,000,000	750,000,000	(1,912,500)	(7,814,167)	740,273,333	4.66%	34,930,667
2015	Series A	4.500%	11/17/15	12/01/45	650,000,000	650,000,000	(650,000)	(6,906,434)	642,443,566	4.54%	29,501,881
2016	Series A	3.850%	6/17/16	06/15/46	550,000,000	550,000,000	(775,500)	(5,899,245)	543,325,255	3.89%	21,397,492
2016	Series B	2.900%	11/16/16	12/01/26	250,000,000	250,000,000	(1,017,500)	(2,112,299)	246,870,201	3.03%	7,562,980
2016	Series C	4.300%	11/16/16	12/01/56	500,000,000	500,000,000	(4,355,000)	(5,350,674)	490,294,326	4.35%	21,742,642
2017	Series A	3.875%	6/8/17	06/15/47	500,000,000	500,000,000	(1,850,000)	(5,417,927)	492,732,073	3.92%	19,617,264
2017	Series B	3.125%	11/16/17	11/15/27	350,000,000	350,000,000	(91,000)	(2,986,898)	346,922,102	3.21%	11,245,290
2017	Series C	4.000%	11/15/17	11/15/57	350,000,000	350,000,000	(1,386,000)	(3,774,237)	344,839,763	4.04%	14,129,006
2018	Series A	3.800%	5/10/18	05/15/28	300,000,000	300,000,000	(51,000)	(2,548,344)	297,400,656	3.89%	11,659,934
2018	Series B	4.500%	5/10/18	05/15/58	700,000,000	700,000,000	(3,227,000)	(7,515,512)	689,257,488	4.54%	31,768,563
2018	Series D	4.0000%	11/30/18	11/01/28	500,000,000	500,000,000	(370,000)	(4,250,155)	495,379,845	4.09%	20,462,016
2018	Series E	4.6500%	11/30/18	11/01/48	600,000,000	600,000,000	(2,310,000)	(6,449,960)	591,240,040	4.70%	28,191,999
2019	Series A	4.125%	5/7/19	05/15/49	700,000,000	700,000,000	(245,000)	(7,654,480)	692,100,520	4.16%	29,138,316
2019	Series B	3.700%	11/8/19	11/01/49	600,000,000	600,000,000	(5,334,000)	(6,644,469)	588,021,531	3.77%	22,599,282
2020	Series A	3.350%	3/31/20	04/01/30	600,000,000	600,000,000	(1,368,000)	(5,240,323)	593,391,677	3.46%	20,760,832
2020	Series B	3.950%	3/31/20	04/01/50	1,000,000,000	1,000,000,000	(6,620,000)	(10,916,951)	982,463,049	4.01%	40,084,565
2020	Series C	3.000%	9/13/20	12/01/60	600,000,000	600,000,000	(3,612,000)	(6,612,593)	589,775,407	3.04%	18,255,615
2021	Series A	2.400%	6/8/21	06/15/31	750,000,000	750,000,000	(1,860,000)	(6,496,752)	741,643,248	2.51%	18,835,675
2021	Series B	3.600%	6/8/21	06/15/61	750,000,000	750,000,000	(3,007,500)	(8,184,126)	738,808,374	3.64%	27,279,791
2021	Series A (1)	2.400%	12/2/21	06/15/31	150,000,000	150,000,000	112,500	(1,325,000)	148,787,500	2.48%	3,721,250
2021	Series C	3.200%	12/2/21	12/01/51	600,000,000	600,000,000	0	(5,310,000)	594,690,000	3.23%	19,377,000

Tax Exempt Debt Issue through New York State

2004	Series C	VAR	11/5/04	11/01/39	99,000,000	99,000,000	-	(1,834,951)	97,165,049	1.38%	1,363,569
2005	Series A	VAR	5/19/05	05/01/39	126,300,000	126,300,000	-	(1,842,329)	124,457,671	1.36%	1,721,387
2010	Series A	VAR	11/9/10	06/01/36	224,600,000	224,600,000	-	(4,906,341)	219,693,659	1.40%	3,140,060

449,900,000	449,900,000	-	(8,583,622)	441,316,378	1.38%	6,225,017
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Subtotals	19,733,233,333	20,299,900,000	(66,982,500)	(207,716,928)	20,025,200,572	4.28%	844,192,053
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Redemption of Preferred Stock							996,442
Unamortized Loss on Reacquired Debt Expense							4,222,313

Total CECONY Redacted 4.30% \$ Redacted

Note:  
\* Outstanding debt balances and annual costs are prorated for the number of months outstanding during the 12-month period.

CONSOLIDATED EDISON COMPANY OF NEW YORK, NC.  
LONG TERM DEBT  
Forecast - Rate Year Ended December 31, 2024

CECONY		Rate	Issue Date	Maturity Date	a Amount Outstanding	b Original Issue Amount	c Premium or Discount	d Expense of Issuance	e = b + c + d Net Proceeds	f = g / a Cost of Debt	g Effective Annual Cost
Debtentures:											
2003	Series A	5.875%	4/7/03	04/01/33	175,000,000	175,000,000	(1,022,000)	(1,662,326)	172,315,674	5.93%	10,370,728
2003	Series C	5.100%	6/10/03	06/15/33	200,000,000	200,000,000	(336,000)	(1,866,135)	197,797,865	5.14%	10,273,404
2004	Series B	5.700%	2/9/04	02/01/34	200,000,000	200,000,000	(538,000)	(1,864,406)	197,597,594	5.74%	11,480,080
2005	Series A	5.300%	3/7/05	03/01/35	350,000,000	350,000,000	(1,193,500)	(3,541,534)	345,264,966	5.35%	18,707,834
2005	Series B	5.250%	6/20/05	07/01/35	125,000,000	125,000,000	(731,250)	(1,142,914)	123,125,836	5.30%	6,624,972
2006	Series A	5.850%	3/6/06	03/15/36	400,000,000	400,000,000	(60,000)	(3,616,500)	396,323,500	5.88%	23,522,550
2006	Series B	6.200%	6/13/06	06/15/36	400,000,000	400,000,000	(756,000)	(3,669,000)	395,575,000	6.24%	24,947,500
2006	Series E	5.700%	11/28/06	12/01/36	250,000,000	250,000,000	(712,500)	(2,262,500)	247,025,000	5.74%	14,349,167
2007	Series A	6.300%	8/23/07	08/15/37	525,000,000	525,000,000	(2,924,250)	(4,751,250)	517,324,500	6.35%	33,330,850
2008	Series B	6.750%	4/1/08	04/01/38	600,000,000	600,000,000	(1,758,000)	(5,449,750)	592,792,250	6.79%	40,740,258
2009	Series C	5.500%	12/2/09	12/01/39	600,000,000	600,000,000	(2,268,000)	(5,673,813)	592,058,187	5.54%	33,264,727
2010	Series B	5.700%	6/2/10	05/01/40	350,000,000	350,000,000	(1,701,000)	(3,306,369)	344,992,631	5.75%	20,116,912
2012	Series A	4.200%	3/13/12	03/15/42	400,000,000	400,000,000	(1,424,000)	(4,228,381)	394,347,619	4.25%	16,988,413
2013	Series A	3.950%	2/28/13	03/01/43	700,000,000	700,000,000	(4,872,000)	(6,866,027)	688,261,973	4.01%	28,041,268
2014	Series A	4.450%	3/6/14	03/15/44	850,000,000	850,000,000	(714,000)	(8,804,659)	840,481,341	4.49%	38,142,289
* 2014	Series B	3.300%	11/24/14	12/01/24	229,166,667	250,000,000	(867,500)	(2,042,196)	247,090,304	3.42%	7,829,222
2014	Series C	4.625%	11/24/14	12/01/54	750,000,000	750,000,000	(1,912,500)	(7,814,167)	740,273,333	4.66%	34,930,667
2015	Series A	4.500%	11/17/15	12/01/45	650,000,000	650,000,000	(650,000)	(6,906,434)	642,443,566	4.54%	29,501,881
2016	Series A	3.850%	6/17/16	06/15/46	550,000,000	550,000,000	(775,500)	(5,899,245)	543,325,255	3.89%	21,397,492
2016	Series B	2.900%	11/16/16	12/01/26	250,000,000	250,000,000	(1,017,500)	(2,112,299)	246,870,201	3.03%	7,562,980
2016	Series C	4.300%	11/16/16	12/01/56	500,000,000	500,000,000	(4,355,000)	(5,350,674)	490,294,326	4.35%	21,742,642
2017	Series A	3.875%	6/8/17	06/15/47	500,000,000	500,000,000	(1,850,000)	(5,417,927)	492,732,073	3.92%	19,617,264
2017	Series B	3.125%	11/16/17	11/15/27	350,000,000	350,000,000	(91,000)	(2,986,898)	346,922,102	3.21%	11,245,290
2017	Series C	4.000%	11/15/17	11/15/57	350,000,000	350,000,000	(1,386,000)	(3,774,237)	344,839,763	4.04%	14,129,006
2018	Series A	3.800%	5/10/18	05/15/28	300,000,000	300,000,000	(51,000)	(2,548,344)	297,400,656	3.89%	11,659,934
2018	Series B	4.500%	5/10/18	05/15/58	700,000,000	700,000,000	(3,227,000)	(7,515,512)	689,257,488	4.54%	31,768,563
2018	Series D	4.0000%	11/30/18	11/01/28	500,000,000	500,000,000	(370,000)	(4,250,155)	495,379,845	4.09%	20,462,016
2018	Series E	4.6500%	11/30/18	11/01/48	600,000,000	600,000,000	(2,310,000)	(6,449,960)	591,240,040	4.70%	28,191,999
2019	Series A	4.125%	5/7/19	05/15/49	700,000,000	700,000,000	(245,000)	(7,654,480)	692,100,520	4.16%	29,138,316
2019	Series B	3.700%	11/8/19	11/01/49	600,000,000	600,000,000	(5,334,000)	(6,644,469)	588,021,531	3.77%	22,599,282
2020	Series A	3.350%	3/31/20	04/01/30	600,000,000	600,000,000	(1,368,000)	(5,240,323)	593,391,677	3.46%	20,760,832
2020	Series B	3.950%	3/31/20	04/01/50	1,000,000,000	1,000,000,000	(6,620,000)	(10,916,951)	982,463,049	4.01%	40,084,565
2020	Series C	3.000%	9/13/20	12/01/60	600,000,000	600,000,000	(3,612,000)	(6,612,593)	589,775,407	3.04%	18,255,615
2021	Series A	2.400%	6/8/21	06/15/31	750,000,000	750,000,000	(1,860,000)	(6,496,752)	741,643,248	2.51%	18,835,675
2021	Series B	3.600%	6/8/21	06/15/61	750,000,000	750,000,000	(3,007,500)	(8,184,126)	738,808,374	3.64%	27,279,791
2021	Series A (1)	2.400%	12/2/21	06/15/31	150,000,000	150,000,000	112,500	(1,325,000)	148,787,500	2.48%	3,721,250
2021	Series C	3.200%	12/2/21	12/01/51	600,000,000	600,000,000	0	(5,310,000)	594,690,000	3.23%	19,377,000
Tax Exempt Debt Issue through New York State											
2004	Series C	VAR	11/5/04	11/01/39	99,000,000	99,000,000	-	(1,834,951)	97,165,049	1.84%	1,818,969
2005	Series A	VAR	5/19/05	05/01/39	126,300,000	126,300,000	-	(1,842,329)	124,457,671	1.82%	2,302,367
2010	Series A	VAR	11/9/10	06/01/36	224,600,000	224,600,000	-	(4,906,341)	219,693,659	1.86%	4,173,220
					449,900,000	449,900,000	-	(8,583,622)	441,316,378	1.84%	8,294,557
Subtotals											
					Redacted						
Redemption of Preferred Stock											996,442
Unamortized Loss on Reacquired Debt Expense											4,222,313
Total CECONY											4.32% \$ Redacted

Note

\* Outstanding debt balances and annual costs are prorated for the number of months outstanding during the 12-month period.

CONSOL DATED EDISON COMPANY OF NEW YORK, INC.  
LONG TERM DEBT  
Forecast - Rate Year Ended December 31, 2025

CECONY	Rate	Issue Date	Maturity Date	a Amount Outstanding	b Original Issue Amount	c Premium or Discount	d Expense of Issuance	e = b + c + d Net Proceeds	f = g / a Cost of Debt	g Effective Annual Cost	
Debtentures:											
2003	Series A	5 875%	4/7/03	04/01/33	175,000,000	175,000,000	(1,022,000)	(1,662,326)	172,315,674	5.93%	10,370,728
2003	Series C	5.100%	6/10/03	06/15/33	200,000,000	200,000,000	(336,000)	(1,866,135)	197,797,865	5.14%	10,273,404
2004	Series B	5.700%	2/9/04	02/01/34	200,000,000	200,000,000	(538,000)	(1,864,406)	197,597,594	5.74%	11,480,080
2005	Series A	5.300%	3/7/05	03/01/35	350,000,000	350,000,000	(1,193,500)	(3,541,534)	345,264,966	5.35%	18,707,834
2005	Series B	5.250%	6/20/05	07/01/35	125,000,000	125,000,000	(731,250)	(1,142,914)	123,125,836	5.30%	6,624,972
2006	Series A	5.850%	3/6/06	03/15/36	400,000,000	400,000,000	(60,000)	(3,616,500)	396,323,500	5.88%	23,522,550
2006	Series B	6.200%	6/13/06	06/15/36	400,000,000	400,000,000	(756,000)	(3,669,000)	395,575,000	6.24%	24,947,500
2006	Series E	5.700%	11/28/06	12/01/36	250,000,000	250,000,000	(712,500)	(2,262,500)	247,025,000	5.74%	14,349,167
2007	Series A	6.300%	8/23/07	08/15/37	525,000,000	525,000,000	(2,924,250)	(4,751,250)	517,324,500	6.35%	33,330,850
2008	Series B	6.750%	4/1/08	04/01/38	600,000,000	600,000,000	(1,758,000)	(5,449,750)	592,792,250	6.79%	40,740,258
2009	Series C	5.500%	12/2/09	12/01/39	600,000,000	600,000,000	(2,268,000)	(5,673,813)	592,058,187	5.54%	33,264,727
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2016	Series A	3.850%	6/17/16	06/15/46	550,000,000	550,000,000	(775,500)	(5,899,245)	543,325,255	3.89%	21,397,492
2016	Series B	2.900%	11/16/16	12/01/26	250,000,000	250,000,000	(1,017,500)	(2,112,299)	246,870,201	3.03%	7,562,980
2016	Series C	4.300%	11/16/16	12/01/56	500,000,000	500,000,000	(4,355,000)	(5,350,674)	490,294,326	4.35%	21,742,642
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2018	Series A	3.800%	5/10/18	05/15/28	300,000,000	300,000,000	(51,000)	(2,548,344)	297,400,656	3.89%	11,659,934
2018	Series B	4.500%	5/10/18	05/15/58	700,000,000	700,000,000	(3,227,000)	(7,515,512)	689,257,488	4.54%	31,768,563
2018	Series D	4.0000%	11/30/18	11/01/28	500,000,000	500,000,000	(370,000)	(4,250,155)	495,379,845	4.09%	20,462,016
2018	Series E	4.6500%	11/30/18	11/01/48	600,000,000	600,000,000	(2,310,000)	(6,449,960)	591,240,040	4.70%	28,191,999
2019	Series A	4.125%	5/7/19	05/15/49	700,000,000	700,000,000	(245,000)	(7,654,480)	692,100,520	4.16%	29,138,316
2019	Series B	3.700%	11/8/19	11/01/49	600,000,000	600,000,000	(5,334,000)	(6,644,469)	588,021,531	3.77%	22,599,282
2020	Series A	3.350%	3/31/20	04/01/30	600,000,000	600,000,000	(1,368,000)	(5,240,323)	593,391,677	3.46%	20,760,832
2020	Series B	3.950%	3/31/20	04/01/50	1,000,000,000	1,000,000,000	(6,620,000)	(10,916,951)	982,463,049	4.01%	40,084,565
2020	Series C	3.000%	9/13/20	12/01/60	600,000,000	600,000,000	(3,612,000)	(6,612,593)	589,775,407	3.04%	18,255,615
2021	Series A	2.400%	6/8/21	06/15/31	750,000,000	750,000,000	(1,860,000)	(6,496,752)	741,643,248	2.51%	18,835,675
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2021	Series A (1)	2.400%	12/2/21	06/15/31	150,000,000	150,000,000	112,500	(1,325,000)	148,787,500	2.48%	3,721,250
2021	Series C	3.200%	12/2/21	12/01/51	600,000,000	600,000,000	0	(5,310,000)	594,690,000	3.23%	19,377,000
Tax Exempt Debt Issue through New York State											
2004	Series C	VAR	11/5/04	11/01/39	99,000,000	99,000,000	-	(1,834,951)	97,165,049	2.16%	2,135,769
2005	Series A	VAR	5/19/05	05/01/39	126,300,000	126,300,000	-	(1,842,329)	124,457,671	2.14%	2,706,527
2010	Series A	VAR	11/9/10	06/01/36	224,600,000	224,600,000	-	(4,906,341)	219,693,659	2.18%	4,891,940
Subtotals											
				21 949 900 000	22 524 900 000	(73 540 000)	(232 899 733)	22 218 460 267	4.33%	949 536 414	
Redemption of Preferred Stock										996,442	
Unamortized Loss on Reacquired Debt Expense										4,222,313	
Total CECONY										4.35% \$	

Note

\* Outstanding debt balances and annual costs are prorated for the number of months outstanding during the 12-month period.

**EXHIBIT \_\_\_ (GRP-1)**

**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.**

**EMBEDDED COST-OF-SERVICE STUDY – GAS DEPARTMENT  
YEAR 2019**

**Consolidated Edison Company of New York, Inc.**

**Index Listing for EXHIBIT \_\_ (GRP-1)**

1. Exhibit \_\_ (GRP-1), Schedule 1 – Embedded Cost-of-Service Study – Gas Department, Year 2019, Rates In Effect January 1, 2022
2. Exhibit \_\_ (GRP-1), Schedule 2 – Merchant Function
3. Exhibit \_\_ (GRP-1), Schedule 3 – Billing & Payment Processing

**EXHIBIT \_\_ (GRP-1)**  
**SCHEDULE 1**

**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.**

**EMBEDDED COST-OF-SERVICE STUDY - GAS DEPARTMENT**  
**YEAR 2019**  
**RATES IN EFFECT**  
**JANUARY 1, 2022**

**EXPLANATION OF DATA SOURCES AND COSTING METHODS**

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**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
EMBEDDED COST OF SERVICE STUDY  
GAS DEPARTMENT  
YEAR 2019**

**I - SUMMARY**

This Embedded Cost of Service (ECOS) study allocates Consolidated Edison's Gas Department costs among service classifications (SC), **SC 1-Residential and Religious, SC 2- Rate I, SC Rate II** and **SC 3-Residential and Religious Heating** based on an analysis of the rate base, including book cost of plant, and the operating expenses, including operation and maintenance for the Gas Department for the calendar year 2017. The ECOS study methodology is based on a two-step procedure. First, the costs are functionalized and classified to **Operating Functions**, as shown on **Tables 2** through **5**. Along with the traditional functions, the study also includes fully unbundled competitive functions, i.e., Merchant Function and Billing and Payment Processing. The costs within each function are then allocated to **Customer Classes** based on appropriate physical quantities, such as therms of gas sold, or other appropriate bases of allocation, such as book cost of meters and number of customer bills. The bases of cost allocation are shown in detail on **Table 7** as **Allocation Factors** and are further described below. The details of allocations by customer class are shown on **Tables 2** through **5**. The results of the cost allocation study are combined with class revenues to yield the Rate of Return Statement by class shown on **Table 1**. The monthly average **Customer Costs** by class are shown on **Table 6**. The costs allocated in this study were adjusted for the following items:

(1) The revenues, which are weather normalized, reflect current rates, i.e., rates effective January 1, 2022. This adjustment is needed to ensure that the study reflects current rate levels and shows



the correct relationship among the service classifications; (2) the cost of gas and the corresponding gas revenues have been excluded from the study; (3) revenues and expenses associated with the uncollectible component of the MFC and the System Benefits Charge have also been excluded from the study; (4) revenues and gas costs are presented as if there are no interruptible customers; (5) firm transportation customers have been priced as sales customers and included in their appropriate service classifications and (6) for purposes of unbundling, total revenues were used to allocate a portion of customer care related expenses, customer service related expenses and information technology related expenses to competitive functions as determined by the Public Service Commission and explained further.

## **II - DESCRIPTION OF OPERATING FUNCTIONS – TABLES 2, 3 and 5**

The operating functions are shown on **Table 2, Rate Base, Table 3, Operating Expenses,** and **Table 5, Income Taxes** (State and Federal) as described below. Where applicable, these functions include associated operating expenses, administrative & general expenses, state income taxes (SIT) and federal income taxes (FIT).

### **Lines 1 through 3, Gas Supply**

The Gas Supply function is divided into the following sub-functions:

#### **Line 1, Gas Supply-Demand**

All costs for the Gas Supply-Demand function and corresponding revenues have been excluded from this study.

#### **Line 2, Gas Supply-Commodity**

All costs for the Gas Supply-Commodity function and corresponding revenues have been excluded

from this study.

### **Line 3, Merchant Function**

The Merchant Function includes the costs associated with energy procurement, which includes purchasing, scheduling, billing, market analysis, transportation and planning. Also included is a revenue based allocation of credit & collection, theft, IR, and education & promotional advertising. This function is allocated to classes based on a hybrid allocator. The procurement costs are allocated 100% on annual sales (therms), while the revenue based adders of credit & collection, theft, IT and education & promotional advertising are allocated 25% on annual sales and 75% on number of customers. The merchant function is not applicable to transportation customers.

### **Line 4, Storage**

The Storage function includes all storage related plant costs and O&M expenses. This function is allocated to service classes based on their maximum 24-hour use on a zero degree day.

### **Line 5, Transmission**

The Transmission function represents Con Edison's portion of the New York Facilities System as stipulated in the N.Y. Facilities Agreement. This system consists of compressor station equipment, a portion of telemetric equipment, tunnels and high-pressure mains. This function is allocated to service classes based on their maximum 24-hour use on a zero degree day.

### **Lines 6 through 10, Distribution**

The Distribution function is divided into the following sub-functions:

#### **Line 6, Distribution-Demand**

The Distribution Demand ("Demand Component") consists of the balance of the

distribution mains system not allocated to the customer component, and represents fixed costs related primarily to mains. It also includes fixed costs related to distribution pressure governors and regulating equipment, used in distributing gas from the New York Facilities System to the customer. These costs are allocated to the classes in proportion to their maximum one-hour non-coincident use on a zero degree day.

**Line 7, Distribution-Customer**

The Distribution Customer (“Customer Component”) consists of the distribution mains system that would be required to connect gas customers with a minimum predominant size pipe, regardless of their demand for gas. It is apportioned to the classes based on a study of the number of service connections for each class and the associated relationship of the length of mains for residential and commercial customers.

**Line 8, Services**

The Services function consists of the fixed costs of connecting customers to the distribution system. These costs are considered to be customer-related costs and have been apportioned, by class, based on the class allocation of the book cost of services. This allocation was based on a study of services costs in each customer class.

**Line 9, Meters & House Regulators**

The Meters & House Regulators function consists of the costs of meters, including house regulators and installations. These customer costs have been allocated to classes based on the book cost of the meters, house regulators and installations. The book cost allocation was based on a detailed study of customers’ meters for Con Edison’s gas firm service classifications.

**Line 10, Customer Installation**

The Customer Installation function consists of the costs of investigating gas leaks and inspecting and maintaining installations. These costs have been allocated to all classes using a hybrid allocator. 50% of the costs in the customer installation function are allocated to services class based a study of the number of service connections for each class and the associated relationship of the length of mains for residential and commercial customers, with the remaining 50% apportioned among all classes on the basis of the total number of meters in service.

**Line 11, Payment Processing**

The Payment Processing function consists of the customer accounting expense of accepting customer payments including direct costs. It also includes allocations of call center and service center operations and information resources, all based on a detailed study of those activities. Also included is a revenue based allocation of credit & collection, theft, education & promotional advertising and uncollectibles. Payment Processing, a direct customer cost, includes an allocation of other operating expense, A&G expenses, common plant, payroll taxes, state and federal income taxes. This function is allocated to classes based on the number of bills.

**Line 12, Printing & Mailing a Bill**

The Printing & Mailing a Bill function consists of the customer accounting expense of billing customers, including direct costs as well as allocations for call center and service center operations and information resources, all based on a detailed study of those activities. Also included is a revenue based allocation of credit & collection, theft, education & promotional advertising and uncollectibles. Printing & Mailing a Bill, a direct customer cost, includes an allocation of other

operating expenses, A&G expenses, common plant, payroll taxes, state and federal income taxes. This function is allocated to classes based on the number of bills.

**Line 13, Customer Accounting**

The Customer Accounting & Collection function consists of direct customer costs for meter reading and customer records and collection expenses including other applicable operating expenses, A&G expenses, common plant, payroll taxes, state and federal income taxes. The function was reduced for the costs associated with the Payment Processing and Printing & Mailing a Bill activities, as these costs were assigned directly to their respective functions. Also, a portion of costs related to the credit & collection/theft functions were reallocated to competitive functions based on a revenue allocation. The remaining costs were assigned to customer classes based on a composite allocation factor consisting of the number of meters and number of customers.

**Line 14, Customer Service**

The Customer Service function consists of customer assistance expenses, informational advertising expenses, miscellaneous customer service expense, demonstrating and selling expenses, promotional advertising expense and miscellaneous sales promotion expenses. A portion of educational customer advertising costs were allocated to competitive functions based on a revenue allocation. The remaining costs were allocated to the customer classes based on the number of customers.

**Line 15, Uncollectibles**

The Uncollectibles function includes the operation and maintenance expenses for uncollectibles accounts. Uncollectibles associated with commodity have been adjusted out of the study.

Uncollectibles are allocated to the firm classes to reflect the comparative relationship between the uncollectible characteristics of residential classes (0.87) and non-residential classes (0.38). A portion of uncollectibles was allocated on a revenue basis to the billing and payment processing function. The remaining uncollectible costs are shown on Line 15.

**Line 16, Revenues**

The Revenues function will be zero for this study.

**III - DESCRIPTION OF ALLOCATION FACTORS IN TABLE 7, PAGE 1**

<b><u>Factor</u></b>	<b><u>Line No.</u></b>	<b><u>Description and Source</u></b>
<b>D01</b>	<b>2</b>	<b><u>Max. Demand 24-Hour Use</u></b>  Maximum Demand 24-Hour Use on a zero degree day, by class, from the class demand analysis. Used to allocate Gas Supply-Demand, Storage, and Transmission functions.
<b>D02</b>	<b>5</b>	<b><u>Max. Demand 1 Hr. Non-Coinc.</u></b>  Maximum 1-hour non-coincident demand on a zero degree day, by class, for allocation of the Distribution-Demand function.
<b>E03</b>	<b>8</b>	<b><u>Annual Therm Sales</u></b>  Total Annual Therm sales, by class used to allocate the Gas Supply – Commodity function.
<b>C01</b>	<b>11</b>	<b><u>Customer Footage of Mains</u></b>

Customer footage of mains is used to allocate the Distribution Customer Component.

**C02**            **14**

**Book Cost - Services**

Year-end book cost of services used for connecting customers to the distribution system. This allocation was based on a study of services costs in each customer class.

**C04**            **17**

**Book Cost of Meters**

Year-end book cost of meters, regulators and installations used to measure gas usage. The book cost was based on a detailed study of meters by gas service classification.

**C05**            **20**

**PMT Process'g, Mailing, Billing**

The allocation factor for the payment processing and printing & mailing a bill functions is based on the number of bills by class.

**C07**            **23**

**Customer Accounting Exp.**

Customer Accounting Exp., allocation factor was developed by allocating the PSC accounts that comprise the total customer accounting expenses. The allocation factor consists of PSC Account 902, Meter Reading allocated to the service classes based on the number of meters, PSC Account 903, Customer Records allocated based on the number of customers, PSC Account 901, Supervision and PSC Account 905,

Miscellaneous allocated based on the sum of allocations of  
PSC Account 902 and PSC Account 903.

**C09**            **26**

**Customer Service Exp.**

Annual customer service expenses, based on a number of  
customers by class.

**CIL**            **29**

**Customer Installation Exp.**

Annual customer installations expenses, based on the  
composite allocator consisting of study of the number of  
service connections for each class and the associated  
relationship of the length of mains for residential and  
commercial customers (applicable to 50% of costs) and total  
number of meters (remaining 50% of costs).

**C10**            **32**

**Uncollectible Accounts**

Annual uncollectible accounts expenses, based on a revenue  
allocation using uncollectible characteristics of residential and  
non-residential classes.

**R01**            **35**

**Revenues from Sales**

Total Base Revenues, excluding associated revenue taxes and  
state income tax.

**R02**            **38**

**MFC – Supply Related Revenues**

The R02, Competitive Revenues allocation factor is comprised  
of the annual MFC Supply Related revenues.



<b>R03</b>	<b>41</b>	<b><u>MFC – Collections Related Revenues</u></b>	The R03, Competitive Revenues allocation factor is comprised of the annual MFC Collections Related revenues.
<b>R04</b>	<b>44</b>	<b><u>BPP Revenues</u></b>	The R04, BPP Revenues allocation factor is comprised of the annual Billing and Payment Processing revenues received from customers.
<b>R05</b>	<b>47</b>	<b><u>Other Operating Revenues</u></b>	Other Operating Revenues allocated to classes based on revenues from sales.
<b>R08A</b>	<b>50</b>	<b><u>Revenue Adjustment</u></b>	Revenue Adjustment allocation factor is used for adjusting the study for Allowable Rate of Return (not used in this study).
<b>R99</b>	<b>53</b>	<b><u>Null Revenue Factor</u></b>	
<b>U01</b>	<b>56</b>	<b><u>Unbundled Allocator</u></b>	The Unbundled Allocator is used to allocate the unbundled Gas Merchant function. It is composed of gas procurement costs (allocated to service classes based on annual therm sales); and commodity-related credit & collection/theft, information resources and education & promotional advertising costs (all allocated to classes based on 25% sales/75% customers).

<b>K02</b>	<b>58</b>	<b><u>Annual Therm Sales</u></b>
		Total annual therm sales by service class.
<b>K03</b>	<b>60</b>	<b><u>Number of Customers</u></b>
		Annual number of customers by service class.

#### **IV - CUSTOMER CLASSES**

The following customer classes or service classifications are analyzed in this study:

- S.C. No. 1 Residential and Religious.**
- S.C. No. 2 Rate I.**
- S.C. No. 2 Rate II.**
- S.C. No. 3 Residential and Religious Heating.**

#### **V - RATE OF RETURN STATEMENT - TABLE 1, PAGE 1**

The class allocations of the functional elements shown on **Table 2, Pages 1 through 8 Total Rate Base; Table 3, Pages 1 through 5, Total Operating Expenses; Table 4, Page 1, Operating Revenues; and Table 5, Pages 1 through 4, Income Taxes** (State and Federal) were consolidated and tabulated in summary form on the **Rate of Return Statement, Table 1, Page 1** detailed below:

##### **Line 1, Total Operating Revenues**

Total Operating Revenues are from **Table 4, Page 1, Line 8.**

##### **Line 4, Operation & Maintenance**

Total Operation & Maintenance expenses are from **Table 3, Page 1, Line 23.**

**Line 5, Depreciation**

Total Depreciation & Amortization expenses are from **Table 3, Page 2, Line 23.**

**Line 6, Property Taxes**

Total Property Taxes are from **Table 3, Page 3, Line 23.**

**Line 7, Payroll & Misc. Taxes**

Total Payroll & Miscellaneous Taxes are from **Table 3, Page 4, Line 23.**

**Line 8, State Income Tax**

Total State Income Taxes are from **Table 5, Page 2, Line 23.**

**Line 9, Federal Income Tax**

Total Federal Income Taxes are from **Table 5, Page 4, Line 23.**

**Line 11, Total Operating Expenses**

Total Operating Expenses is the sum of **Lines 4** through **9.**

**Line 13, Utility Operating Income**

Total Utility Operating Income (return) is Total Revenues on **Line 1** less Total Operating Expenses on **Line 11.**

**Line 15, Utility Rate Base**

Total Utility Rate Base (Total Rate Base) is from **Table 2, Page 8, Line 23.**

**Line 17, Rate of Return (12.22%)**

The Rate of Return on Utility Rate Base (system rate of return) shown on **Line 17** is calculated by dividing Utility Operating Income on **Line 13** by Utility Rate Base on **Line 15.**

**Line 19, Index**

The Index or Relative Rate of Return, **Line 19**, is the ratio of the class return to the system rate of return 12.22%.

**Line 21, Deviation**

The Deviation is the extent (in percentage points) by which the actual rate of return for each customer class deviates from the system rate of return.

**Lines 23 and 24, ± 10% Tolerance Bands**

A ± 10% tolerance band has been computed around the system rate of return, and appears on **Lines 23 and 24**, respectively.

**Lines 26 and 27, Revenue Surplus and Revenue Deficiency**

The revenue surplus or deficiency for the returns that fall outside of the tolerance band is shown on **Lines 26 and 27**, respectively.

**VI - RATE BASE - TABLE 2 - PAGES 1 through 8**

**Total Rate Base, Table 2, Page 8** summarizes the allocation of rate base to the classes for the following components included in **Table 2: Plant in Service, Page 1, Common Plant, Page 2, Depreciation Reserve** (Accumulated Reserve for Depreciation), **Page 3, Non-Interest Bearing CWIP, Page 4, Net Plant, Page 5, Total Rate Base Adjustments, Page 6** and **Working Capital, Page 7**. The Line Numbers listed below refer to the work paper **Book Cost of Plant**.

**Plant in Service, Table 2, Page 1**

**Common Plant, Table 2, Page 2**

The total gas book costs are shown by function by class in **Table 2, Page 1, Plant in Service**. The **Plant in Service** is comprised of the Storage, Transmission and Distribution Plant book cost. The functionalized book costs of **Common Plant** are shown on **Table 2, Page 2**.

**Description of Book Cost Functionalization from work paper Book Cost of Plant**

**Line 1, PSC Account 303, Miscellaneous Intangible Plant**

The total cost for PSC Account 303 was functionalized based on total common plant.

**Line 2, Total Intangible Plant**

Total Intangible Plant is equals to Line 1, PSC Account 303.

**Lines 7 – 10, PSC Accounts 360 through 363 Natural Gas Storage and Processing Plant**

Total costs for PSC Accounts 360 through 363 represent the book cost for gas holders and liquefaction equipment were functionalized directly to the Storage function.

**Line 11, Total Natural Gas Storage and Processing Plant**

Total Natural Gas Storage and Processing Plant is equal to the sum of PSC Accounts 360 through 363.

**Transmission Plant:**

**Line 15, PSC Account 365.1, Land and Land Rights**

This account was reduced to exclude the costs related to joint operating properties. The remaining plant was functionalized to the Transmission function.

**Line 16, PSC Account 366, Structures and Improvements**

This account was reduced to exclude the costs related to joint operating properties. The remaining plant was functionalized to the Transmission function.

**Line 17, PSC Account 367, Mains**

This account was reduced to exclude the costs related to joint operating properties. Costs related to transmission mains that are not part of the New York Facilities System were reallocated to distribution mains. The remainder of the account was functionalized to the Transmission function.

**Line 18, PSC Account 368, Compressor Station Equipment**

This account was functionalized directly to the Transmission function.

**Line 19, PSC Account 369, Measuring and Regulating Station Equipment**

This account was functionalized to Transmission and Distribution-Demand functions based on the functionalization of Transmission Plant work paper.

**Line 20, Total Transmission Plant**

Total Transmission Plant is equal to the sum of PSC Accounts 365.1 through 369.

**Distribution Plant:**

**Line 24, PSC Account 371, Other Equipment**

This account was functionalized directly to the Storage function.

**Line 25, PSC Account 376, Mains**

This account, including a reallocated portion of transmission mains, was functionalized to the Distribution-Demand (“Demand Component”) and Distribution-Customer (“Customer Component”) functions based on the development of the Minimum System for Gas Mains.

**Line 26, PSC Account 380, Services**

The total book cost of Services was directly assigned to the Services function.

**Lines 27 through 30, PSC Accounts 381 Meters, 382 Meter Installations, 383 House Regulators and 384 House Regulator Installations**

The total book cost of Meters, Meter Installations, House Regulators and House Regulator Installations were functionalized directly to the Meters and House Regulators function.

**Line 31, Total Distribution Plant**

Total Distribution Plant is equal to the sum of PSC Accounts 376 through 384.

**Line 34, Total Plant**

Total Plant, **Line 34** equals the sum of **Lines 2, 11, 20** and **31**. This total represents the total book cost of plant by function.

**Lines 38 through 49, PSC Accounts 303 through 399, Common Plant**

The book cost of Common Plant was functionalized on labor expenses. The distribution function of Common Plant was further broken down based on operation and maintenance expenses excluding rents.

**Line 50, Total Common Plant**

Total Common Plant is equal to the sum of PSC Accounts 303 through 399. The functionalized results are shown on **Table 2, Page 2**.

**Line 54, Total Common Plant Excluding Land**

Total Common Plant Excluding Land is Line 50 Total Common Plant, less PSC 389 Land and Land Rights.

**Line 57, Total Book Cost of Plant**

The total book cost of Plant, **Line 57** equals the sum of **Line 34** and **Line 50**. This total represents the total gross plant by function.

**Depreciation Reserve – Table 2, Page 3**

The total Depreciation Reserve or Accumulated Reserve for Depreciation is shown on **Line 23** of **Table 2, Page 3**. This amount was functionalized based on the book cost of plant including common plant shown on **Table 2, Pages 1 and 2** respectively.

**Non-Interest Bearing CWIP - Table 2, Page 4**

The average cost of Non-Interest Bearing CWIP (construction work in progress) on which interest was not capitalized, is shown in total on **Line 23** of **Page 4** in **Column (1) of Table 2**. This amount was functionalized based on the book cost of plant, shown on **Table 2, Page 1**.

**Net Plant- Table 2, Page 5**

**Net Plant** shown on **Table 2, Page 5** by function, by class is the sum of **Table 2, Page 1, Plant in Service**, plus **Table 2, Page 2, Common Plant** less **Table 2, Page 3, Depreciation Reserve**, plus **Table 2, Page 4, Non-Interest Bearing CWIP**.

**Total Rate Base Adjustments - Table 2, Page 6**

The year end balances of Rate Base Adjustments are shown in total on **Line 23**, of **Table 2, Page 6**.

**Working Capital - Table 2, Page 7**

The working capital component of Rate Base is shown on **Table 2, Page 7**. It is developed from the cost of materials and supplies on hand, prepayments of operating taxes, insurance, etc., and a cash allowance for operation and maintenance expenses representing a lag of revenue collections



over payments for the costs incurred. The cost of materials and supplies was assigned to the storage function, as well as allocated to other functions based on the book cost of plant allocations. Prepayments were apportioned to the functions based on individual cost causation. The cash allowance for operation and maintenance expenses, excluding the purchased gas expenses and uncollectibles, was functionalized based on the corresponding operation and maintenance expenses. Finally, an adjustment for Excess Rate Base Capitalization has been added to the gross working capital and functionalized on subtotal rate base, resulting in the Total Working Capital shown on **Table 2, Page 7, Line 23.**

**Total Rate Base – Table 2, Page 8**

The sum of **Net Plant, Page 5, Rate Base Adjustments, Page 6 and Working Capital, Page 7,** comprises the **Total Rate Base,** and is shown on **Page 8 of Table 2.**

**VII - OPERATING EXPENSES, TABLE 3 - PAGES 1 through 5**

Operating Expenses are shown on **Table 3, Pages 1 through 5. Total Operating Expenses, Page 5** represents the sum of the expenses by function, by class of **Operation & Maintenance, Table 3, Page 1** and **Total Other Expenses** shown on **Table 3 (Depreciation & Amortization, Page 2, Property Taxes, Page 3** and **Payroll & Misc. Taxes, Page 4).** The major operation and maintenance expenses consist of: Gas Supply (adjusted to zero as well as associated revenues for this study), Storage, Transmission, Distribution, Customer Accounting, Uncollectibles and Customer Service including Administrative and General Expenses and Miscellaneous Revenue Credits.

**Operation and Maintenance Expenses**

**Table 3, Page 1, Operation & Maintenance** costs are derived from the Company's accounting data organized by PSC Account. The Line Numbers listed below refer to the work paper **Total Operation and Maintenance Expenses**.

**Lines 1 through 7, PSC Accounts 804 through 813 Gas Supply & Production**

Total gas supply and production expenses, **Lines 1** through **7** are adjusted to zero since the cost of gas is not being shown in this study.

**Lines 12 through 26, PSC Accounts 840 through 843.9 Storage Expenses**

These costs, relating to the Astoria LNG facility were functionalized directly to the Storage function.

**Line 31 through Line 42, PSC Accounts 850 through 865, Transmission Expenses**

**Line 31, PSC Account 850, Supervision and Engineering**

The supervision and engineering expense related to Operation was reallocated to PSC Accounts 851 through 857.

**Line 32, PSC 851, System Control and Load Dispatching**

These costs were functionalized to the Transmission and Distribution-Demand functions based on the book cost of Transmission Plant, **Line 20** in the Book Cost of Plant work paper.

**Line 33, PSC 853, Compressor Station Labor and Expense**

These costs were functionalized to the Transmission function.

**Line 34, PSC 856, Mains Expenses**

PSC Account 856, mains expense was adjusted for the following: 1) reclassifying non-New York Facilities System mains to distribution expense, PSC Account 874 and 2) the reduction of the

associated expenses related to the joint operating properties. The remaining costs were functionalized to the Transmission function.

**Line 35, PSC 857, Measuring and Regulating Station Expenses**

These costs were functionalized to the Transmission and Distribution-Demand functions based on the book cost of PSC Account 369, Measuring and Regulating Station Equipment, **Line 19** in the Book Cost of Plant work paper.

**Line 36, PSC 859, Other Expenses**

These costs relating to the New York Facilities System were directly assigned to the Transmission function.

**Line 37, PSC 860, Rents**

These costs were functionalized to the Transmission and Distribution-Demand functions based on the book cost of Transmission Plant, **Line 20** in the Book Cost of Plant work paper.

**Line 38, PSC Account 861, Maintenance Supervision and Engineering**

The supervision and engineering expense related to Maintenance was reallocated to Maintenance PSC Accounts 862 through 865.

**Line 39, PSC Account 862, Maintenance of Structures and Improvements**

Structures and Improvements, PSC Account 862 was reduced for the associated expenses relating to the joint operating properties. The remaining costs were functionalized to the Transmission function.

**Line 40, PSC Account 863, Maintenance of Mains**

Maintenance of mains expense was adjusted by the following: 1) reclassifying non New York Facilities System mains to distribution expense, PSC Account 887 and 2) was reduced for the

expenses related to the joint operating properties. The remaining costs were functionalized to the Transmission function.

**Line 41, PSC Account 864, Maintenance of Compressor Equipment**

These costs were functionalized to the Transmission function.

**Line 42, PSC Account 865, Maintenance of Measuring and Regulating Station Equipment**

These costs were functionalized to the Transmission and Distribution-Demand functions based on the book cost of PSC Account 369, Measuring and Regulating Station Equipment, **Line 19** in the Book Cost of Plant work paper.

**Line 43, Total Transmission Operating and Maintenance Expenses**

Total transmission O & M expense is equal to the sum of **Line 31** through **Line 42**.

**Lines 47 through 57, PSC Accounts 870 through 893 - Distribution Expenses**

**Line 47, PSC Account 870, Supervision and Engineering**

The expenses related to procurement and associated information resources costs, from PSC Account 870, were directly assigned to the Merchant function. The supervision and engineering expense related to Operations was reallocated to operation expenses PSC Accounts 874 through 880.

**Line 48, PSC Account 874, Mains and Services**

These costs were functionalized to the Distribution-Demand, Distribution-Customer and Services functions based on book cost for **Line 25**, PSC Account 376, Mains and **Line 26**, PSC Account 380, Services from the Book Cost of Plant work paper. It also includes the reallocated portion of PSC Account 856, Transmission Mains that represents the mains other than the New York Facilities.

**Line 49, PSC Account 878, Meters and House Regulators**

These costs were functionalized directly to the Meters & House Regulators function.

**Line 50, PSC Account 879, Customer Installations**

These costs were functionalized directly to the Customer Installation function.

**Line 51, PSC Account 880, Other Expenses**

These costs were functionalized to the Distribution-Demand, Distribution-Customer, Services and the Meter & House Regulators functions based on Total Distribution Plant from the Book Cost of Plant work paper.

**Line 52, PSC Account 885, Maintenance Supervision and Engineering**

The supervision and engineering expense related to Maintenance was reallocated to maintenance expenses PSC Accounts 886 through 893.

**Line 53, PSC 886, Maintenance of Structures and Improvements**

These costs were functionalized directly to the Distribution-Demand function.

**Line 54, PSC Account 887, Maintenance of Mains**

These costs include the reallocated portion of PSC Account 863, Transmission Mains that represents the mains other than the New York Facilities System. The remaining part of this account was functionalized to the Distribution-Demand and Distribution-Customer functions based on the book cost of PSC Account 376, Mains.

**Line 55, PSC Account 889, Maintenance of Measuring and Regulating Station Equipment**

These costs were functionalized directly to the Distribution-Demand function.

**Line 56, PSC Account 892, Maintenance of Services**

These costs were functionalized directly to the Services function.

**Line 57, PSC Account 893, Maintenance of Meters and House Regulators**

These costs were functionalized directly to the Meters & House Regulators function.

**Line 58, Total Distribution Operation and Maintenance Expenses excluding Rents**

Total Distribution O & M Expenses excluding rents are equal to the sum of **Line 47** through **Line 57**.

**Lines 61, PSC Account 881, Rents**

These costs are functionalized to the Distribution-Demand and Distribution-Customer, Services and Meters & House Regulators functions based on the book cost of Distribution Plant.

**Line 63, Total Distribution Expenses**

Total Distribution Expenses, **Line 63** equals the sum of **Line 58** and **Line 61**.

**Line 72, PSC Accounts 901 through 905 – Customer Accounting Expenses**

The total annual expenses for customer accounting and collections (including uncollectibles) are shown on **Lines 67** through **71**. The costs related to Payment Processing and Printing & Mailing a Bill are allocated directly to their specific functions. The remaining costs consisting of meter reading, and other customer records and collection expenses were functionalized to the Customer Accounting function. A portion of costs related to the credit & collection function were re-allocated to competitive functions based on a revenue allocation. The Uncollectible expenses, were reduced to exclude the commodity-related portion. Also, excluded was a portion that was allocated on a revenue basis to the Billing and Payment Processing functions. The remainder was functionalized directly to the Uncollectibles function.

**Line 76, PSC Accounts 907 through 916 – Total Customer Service**

Customer Service expenses, excluding a portion of costs related to educational customer advertising that were allocated to competitive functions based on a revenue allocation, were functionalized directly to the Customer Service function.

**Line 79, PSC Accounts 920 through 932 Administrative and General Expenses**

Company labor was used as the basis of functionalization for PSC Accounts 920, 921, 922, 923, 926, 929 and 931. PSC Account 924, 925, 927, 928, 930 and 932 were functionalized based on storage, transmission and distribution (excluding rents) total O & M expenses.

**Line 82, Total O & M Expenses**

Total O & M Expenses, **Line 82** is equal to the sum of **Lines 8, 27, 43, 63, 72, 76 and 79** in the Total Operating Expense work sheet.

**Line 86, Miscellaneous Revenue Credits**

The functionalized Miscellaneous Revenue Credits shown on **Line 86** are directly from **Line 88** of the Functionalization of Miscellaneous Revenue Credits work paper but of reversed sign.

**Line 89, Total Adjusted O& M**

Total Adjusted O & M, **Line 89** is the sum of **Line 82** and **Line 86**.

**Lines 93 through 95 Other Expenses**

**Line 93, Depreciation & Amortization - Table 3, Page 2**

Depreciation & Amortization expenses shown on **Table 3, Page 2** were identified with each reserve for depreciation account or group of accounts and functionalized, as well as adjusted, in proportion to the corresponding reserve for depreciation accounts.

**Line 94, Property Taxes - Table 3, Page 3**

Property Taxes shown on **Table 3, Page 3** were functionalized, based on the book cost of plant excluding meters. The Common Plant portion of property taxes was functionalized on book cost of common plant. The property taxes were also adjusted to include the property tax Reconciliation Deferral included on the books of the Company in taxes other than FIT/SIT.

**Line 95, Payroll & Misc. Taxes - Table 3, Page 4**

Payroll & Miscellaneous Taxes shown on **Table 3, Page 4** includes Federal and State Unemployment Insurance Taxes and Federal Social Security Tax and were functionalized on a labor basis.

**Line 96, Total Other Expenses**

Total Other Expenses is the sum of **Line 93-Depreciation & Amortization Expenses, Line 94-Property Taxes** and **Line 95-Payroll & Miscellaneous Taxes**.

**Line 99, Total Operating Expenses – Table 3, Page 5**

The Grand Total tabulated on **Table 3, Page 5, Total Operating Expenses**, is the sum of **Line 89, Total Adjusted O & M** and **Line 96, Total Other Expenses**.

**VIII - OPERATING REVENUES - TABLE 4, PAGE 1**

Operating Revenues are tabulated on **Table 4, Page 1**. The **Total Operating Revenues** on **Line 8** are calculated by the sum of **Lines 1** through **6** as shown below.

**Line 1, Revenues From Sales**

The Base Revenues from Sales, shown on **Line 1**, reflect current rates, i.e., rates effective January 1, 2022. This adjustment is needed to ensure that the study reflects current rate levels and shows



the correct relationship among the service classifications. The revenues associated with the cost of gas, SBC and the Regulatory 18-A Assessment have been excluded. In addition, revenues and gas costs are presented as if there are no interruptible customers, while firm transportation customers have been priced as sales customers and included in their appropriate service classifications.

**Line 2, MFC – Supply Related Revenues**

The MFC – Supply Related revenues shown on **Line 2** are comprised of the annual MFC Supply Related revenues.

**Line 3, MFC – Collections Related Revenues**

The Collections related revenues shown on **Line 3** are comprised of the annual MFC Collections Related revenues.

**Line 4, BPP Revenues**

The BPP Revenues shown on **Line 4** are comprised of the annual Billing and Payment Processing revenues received from customers.

**Line 5, Other Operating Revenues**

Revenues from Other Operating Revenues work paper are shown on **Line 5**.

**Line 6, Revenue Adjustment**

The Revenue Adjustment to adjust the study for the allowable Rate of Return is not used in this study.

**Line 8, Total Operating Revenues**

Total Operating Revenues is the sum of **Lines 1** through **6**.

**IX – STATE AND FEDERAL INCOME TAXES – TABLE 5, PAGES 1 through 4**

State Income Taxes are shown on **Table 5, Pages 1 and 2**. The **State Income Tax Computation** shown on **Table 5, Page 2** is 6.50% of taxable income plus **SIT Adjustments, Table 5, Page 1**. Federal Income Taxes are shown on **Table 5, Pages 3 and 4**. The **Federal Income Tax Computation** shown on **Table 5, Page 4** is 21% of taxable income (less SIT) plus **FIT Adjustments, Table 5, Page 3**. SIT and FIT amounts by function are not the final amounts because they do not include the revenue functional amounts since they are not determined until subsequent calculations. Results are presented on a functional basis to maintain a consistent report format. The total state income tax by class is shown on **Line 23** of **Table 5, Page 2** and the total federal income tax by class is shown on **Line 23** of **Table 5, Page 4**.

**State and Federal Income Tax Adjustments – Table 5, Pages 1 and 3**

In the Development of Total SIT Adjustments and Development of Total FIT Adjustments work papers, each individual deduction/addition tax adjustment line item is multiplied by 6.50% for SIT and 21% for FIT and is then functionalized based on cost causation. The functional results are shown on **Table 5, Page 1 (State Income Tax Adjustments,)** and **Table 5, Page 3 (Federal Income Tax Adjustments)**.

**X- CUSTOMER COST BY CLASS - TABLE 6, PAGE 1**

Customer related gas system costs are shown by class, on **Table 6, Page 1**.

**Line 1, Number of Customers**

The number of customers in each class from the allocation factor **K03**.

**Line 3, Rate Base**

The customer related rate base shown for each class from **Table 2, Page 8, Line 20.**

**Line 5, Total Customer Operating Exps**

The customer related operating expenses shown for each class from **Table 3, Page 5, Line 20.**

**Line 6, Monthly Op. Exp., Cost/Cust**

The Monthly Operating Expenses (Op. Exp), Cost/Customer shown on **Line 6** is calculated starting with **Line 5** divided by **Line 1**, then the results are divided by 12.

**Line 8, Return @ 12.22% (Customer)**

The applied rate of return on rate base of 9.89% is the Total System Rate of Return developed in this study, shown on **Table 1, Page 1, Column (1), Line 17.**

**Line 9, S.I.T. & F.I.T. Percent on Return**

The S.I.T. & F.I.T. Percent on Return was developed by dividing the sum of the total system State and Federal Income Taxes as shown on **Table 1, Page 1, Column (1), Lines 8 and 9** respectively by the total system Utility Operating Income (return) shown on **Table 1, Column (1), Line 13.**

**Line 10, Income Tax on Return**

The Return on **Line 8** multiplied by the S.I.T. & F.I.T. Percent on Return **Line 9**, results in the Income Tax on Return including S.I.T. on a class-by class basis shown on **Line 10.**

**Line 11, Total Return & F.I.T.**

The Total Return & F.I.T. (including S.I.T.) shown on **Line 11** is the sum of **Line 8**, Return and **Line 10**, Income Tax on Return.

**Line 12, Monthly Ret. F.I.T. Cost/Cust**

The return and state and federal income taxes, calculated on a per customer monthly basis, is shown on **Line 12**. This is calculated by dividing **Line 11** by **Line 1** and dividing the result by 12.

**Line 14, Monthly Customer Cost**

The Monthly Customer Cost is the sum of **Line 6** and **Line 12**.

	TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)	
<b>RATE OF RETURN STATEMENT</b>						
1	TOTAL OPERATING REVENUES	1,785,896,117	269,646,213	170,733,265	276,205,052	1,069,311,587
2						
3	OPERATING EXPENSES					
4	OPERATION & MAINTENANCE	305,380,824	60,467,034	25,334,659	47,232,064	172,347,068
5	DEPRECIATION	229,957,652	27,208,165	19,343,677	38,225,202	145,180,608
6	PROPERTY TAXES	291,775,401	29,871,891	22,452,851	46,921,303	192,529,355
7	PAYROLL & MISC. TAXES	13,969,100	2,163,128	1,179,934	2,276,907	8,349,131
8	STATE INCOME TAX	22,954,687	5,473,616	3,387,982	2,723,884	11,369,205
9	FEDERAL INCOME TAX	101,195,569	19,974,768	12,887,928	13,548,031	54,784,841
10						
11	TOTAL OPERATING EXPENSES	965,233,232	145,158,602	84,587,031	150,927,391	584,560,208
12						
13	UTILITY OPERATING INCOME	820,662,885	124,487,610	86,146,234	125,277,661	484,751,379
14						
15	UTILITY RATE BASE	6,714,479,719	726,885,526	565,704,551	1,130,060,970	4,291,828,673
16						
17	RATE OF RETURN (%)	12.22%	17.13%	15.23%	11.09%	11.29%
18						
19	INDEX	1.00	1.40	1.25	0.91	0.92
20						
21	DEVIATION	0.00	4.90	3.01	-1.14	-0.93
22						
23	TOLERANCE BAND +10%	13.44%				
24	TOLERANCE BAND -10%	11.00%				
25						
26	REVENUE SURPLUS	49,890,191	36,230,127	13,660,064	0	0
27	REVENUE DEFICIENCY	0	0	0	0	0
		=====	=====	=====	=====	=====

CON EDISON GAS 2019 ECOS

RATE BASE

			TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)
<b>PLANT IN SERVICE</b>							
1	GAS SUPPLY - DEMAND	D D01	0	0	0	0	0
2	GAS SUPPLY - COMMODITY	E E03	0	0	0	0	0
3	MERCHANT FUNCTION	E U01	0	0	0	0	0
4	STORAGE	D D01	97,936,880	1,498,835	6,166,530	21,484,715	68,786,800
5	TRANSMISSION	D D01	255,571,003	3,911,283	16,091,857	56,065,397	179,502,466
6	DISTRIBUTION - DEMAND	D D02	3,781,311,914	77,298,140	322,232,395	812,238,115	2,569,543,264
7	DISTRIBUTION - CUSTOMER	C C01	1,584,912,911	320,436,247	157,196,067	235,835,687	871,444,911
8	SERVICES	C C02	2,597,227,971	419,912,182	138,030,479	222,082,929	1,817,202,381
9	METERS & HOUSE REGULATORS	C C04	606,427,963	110,031,194	104,947,585	145,440,636	246,008,548
10	CUSTOMER INSTALLATION	C CIL	0	0	0	0	0
11	PAYMENT PROCESSING	C C05	0	0	0	0	0
12	PRINTING & MAILING A BILL	C C05	0	0	0	0	0
13	CUSTOMER ACCOUNTING	C C07	0	0	0	0	0
14	CUSTOMER SERVICE	C C09	0	0	0	0	0
15	UNCOLLECTIBLES	C C10	0	0	0	0	0
16	REVENUES	R R99	0	0	0	0	0
17			-----	-----	-----	-----	-----
18	TOTAL DEMAND	D	4,134,819,798	82,708,258	344,490,782	889,788,227	2,817,832,531
19	TOTAL ENERGY	E	0	0	0	0	0
20	TOTAL CUSTOMER	C	4,788,568,845	850,379,623	400,174,131	603,359,251	2,934,655,839
21	TOTAL REVENUE	R	0	0	0	0	0
22			-----	-----	-----	-----	-----
23	TOTAL		8,923,388,642	933,087,881	744,664,914	1,493,147,478	5,752,488,370
			=====	=====	=====	=====	=====

CON EDISON GAS 2019 ECOS

RATE BASE

			TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)
<b>COMMON PLANT</b>							
1	GAS SUPPLY - DEMAND	D D01	0	0	0	0	0
2	GAS SUPPLY - COMMODITY	E E03	0	0	0	0	0
3	MERCHANT FUNCTION	E U01	8,096,323	3,030,133	757,898	1,044,138	3,264,154
4	STORAGE	D D01	15,757,630	241,156	992,169	3,456,800	11,067,505
5	TRANSMISSION	D D01	13,134,484	201,011	827,004	2,881,352	9,225,117
6	DISTRIBUTION - DEMAND	D D02	242,811,071	4,963,580	20,691,653	52,156,609	164,999,230
7	DISTRIBUTION - CUSTOMER	C C01	105,031,645	21,235,202	10,417,330	15,628,751	57,750,361
8	SERVICES	C C02	83,712,324	13,534,362	4,448,917	7,158,046	58,570,998
9	METERS & HOUSE REGULATORS	C C04	23,007,657	4,174,544	3,981,673	5,517,965	9,333,475
10	CUSTOMER INSTALLATION	C CIL	68,085,196	26,600,918	6,023,136	7,384,469	28,076,673
11	PAYMENT PROCESSING	C C05	2,244,195	1,309,159	145,399	144,855	644,782
12	PRINTING & MAILING A BILL	C C05	388,142	226,424	25,147	25,053	111,518
13	CUSTOMER ACCOUNTING	C C07	41,961,949	24,431,856	2,865,421	2,748,941	11,915,730
14	CUSTOMER SERVICE	C C09	5,551,323	3,238,384	359,665	358,318	1,594,957
15	UNCOLLECTIBLES	C C10	0	0	0	0	0
16	REVENUES	R R99	0	0	0	0	0
17							
18	TOTAL DEMAND	D	271,703,185	5,405,748	22,510,825	58,494,761	185,291,852
19	TOTAL ENERGY	E	8,096,323	3,030,133	757,898	1,044,138	3,264,154
20	TOTAL CUSTOMER	C	329,982,431	94,750,849	28,266,690	38,966,399	167,998,494
21	TOTAL REVENUE	R	0	0	0	0	0
22							
23	TOTAL		609,781,940	103,186,730	51,535,413	98,505,298	356,554,499

CON EDISON GAS 2019 ECOS

RATE BASE

			TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)
<b>DEPRECIATION RESERVE</b>							
1	GAS SUPPLY - DEMAND	D D01	0	0	0	0	0
2	GAS SUPPLY - COMMODITY	E E03	0	0	0	0	0
3	MERCHANT FUNCTION	E U01	2,422,086	906,491	226,732	312,363	976,500
4	STORAGE	D D01	57,001,418	872,355	3,589,056	12,504,576	40,035,430
5	TRANSMISSION	D D01	76,197,119	1,166,128	4,797,701	16,715,596	53,517,694
6	DISTRIBUTION - DEMAND	D D02	692,700,965	14,160,296	59,029,960	148,794,423	470,716,285
7	DISTRIBUTION - CUSTOMER	C C01	287,849,177	58,197,084	28,549,681	42,832,075	158,270,337
8	SERVICES	C C02	534,659,166	86,442,122	28,414,626	45,717,463	374,084,956
9	METERS & HOUSE REGULATORS	C C04	76,675,883	13,912,187	13,269,422	18,389,306	31,104,968
10	CUSTOMER INSTALLATION	C CIL	20,368,283	7,957,898	1,801,874	2,209,129	8,399,383
11	PAYMENT PROCESSING	C C05	671,371	391,646	43,497	43,335	192,892
12	PRINTING & MAILING A BILL	C C05	116,116	67,737	7,523	7,495	33,361
13	CUSTOMER ACCOUNTING	C C07	12,553,284	7,309,004	857,216	822,370	3,564,695
14	CUSTOMER SERVICE	C C09	1,660,727	968,791	107,597	107,194	477,145
15	UNCOLLECTIBLES	C C10	0	0	0	0	0
16	REVENUES	R R99	0	0	0	0	0
17							
18	TOTAL DEMAND	D	825,899,502	16,198,779	67,416,717	178,014,596	564,269,410
19	TOTAL ENERGY	E	2,422,086	906,491	226,732	312,363	976,500
20	TOTAL CUSTOMER	C	934,554,006	175,246,468	73,051,437	110,128,365	576,127,737
21	TOTAL REVENUE	R	0	0	0	0	0
22							
23	TOTAL		1,762,875,594	192,351,738	140,694,885	288,455,324	1,141,373,647



CON EDISON GAS 2019 ECOS

RATE BASE

			TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)
<b>NON-INTEREST BEARING CWIP</b>							
1	GAS SUPPLY - DEMAND	D D01	0	0	0	0	0
2	GAS SUPPLY - COMMODITY	E E03	0	0	0	0	0
3	MERCHANT FUNCTION	E U01	367,441	137,518	34,396	47,387	148,139
4	STORAGE	D D01	5,159,871	78,967	324,888	1,131,937	3,624,079
5	TRANSMISSION	D D01	12,194,834	186,631	767,840	2,675,218	8,565,145
6	DISTRIBUTION - DEMAND	D D02	182,629,357	3,733,336	15,563,142	39,229,381	124,103,497
7	DISTRIBUTION - CUSTOMER	C C01	76,695,839	15,506,295	7,606,906	11,412,372	42,170,265
8	SERVICES	C C02	121,670,834	19,671,383	6,466,234	10,403,790	85,129,427
9	METERS & HOUSE REGULATORS	C C04	28,566,081	5,183,072	4,943,606	6,851,051	11,588,351
10	CUSTOMER INSTALLATION	C CIL	3,089,954	1,207,247	273,352	335,134	1,274,222
11	PAYMENT PROCESSING	C C05	101,850	59,414	6,599	6,574	29,263
12	PRINTING & MAILING A BILL	C C05	17,615	10,276	1,141	1,137	5,061
13	CUSTOMER ACCOUNTING	C C07	1,904,386	1,108,807	130,043	124,757	540,779
14	CUSTOMER SERVICE	C C09	251,939	146,970	16,323	16,262	72,385
15	UNCOLLECTIBLES	C C10	0	0	0	0	0
16	REVENUES	R R99	0	0	0	0	0
17							
18	TOTAL DEMAND	D	199,984,061	3,998,934	16,655,870	43,036,536	136,292,722
19	TOTAL ENERGY	E	367,441	137,518	34,396	47,387	148,139
20	TOTAL CUSTOMER	C	232,298,498	42,893,463	19,444,205	29,151,077	140,809,753
21	TOTAL REVENUE	R	0	0	0	0	0
22							
23	TOTAL		432,650,000	47,029,916	36,134,471	72,235,000	277,250,614

CON EDISON GAS 2019 ECOS

RATE BASE

		TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)
<b>NET PLANT</b>						
1	GAS SUPPLY - DEMAND	D	0	0	0	0
2	GAS SUPPLY - COMMODITY	E	0	0	0	0
3	MERCHANT FUNCTION	E	6,041,678	2,261,161	565,562	779,162
4	STORAGE	D	61,852,963	946,604	3,894,530	13,568,875
5	TRANSMISSION	D	204,703,202	3,132,797	12,889,000	44,906,371
6	DISTRIBUTION - DEMAND	D	3,514,051,377	71,834,761	299,457,230	754,829,681
7	DISTRIBUTION - CUSTOMER	C	1,478,791,218	298,980,660	146,670,623	220,044,735
8	SERVICES	C	2,267,951,963	366,675,805	120,531,005	193,927,303
9	METERS & HOUSE REGULATORS	C	581,325,818	105,476,624	100,603,443	139,420,346
10	CUSTOMER INSTALLATION	C	50,806,867	19,850,267	4,494,614	5,510,475
11	PAYMENT PROCESSING	C	1,674,674	976,927	108,501	108,094
12	PRINTING & MAILING A BILL	C	289,641	168,963	18,766	18,695
13	CUSTOMER ACCOUNTING	C	31,313,050	18,231,659	2,138,249	2,051,328
14	CUSTOMER SERVICE	C	4,142,536	2,416,562	268,391	267,386
15	UNCOLLECTIBLES	C	0	0	0	0
16	REVENUES	R	0	0	0	0
17			-----	-----	-----	-----
18	TOTAL DEMAND	D	3,780,607,543	75,914,161	316,240,760	813,304,927
19	TOTAL ENERGY	E	6,041,678	2,261,161	565,562	779,162
20	TOTAL CUSTOMER	C	4,416,295,767	812,777,467	374,833,589	561,348,362
21	TOTAL REVENUE	R	0	0	0	0
22			-----	-----	-----	-----
23	TOTAL		8,202,944,988	890,952,789	691,639,912	1,375,432,451
			=====	=====	=====	=====

CON EDISON GAS 2019 ECOS

RATE BASE

			TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)
<b>TOTAL RATE BASE ADJUSTMENTS</b>							
1	GAS SUPPLY - DEMAND	D D01	0	0	0	0	0
2	GAS SUPPLY - COMMODITY	E E03	0	0	0	0	0
3	MERCHANT FUNCTION	E U01	(1,336,111)	(500,054)	(125,074)	(172,311)	(538,673)
4	STORAGE	D D01	(19,697,548)	(301,453)	(1,240,243)	(4,321,112)	(13,834,740)
5	TRANSMISSION	D D01	(21,980,696)	(336,395)	(1,384,000)	(4,821,973)	(15,438,329)
6	DISTRIBUTION - DEMAND	D D02	(722,075,203)	(14,760,769)	(61,533,147)	(155,104,105)	(490,677,182)
7	DISTRIBUTION - CUSTOMER	C C01	(303,197,002)	(61,300,093)	(30,071,921)	(45,115,837)	(166,709,150)
8	SERVICES	C C02	(485,658,589)	(78,519,853)	(25,810,475)	(41,527,538)	(339,800,724)
9	METERS & HOUSE REGULATORS	C C04	(112,774,104)	(20,461,902)	(19,516,531)	(27,046,803)	(45,748,869)
10	CUSTOMER INSTALLATION	C CIL	(11,235,890)	(4,389,868)	(993,980)	(1,218,636)	(4,633,407)
11	PAYMENT PROCESSING	C C05	(370,353)	(216,046)	(23,995)	(23,905)	(106,406)
12	PRINTING & MAILING A BILL	C C05	(64,054)	(37,366)	(4,150)	(4,134)	(18,403)
13	CUSTOMER ACCOUNTING	C C07	(6,892,102)	(4,012,846)	(470,635)	(451,504)	(1,957,117)
14	CUSTOMER SERVICE	C C09	(916,118)	(534,420)	(59,354)	(59,132)	(263,211)
15	UNCOLLECTIBLES	C C10	0	0	0	0	0
16	REVENUES	R R99	0	0	0	0	0
17							
18	TOTAL DEMAND	D	(763,753,447)	(15,398,616)	(64,157,390)	(164,247,190)	(519,950,251)
19	TOTAL ENERGY	E	(1,336,111)	(500,054)	(125,074)	(172,311)	(538,673)
20	TOTAL CUSTOMER	C	(921,108,212)	(169,472,394)	(76,951,041)	(115,447,489)	(559,237,287)
21	TOTAL REVENUE	R	0	0	0	0	0
22							
23	TOTAL		(1,686,197,770)	(185,371,064)	(141,233,504)	(279,866,990)	(1,079,726,212)

CON EDISON GAS 2019 ECOS

RATE BASE

			TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)
<b>WORKING CAPITAL</b>							
1	GAS SUPPLY - DEMAND	D D01	0	0	0	0	0
2	GAS SUPPLY - COMMODITY	E E03	0	0	0	0	0
3	MERCHANT FUNCTION	E U01	1,066,587	399,181	99,843	137,552	430,010
4	STORAGE	D D01	45,554,104	697,164	2,868,284	9,993,344	31,995,312
5	TRANSMISSION	D D01	3,947,094	60,407	248,526	865,886	2,772,275
6	DISTRIBUTION - DEMAND	D D02	65,056,211	1,329,889	5,543,901	13,974,286	44,208,135
7	DISTRIBUTION - CUSTOMER	C C01	27,789,290	5,618,413	2,756,219	4,135,058	15,279,600
8	SERVICES	C C02	36,273,256	5,864,553	1,927,753	3,101,642	25,379,307
9	METERS & HOUSE REGULATORS	C C04	4,680,834	849,297	810,059	1,122,612	1,898,865
10	CUSTOMER INSTALLATION	C CIL	6,780,266	2,649,053	599,814	735,383	2,796,016
11	PAYMENT PROCESSING	C C05	306,451	178,769	19,855	19,780	88,047
12	PRINTING & MAILING A BILL	C C05	480,740	280,442	31,147	31,030	138,122
13	CUSTOMER ACCOUNTING	C C07	4,894,486	2,849,758	334,226	320,639	1,389,863
14	CUSTOMER SERVICE	C C09	903,182	526,874	58,516	58,297	259,494
15	UNCOLLECTIBLES	C C10	0	0	0	0	0
16	REVENUES	R R99	0	0	0	0	0
17							
18	TOTAL DEMAND	D	114,557,409	2,087,460	8,660,711	24,833,516	78,975,722
19	TOTAL ENERGY	E	1,066,587	399,181	99,843	137,552	430,010
20	TOTAL CUSTOMER	C	82,108,506	18,817,160	6,537,589	9,524,441	47,229,316
21	TOTAL REVENUE	R	0	0	0	0	0
22							
23	TOTAL		197,732,501	21,303,801	15,298,143	34,495,509	126,635,048

CON EDISON GAS 2019 ECOS

RATE BASE

		TOTAL GAS SYSTEM (1)	RESDNTL & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNTL & REL HEATING SC NO. 3 (5)
<b>TOTAL RATE BASE</b>						
1	GAS SUPPLY - DEMAND	D	0	0	0	0
2	GAS SUPPLY - COMMODITY	E	0	0	0	0
3	MERCHANT FUNCTION	E	5,772,153	2,160,289	540,332	744,403
4	STORAGE	D	87,709,520	1,342,315	5,522,571	19,241,107
5	TRANSMISSION	D	186,669,600	2,856,809	11,753,526	40,950,284
6	DISTRIBUTION - DEMAND	D	2,857,032,385	58,403,881	243,467,984	613,699,862
7	DISTRIBUTION - CUSTOMER	C	1,203,383,507	243,298,980	119,354,920	179,063,956
8	SERVICES	C	1,818,566,629	294,020,506	96,648,283	155,501,407
9	METERS & HOUSE REGULATORS	C	473,232,547	85,864,019	81,896,971	113,496,156
10	CUSTOMER INSTALLATION	C	46,351,243	18,109,453	4,100,448	5,027,221
11	PAYMENT PROCESSING	C	1,610,772	939,650	104,360	103,969
12	PRINTING & MAILING A BILL	C	706,328	412,039	45,762	45,591
13	CUSTOMER ACCOUNTING	C	29,315,435	17,068,570	2,001,839	1,920,464
14	CUSTOMER SERVICE	C	4,129,600	2,409,016	267,553	266,551
15	UNCOLLECTIBLES	C	0	0	0	0
16	REVENUES	R	0	0	0	0
17			-----	-----	-----	-----
18	TOTAL DEMAND	D	3,131,411,504	62,603,005	260,744,081	673,891,253
19	TOTAL ENERGY	E	5,772,153	2,160,289	540,332	744,403
20	TOTAL CUSTOMER	C	3,577,296,061	662,122,233	304,420,137	455,425,314
21	TOTAL REVENUE	R	0	0	0	0
22			-----	-----	-----	-----
23	TOTAL		6,714,479,719	726,885,526	565,704,551	1,130,060,970
			=====	=====	=====	=====

CON EDISON GAS 2019 ECOS

OPERATING EXPENSES

			TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)
<b>OPERATION &amp; MAINTENANCE</b>							
1	GAS SUPPLY - DEMAND	D D01	0	0	0	0	0
2	GAS SUPPLY - COMMODITY	E E03	0	0	0	0	0
3	MERCHANT FUNCTION	E U01	6,866,388	2,569,817	642,764	885,520	2,768,287
4	STORAGE	D D01	8,715,266	133,379	548,751	1,911,895	6,121,241
5	TRANSMISSION	D D01	4,380,992	67,047	275,846	961,072	3,077,027
6	DISTRIBUTION - DEMAND	D D02	114,580,148	2,342,264	9,764,187	24,612,189	77,861,508
7	DISTRIBUTION - CUSTOMER	C C01	47,198,077	9,542,464	4,681,236	7,023,093	25,951,283
8	SERVICES	C C02	27,655,480	4,471,257	1,469,759	2,364,756	19,349,709
9	METERS & HOUSE REGULATORS	C C04	8,056,601	1,461,802	1,394,264	1,932,228	3,268,307
10	CUSTOMER INSTALLATION	C CIL	38,826,471	15,169,521	3,434,772	4,211,090	16,011,089
11	PAYMENT PROCESSING	C C05	1,994,893	1,163,728	129,247	128,763	573,155
12	PRINTING & MAILING A BILL	C C05	3,765,861	2,196,828	243,987	243,073	1,081,974
13	CUSTOMER ACCOUNTING	C C07	27,728,249	16,144,450	1,893,456	1,816,487	7,873,856
14	CUSTOMER SERVICE	C C09	6,073,647	3,543,083	393,506	392,032	1,745,026
15	UNCOLLECTIBLES	C C10	9,538,751	1,661,394	462,884	749,867	6,664,606
16	REVENUES	R R99	0	0	0	0	0
17							
18	TOTAL DEMAND	D	127,676,406	2,542,691	10,588,784	27,485,155	87,059,776
19	TOTAL ENERGY	E	6,866,388	2,569,817	642,764	885,520	2,768,287
20	TOTAL CUSTOMER	C	170,838,030	55,354,526	14,103,112	18,861,388	82,519,005
21	TOTAL REVENUE	R	0	0	0	0	0
22							
23	TOTAL		305,380,824	60,467,034	25,334,659	47,232,064	172,347,068

CON EDISON GAS 2019 ECOS

OPERATING EXPENSES

			TOTAL GAS SYSTEM (1)	RESDNTL & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNTL & REL HEATING SC NO. 3 (5)
<b>DEPRECIATION &amp; AMORTIZATION</b>							
1	GAS SUPPLY - DEMAND	D D01	0	0	0	0	0
2	GAS SUPPLY - COMMODITY	E E03	0	0	0	0	0
3	MERCHANT FUNCTION	E U01	597,293	223,543	55,913	77,030	240,808
4	STORAGE	D D01	4,323,948	66,174	272,254	948,558	3,036,961
5	TRANSMISSION	D D01	7,217,450	110,457	454,442	1,583,314	5,069,237
6	DISTRIBUTION - DEMAND	D D02	92,065,602	1,882,019	7,845,563	19,775,991	62,562,029
7	DISTRIBUTION - CUSTOMER	C C01	38,317,714	7,747,040	3,800,457	5,701,691	21,068,525
8	SERVICES	C C02	61,726,523	9,979,763	3,280,475	5,278,092	43,188,194
9	METERS & HOUSE REGULATORS	C C04	16,986,834	3,082,117	2,939,718	4,073,981	6,891,019
10	CUSTOMER INSTALLATION	C CIL	5,022,876	1,962,440	444,347	544,777	2,071,311
11	PAYMENT PROCESSING	C C05	165,562	96,581	10,727	10,686	47,568
12	PRINTING & MAILING A BILL	C C05	28,635	16,704	1,855	1,848	8,227
13	CUSTOMER ACCOUNTING	C C07	3,095,675	1,802,421	211,392	202,799	879,064
14	CUSTOMER SERVICE	C C09	409,540	238,907	26,534	26,434	117,665
15	UNCOLLECTIBLES	C C10	0	0	0	0	0
16	REVENUES	R R99	0	0	0	0	0
17							
18	TOTAL DEMAND	D	103,606,999	2,058,649	8,572,259	22,307,863	70,668,228
19	TOTAL ENERGY	E	597,293	223,543	55,913	77,030	240,808
20	TOTAL CUSTOMER	C	125,753,359	24,925,972	10,715,505	15,840,309	74,271,573
21	TOTAL REVENUE	R	0	0	0	0	0
22							
23	TOTAL		229,957,652	27,208,165	19,343,677	38,225,202	145,180,608

CON EDISON GAS 2019 ECOS

OPERATING EXPENSES

			TOTAL GAS SYSTEM (1)	RESDNTL & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNTL & REL HEATING SC NO. 3 (5)
<b>PROPERTY TAXES</b>							
1	GAS SUPPLY - DEMAND	D D01	0	0	0	0	0
2	GAS SUPPLY - COMMODITY	E E03	0	0	0	0	0
3	MERCHANT FUNCTION	E U01	89,157	33,368	8,346	11,498	35,945
4	STORAGE	D D01	6,370,957	97,502	401,143	1,397,617	4,474,696
5	TRANSMISSION	D D01	5,656,811	86,572	356,177	1,240,952	3,973,109
6	DISTRIBUTION - DEMAND	D D02	129,335,333	2,643,892	11,021,581	27,781,651	87,888,209
7	DISTRIBUTION - CUSTOMER	C C01	56,730,444	11,469,709	5,626,683	8,441,513	31,192,538
8	SERVICES	C C02	92,037,377	14,880,333	4,891,355	7,869,902	64,395,788
9	METERS & HOUSE REGULATORS	C C04	253,361	45,970	43,846	60,764	102,780
10	CUSTOMER INSTALLATION	C CIL	749,756	292,930	66,327	81,318	309,181
11	PAYMENT PROCESSING	C C05	24,713	14,416	1,601	1,595	7,100
12	PRINTING & MAILING A BILL	C C05	4,274	2,493	277	276	1,228
13	CUSTOMER ACCOUNTING	C C07	462,086	269,044	31,554	30,271	131,216
14	CUSTOMER SERVICE	C C09	61,131	35,661	3,961	3,946	17,564
15	UNCOLLECTIBLES	C C10	0	0	0	0	0
16	REVENUES	R R99	0	0	0	0	0
17							
18	TOTAL DEMAND	D	141,363,101	2,827,966	11,778,901	30,420,219	96,336,015
19	TOTAL ENERGY	E	89,157	33,368	8,346	11,498	35,945
20	TOTAL CUSTOMER	C	150,323,142	27,010,557	10,665,604	16,489,586	96,157,396
21	TOTAL REVENUE	R	0	0	0	0	0
22							
23	TOTAL		291,775,401	29,871,891	22,452,851	46,921,303	192,529,355



CON EDISON GAS 2019 ECOS

OPERATING EXPENSES

			TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)
<b>PAYROLL &amp; MISC. TAXES</b>							
1	GAS SUPPLY - DEMAND	D D01	0	0	0	0	0
2	GAS SUPPLY - COMMODITY	E E03	0	0	0	0	0
3	MERCHANT FUNCTION	E U01	143,941	53,871	13,474	18,563	58,032
4	STORAGE	D D01	300,373	4,597	18,913	65,894	210,969
5	TRANSMISSION	D D01	312,200	4,778	19,657	68,488	219,276
6	DISTRIBUTION - DEMAND	D D02	5,662,403	115,752	482,533	1,216,303	3,847,815
7	DISTRIBUTION - CUSTOMER	C C01	2,432,699	491,841	241,282	361,987	1,337,590
8	SERVICES	C C02	2,378,701	384,581	126,417	203,397	1,664,306
9	METERS & HOUSE REGULATORS	C C04	636,809	115,544	110,205	152,727	258,333
10	CUSTOMER INSTALLATION	C CIL	1,210,457	472,926	107,083	131,285	499,163
11	PAYMENT PROCESSING	C C05	39,899	23,275	2,585	2,575	11,463
12	PRINTING & MAILING A BILL	C C05	6,901	4,025	447	445	1,983
13	CUSTOMER ACCOUNTING	C C07	746,023	434,363	50,943	48,872	211,845
14	CUSTOMER SERVICE	C C09	98,695	57,574	6,394	6,370	28,356
15	UNCOLLECTIBLES	C C10	0	0	0	0	0
16	REVENUES	R R99	0	0	0	0	0
17							
18	TOTAL DEMAND	D	6,274,975	125,127	521,104	1,350,684	4,278,060
19	TOTAL ENERGY	E	143,941	53,871	13,474	18,563	58,032
20	TOTAL CUSTOMER	C	7,550,184	1,984,130	645,356	907,659	4,013,038
21	TOTAL REVENUE	R	0	0	0	0	0
22							
23	TOTAL		13,969,100	2,163,128	1,179,934	2,276,907	8,349,131

CON EDISON GAS 2019 ECOS

OPERATING EXPENSES

		TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)
<b>TOTAL OPERATING EXPENSES</b>						
1	GAS SUPPLY - DEMAND	D	0	0	0	0
2	GAS SUPPLY - COMMODITY	E	0	0	0	0
3	MERCHANT FUNCTION	E	7,696,779	2,880,600	720,497	992,611
4	STORAGE	D	19,710,544	301,652	1,241,061	4,323,963
5	TRANSMISSION	D	17,567,453	268,854	1,106,123	3,853,826
6	DISTRIBUTION - DEMAND	D	341,643,485	6,983,927	29,113,863	73,386,133
7	DISTRIBUTION - CUSTOMER	C	144,678,933	29,251,055	14,349,659	21,528,284
8	SERVICES	C	183,798,082	29,715,933	9,768,006	15,716,147
9	METERS & HOUSE REGULATORS	C	25,933,606	4,705,432	4,488,034	6,219,700
10	CUSTOMER INSTALLATION	C	45,809,561	17,897,817	4,052,529	4,968,470
11	PAYMENT PROCESSING	C	2,225,067	1,298,000	144,160	143,620
12	PRINTING & MAILING A BILL	C	3,805,671	2,220,051	246,566	245,642
13	CUSTOMER ACCOUNTING	C	32,032,034	18,650,278	2,187,345	2,098,429
14	CUSTOMER SERVICE	C	6,643,013	3,875,224	430,395	428,782
15	UNCOLLECTIBLES	C	9,538,751	1,661,394	462,884	749,867
16	REVENUES	R	0	0	0	0
17			-----	-----	-----	-----
18	TOTAL DEMAND	D	378,921,482	7,554,433	31,461,047	81,563,922
19	TOTAL ENERGY	E	7,696,779	2,880,600	720,497	992,611
20	TOTAL CUSTOMER	C	454,464,716	109,275,185	36,129,577	52,098,942
21	TOTAL REVENUE	R	0	0	0	0
22			-----	-----	-----	-----
23	TOTAL		841,082,976	119,710,218	68,311,121	134,655,475
			=====	=====	=====	=====

CON EDISON GAS 2019 ECOS

REVENUES

			TOTAL GAS SYSTEM (1)	RESDNTL & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNTL & REL HEATING SC NO. 3 (5)
<b>OPERATING REVENUES</b>							
1	REVENUES FROM SALES	R R01	1,731,497,138	258,507,943	166,411,365	269,584,441	1,036,993,390
2	MFC - SUPPLY RELATED REVENUES	R R02	2,499,089	130,154	222,525	347,986	1,798,424
3	MFC - COLLECTIONS RELATED REVENUES	R R03	6,514,131	361,212	453,156	708,647	4,991,115
4	BPP REVENUES	R R04	8,372,428	4,882,417	545,114	540,225	2,404,671
5	OTHER OPERATING REVENUES	R R05	37,013,331	5,764,486	3,101,105	5,023,753	23,123,987
6	REVENUE ADJUSTMENT	R R08A	0	0	0	0	0
7							
8	TOTAL OPERATING REVENUES		1,785,896,117	269,646,213	170,733,265	276,205,052	1,069,311,587
			=====	=====	=====	=====	=====

CON EDISON GAS 2019 ECOS

INCOME TAXES

			TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)
<b>SIT ADJUSTMENTS</b>							
1	GAS SUPPLY - DEMAND	D D01	0	0	0	0	0
2	GAS SUPPLY - COMMODITY	E E03	0	0	0	0	0
3	MERCHANT FUNCTION	E U01	(39,855)	(14,916)	(3,731)	(5,140)	(16,068)
4	STORAGE	D D01	(404,912)	(6,197)	(25,495)	(88,827)	(284,393)
5	TRANSMISSION	D D01	(1,111,410)	(17,009)	(69,979)	(243,814)	(780,609)
6	DISTRIBUTION - DEMAND	D D02	(16,131,453)	(329,762)	(1,374,675)	(3,465,089)	(10,961,927)
7	DISTRIBUTION - CUSTOMER	C C01	(6,829,587)	(1,380,800)	(677,377)	(1,016,245)	(3,755,165)
8	SERVICES	C C02	(10,279,803)	(1,662,008)	(546,323)	(879,002)	(7,192,470)
9	METERS & HOUSE REGULATORS	C C04	(3,008,958)	(545,950)	(520,726)	(721,643)	(1,220,639)
10	CUSTOMER INSTALLATION	C CIL	(335,155)	(130,945)	(29,649)	(36,351)	(138,210)
11	PAYMENT PROCESSING	C C05	(11,047)	(6,444)	(716)	(713)	(3,174)
12	PRINTING & MAILING A BILL	C C05	(1,911)	(1,115)	(124)	(123)	(549)
13	CUSTOMER ACCOUNTING	C C07	(274,646)	(159,909)	(18,755)	(17,992)	(77,990)
14	CUSTOMER SERVICE	C C09	(29,430)	(17,168)	(1,907)	(1,900)	(8,455)
15	UNCOLLECTIBLES	C C10	0	0	0	0	0
16	REVENUES	R R99	0	0	0	0	0
17							
18	TOTAL DEMAND	D	(17,647,775)	(352,967)	(1,470,150)	(3,797,729)	(12,026,929)
19	TOTAL ENERGY	E	(39,855)	(14,916)	(3,731)	(5,140)	(16,068)
20	TOTAL CUSTOMER	C	(20,770,538)	(3,904,340)	(1,795,577)	(2,673,970)	(12,396,651)
21	TOTAL REVENUE	R	0	0	0	0	0
22							
23	TOTAL		(38,458,167)	(4,272,223)	(3,269,458)	(6,476,838)	(24,439,648)

CON EDISON GAS 2019 ECOS

INCOME TAXES

		TOTAL GAS SYSTEM (1)	RESDNTL & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNTL & REL HEATING SC NO. 3 (5)
<b>STATE INCOME TAX COMPUTATION</b>						
1	GAS SUPPLY - DEMAND	D	0	0	0	0
2	GAS SUPPLY - COMMODITY	E	0	0	0	0
3	MERCHANT FUNCTION	E	(540,145)	(202,155)	(50,563)	(69,660)
4	STORAGE	D	(1,686,097)	(25,804)	(106,164)	(369,884)
5	TRANSMISSION	D	(2,253,295)	(34,485)	(141,877)	(494,312)
6	DISTRIBUTION - DEMAND	D	(38,338,279)	(783,717)	(3,267,077)	(8,235,187)
7	DISTRIBUTION - CUSTOMER	C	(16,233,718)	(3,282,118)	(1,610,105)	(2,415,584)
8	SERVICES	C	(22,226,679)	(3,593,544)	(1,181,244)	(1,900,552)
9	METERS & HOUSE REGULATORS	C	(4,694,643)	(851,803)	(812,448)	(1,125,924)
10	CUSTOMER INSTALLATION	C	(3,312,777)	(1,294,303)	(293,064)	(359,301)
11	PAYMENT PROCESSING	C	(155,677)	(90,814)	(10,086)	(10,048)
12	PRINTING & MAILING A BILL	C	(249,279)	(145,418)	(16,151)	(16,090)
13	CUSTOMER ACCOUNTING	C	(2,356,728)	(1,372,178)	(160,932)	(154,390)
14	CUSTOMER SERVICE	C	(461,226)	(269,058)	(29,882)	(29,770)
15	UNCOLLECTIBLES	C	(620,019)	(107,991)	(30,087)	(48,741)
16	REVENUES	R	116,083,248	17,527,004	11,097,662	17,953,328
17			-----	-----	-----	-----
18	TOTAL DEMAND	D	(42,277,671)	(844,006)	(3,515,118)	(9,099,384)
19	TOTAL ENERGY	E	(540,145)	(202,155)	(50,563)	(69,660)
20	TOTAL CUSTOMER	C	(50,310,744)	(11,007,227)	(4,144,000)	(6,060,401)
21	TOTAL REVENUE	R	116,083,248	17,527,004	11,097,662	17,953,328
22			-----	-----	-----	-----
23	TOTAL		22,954,687	5,473,616	3,387,982	2,723,884
			=====	=====	=====	=====

CON EDISON GAS 2019 ECOS

INCOME TAXES

			TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)
<b>FIT ADJUSTMENTS</b>							
1	GAS SUPPLY - DEMAND	D D01	0	0	0	0	0
2	GAS SUPPLY - COMMODITY	E E03	0	0	0	0	0
3	MERCHANT FUNCTION	E U01	(106,267)	(39,772)	(9,948)	(13,705)	(42,843)
4	STORAGE	D D01	(929,596)	(14,227)	(58,531)	(203,928)	(652,909)
5	TRANSMISSION	D D01	(2,459,501)	(37,640)	(154,861)	(539,548)	(1,727,452)
6	DISTRIBUTION - DEMAND	D D02	(38,896,279)	(795,124)	(3,314,628)	(8,355,047)	(26,431,480)
7	DISTRIBUTION - CUSTOMER	C C01	(16,418,491)	(3,319,475)	(1,628,432)	(2,443,078)	(9,027,506)
8	SERVICES	C C02	(24,191,631)	(3,911,232)	(1,285,672)	(2,068,570)	(16,926,157)
9	METERS & HOUSE REGULATORS	C C04	(7,617,364)	(1,382,106)	(1,318,251)	(1,826,885)	(3,090,123)
10	CUSTOMER INSTALLATION	C CIL	(893,644)	(349,147)	(79,056)	(96,924)	(368,517)
11	PAYMENT PROCESSING	C C05	(29,456)	(17,183)	(1,908)	(1,901)	(8,463)
12	PRINTING & MAILING A BILL	C C05	(5,095)	(2,972)	(330)	(329)	(1,464)
13	CUSTOMER ACCOUNTING	C C07	(780,326)	(454,336)	(53,285)	(51,119)	(221,585)
14	CUSTOMER SERVICE	C C09	(67,057)	(39,118)	(4,345)	(4,328)	(19,266)
15	UNCOLLECTIBLES	C C10	0	0	0	0	0
16	REVENUES	R R99	0	0	0	0	0
17							
18	TOTAL DEMAND	D	(42,285,376)	(846,991)	(3,528,020)	(9,098,524)	(28,811,841)
19	TOTAL ENERGY	E	(106,267)	(39,772)	(9,948)	(13,705)	(42,843)
20	TOTAL CUSTOMER	C	(50,003,063)	(9,475,569)	(4,371,278)	(6,493,135)	(29,663,080)
21	TOTAL REVENUE	R	0	0	0	0	0
22							
23	TOTAL		(92,394,706)	(10,362,331)	(7,909,246)	(15,605,364)	(58,517,765)

CON EDISON GAS 2019 ECOS

INCOME TAXES

		TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)
<b>FEDERAL INCOME TAX COMPUTATION</b>						
1	GAS SUPPLY - DEMAND	D	0	0	0	0
2	GAS SUPPLY - COMMODITY	E	0	0	0	0
3	MERCHANT FUNCTION	E	(1,609,160)	(602,245)	(150,634)	(648,757)
4	STORAGE	D	(4,714,730)	(72,155)	(296,860)	(1,034,285)
5	TRANSMISSION	D	(5,675,474)	(86,858)	(357,352)	(1,245,046)
6	DISTRIBUTION - DEMAND	D	(102,590,372)	(2,097,168)	(8,742,453)	(22,036,746)
7	DISTRIBUTION - CUSTOMER	C	(43,391,986)	(8,772,952)	(4,303,738)	(6,456,745)
8	SERVICES	C	(58,121,625)	(9,396,933)	(3,088,892)	(4,969,845)
9	METERS & HOUSE REGULATORS	C	(12,077,546)	(2,191,368)	(2,090,123)	(2,896,578)
10	CUSTOMER INSTALLATION	C	(9,817,969)	(3,835,885)	(868,544)	(1,064,849)
11	PAYMENT PROCESSING	C	(464,028)	(270,692)	(30,064)	(29,951)
12	PRINTING & MAILING A BILL	C	(751,937)	(438,645)	(48,717)	(48,535)
13	CUSTOMER ACCOUNTING	C	(7,012,140)	(4,082,737)	(478,832)	(459,368)
14	CUSTOMER SERVICE	C	(1,365,232)	(796,413)	(88,452)	(88,121)
15	UNCOLLECTIBLES	C	(1,872,934)	(326,215)	(90,887)	(147,236)
16	REVENUES	R	350,660,703	52,945,034	33,523,477	54,232,862
17			-----	-----	-----	-----
18	TOTAL DEMAND	D	(112,980,576)	(2,256,180)	(9,396,665)	(24,316,077)
19	TOTAL ENERGY	E	(1,609,160)	(602,245)	(150,634)	(648,757)
20	TOTAL CUSTOMER	C	(134,875,397)	(30,111,840)	(11,088,249)	(16,161,229)
21	TOTAL REVENUE	R	350,660,703	52,945,034	33,523,477	54,232,862
22			-----	-----	-----	-----
23	TOTAL		101,195,569	19,974,768	12,887,928	13,548,031
			=====	=====	=====	=====

CON EDISON GAS 2019 ECOS

CUSTOMER COSTS

	TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)	
<b>CUSTOMER COST BY CLASS</b>						
1	NUMBER OF CUSTOMERS	1,089,788	635,731	70,606	70,342	313,108
2						
3	RATE BASE	3,577,296,061	662,122,233	304,420,137	455,425,314	2,155,328,377
4						
5	TOTAL CUSTOMER OPERATING EXPS.	454,464,716	109,275,185	36,129,577	52,098,942	256,961,011
6	MONTHLY OP. EXPS. COST/CUST	34.75	14.32	42.64	61.72	68.39
7						
8	RETURN @ 12.22% (CUSTOMER)	437,227,856	80,926,566	37,207,142	55,663,448	263,430,700
9	S.I.T. & F.I.T. PERCENT ON RETURN	15.13%				
10	INCOME TAX ON RETURN	66,143,830	12,242,571	5,628,697	8,420,766	39,851,796
11	TOTAL RETURN & F.I.T.	503,371,687	93,169,136	42,835,839	64,084,215	303,282,497
12	MONTHLY RET. F.I.T. COST/CUST	38.49	12.21	50.56	75.92	80.72
13						
14	MONTHLY CUSTOMER COSTS	73.24	26.54	93.20	137.64	149.11
		=====	=====	=====	=====	=====



CON EDISON GAS 2019 ECOS

## ALLOCATION FACTORS

		TOTAL GAS SYSTEM (1)	RESDNLT & REL SC NO. 1 (2)	RATE I SC NO. 2 (3)	RATE II SC NO. 2 (4)	RESDNLT & REL HEATING SC NO. 3 (5)
<b>ALLOCATION FACTORS</b>						
1	MAX. DEMAND 24-HOUR USE	16,120,000	246,702	1,014,985	3,536,294	11,322,019
2	PERCENT	100.000000%	1.530409%	6.296433%	21.937308%	70.235850%
3						
4	MAX. DEMAND 1 HR. NON-COINC.	771,641	15,774	65,757	165,751	524,359
5	PERCENT	100.000000%	2.044215%	8.521709%	21.480326%	67.953751%
6						
7	ANNUAL THERM SALES	1,685,904,934	40,130,705	288,454,798	341,937,852	1,015,381,579
8	PERCENT	100.000000%	2.380366%	17.109790%	20.282155%	60.227689%
9						
10	CUSTOMER FOOTAGE OF MAINS	21,474,888	4,341,773	2,129,939	3,195,472	11,807,703
11	PERCENT	100.000000%	20.217909%	9.918278%	14.880041%	54.983773%
12						
13	BOOK COST - SERVICES	2,597,227,971	419,912,182	138,030,479	222,082,929	1,817,202,381
14	PERCENT	100.000000%	16.167706%	5.314531%	8.550768%	69.966996%
15						
16	BOOK COST OF METERS	606,427,963	110,031,194	104,947,585	145,440,636	246,008,548
17	PERCENT	100.000000%	18.144149%	17.305862%	23.983168%	40.566821%
18						
19	PMT PROCESS'G, MAILING, BILLING	13,077,453	7,628,777	847,276	844,102	3,757,298
20	PERCENT	100.000000%	58.335343%	6.478907%	6.454636%	28.731115%
21						
22	CUSTOMER ACCOUNTING EXP.	24,731,653	14,399,717	1,688,830	1,620,179	7,022,927
23	PERCENT	100.000000%	58.223835%	6.828618%	6.551034%	28.396513%
24						
25	CUSTOMER SERVICE EXP.	5,308,401	3,096,674	343,926	342,638	1,525,163
26	PERCENT	100.000000%	58.335343%	6.478907%	6.454636%	28.731115%
27						
28	CUSTOMER INSTALLATION EXP.	24,457,867	9,555,700	2,163,658	2,652,682	10,085,827
29	PERCENT	100.000000%	39.070047%	8.846469%	10.845925%	41.237559%
30						
31	UNCOLLECTIBLE ACCOUNTS	9,538,751	1,661,394	462,884	749,867	6,664,606
32	PERCENT	100.000000%	17.417312%	4.852669%	7.861270%	69.868749%
33						
34	REVENUES FROM SALES	1,731,497,138	258,507,943	166,411,365	269,584,441	1,036,993,390
35	PERCENT	100.000000%	14.929735%	9.610837%	15.569442%	59.889986%
36						
37	MFC - SUPPLY RELATED REVENUES	2,499,089	130,154	222,525	347,986	1,798,424
38	PERCENT	100.000000%	5.208051%	8.904261%	13.924501%	71.963187%
39						
40	MFC - COLLECTIONS RELATED REVENUES	6,514,131	361,212	453,156	708,647	4,991,115
41	PERCENT	100.000000%	5.545056%	6.956514%	10.878611%	76.619818%
42						
43	BPP REVENUES	8,372,428	4,882,417	545,114	540,225	2,404,671
44	PERCENT	100.000000%	58.315432%	6.510827%	6.452433%	28.721308%
45						
46	OTHER OPERATING REVENUES	37,013,331	5,764,486	3,101,105	5,023,753	23,123,987
47	PERCENT	100.000000%	15.574082%	8.378346%	13.572821%	62.474752%
48						
49	REVENUE ADJUSTMENT	0	0	0	0	0
50	PERCENT	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
51						
52	REVENUES	0	0	0	0	0
53	PERCENT	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
54						
55	UNBUNDLED ALLOCATOR	5,755,113	2,153,911	538,737	742,205	2,320,260
56	PERCENT	100.000000%	37.426042%	9.361015%	12.896445%	40.316498%
57						
58	ANNUAL THERM SALES	1,685,904,934	40,130,705	288,454,798	341,937,852	1,015,381,579
59						
60	NUMBER OF CUSTOMERS	1,089,788	635,731	70,606	70,342	313,108

Consolidated Edison Company of New York, Inc.  
Embedded Cost-of-Service Study Results  
For the Year 2019

<u>Service Classification</u>	<u>Rate of Return %</u>	<u>Initial Surplus/Deficiency* (\$000)</u>	<u>Adjustment** (\$000)</u>	<u>Adjusted Surplus/Deficiency* (\$000)</u>
SC 1 Residential	17.13	36,230	(7,448)	28,782
SC 2 Rate I	15.23	13,660	(4,795)	8,865
SC 2 Rate II	11.09	-	(7,768)	(7,768)
SC 3 Residential Heating	11.29	-	(29,879)	(29,879)
Total System	12.22			
Total Surplus		49,890		
Total Deficiency		-		
Grand Total		49,890	(49,890) (49,890)	0.00 0.00

\* Deficiencies shown as negative

\*\* Adjustments are based on Non-Competitive Delivery Revenues.

**EXHIBIT \_\_ (GRP-1)**  
**SCHEDULE 2**  
**PAGE 1 of 2**

**Consolidated Edison Company of New York, Inc.**  
**Merchant Function Charge Calculations**  
**Supply Portion of the MFC for Full Service Customers**  
**Based on the 2019 Embedded Cost-of-Service Study**

	<u>Total Residential</u>	<u>Total Commercial</u>	<u>Total ConEd</u>
1 Supply portion of the MFC	\$ 3,086,923	\$ 1,108,899	\$ 4,195,822
2			
3 Total ConEd Base Revenues, MFC-Supply Related,			
4 MFC and POR Credit & Collection, BPP Revenues			<b>\$1,751,261,781</b>
5			
6			
7 Fixed Rate of Revenue Requirement	<u><b>0.17627%</b></u>	<u><b>0.06332%</b></u>	<u><b>0.23959%</b></u>
8 (as % of total revenues)			

**EXHIBIT \_\_ (GRP-1)**  
**SCHEDULE 2**  
**PAGE 2 of 2**

**Consolidated Edison Company of New York, Inc.**  
**Merchant Function Charge Calculations**  
**Credit & Collection/Theft Portion of the MFC for Full Service and POR Customers**  
**Based on 2019 Embedded Cost-of-Service Study**

	<b>Full Service Portion of Credit &amp; Collection/Theft</b>	<b>Full Service % Breakdown</b>
Total Residential	\$3,494,006	<b>81.83502%</b>
Total Other Commercial	<u>\$775,567</u>	<b>18.16498%</b>
Total Full Service	\$4,269,573	100.00000%
POR Portion of Credit & Collection/Theft	<u>\$1,849,339</u>	
Total Competitive Credit & Collection/Theft	\$6,118,912	
Total ConEd Base Revenues, MFC-Supply Related, MFC and POR Credit & Collection and BPP Revenues	<b>\$1,751,261,781</b>	
Fixed Rate of Revenue Requirement (as % of total revenues)	<u><b>0.34940%</b></u>	

**EXHIBIT \_\_\_ (GRP-1)**  
**SCHEDULE 3**  
**PAGE 1 of 2**

**Consolidated Edison Company of New York, Inc.**  
**Printing and Mailing a Bill**  
**December 31, 2019**

	<u>Account #</u>	<u>Gas Labor</u>	<u>Gas Non-Labor</u>	<u>Total Gas</u>
Direct Printing & Mailing a Bill Costs	90300	\$53,420	\$909,002	\$962,422
Postage Costs		\$0	\$2,429,947	\$2,429,947
		\$53,420	\$3,338,949	\$3,392,369
<b><u>Reallocation of IT Costs</u></b>				
Computer Maintenance	A8411	\$0	\$6,313	\$6,313
Application Services - Salary	U8408	\$12,260	\$0	\$12,260
Mainframe Software Licensing	T8490	\$0	\$151,780	\$151,780
Paper - Bills	T8414	\$0	\$0	
Print Supplies	T8434	\$0	\$0	\$0
Disaster Recovery	T8421	\$0	\$6,870	\$6,870
Computer Operations - Salary	T8428	\$101,023	\$0	\$101,023
Total Information Technology Costs		\$113,283	\$164,962	\$278,245
Total Printing and Mailing a Bill Costs		\$166,703	\$3,503,911	\$3,670,614
Credit and Collection / Theft		\$19,774	\$5,432	\$25,206
Educ-Cust-Advertising/Promo		\$0	\$1,419	\$1,419
Uncollectibles		\$0	\$15,117	\$15,117
<b>Subtotal Unbundled Customer Care</b>		\$19,775	\$21,967	\$41,742
<b>Subtotal with Commission Ordered Costs</b>		\$186,478	\$3,525,878	\$3,712,356
<b><u>Overheads</u></b>				
<b>Total Overheads</b>				\$201,249
<b>Total Cost Printing and Mailing a Bill</b>				\$3,913,605
<b>Total 2019 Gas Mailings</b>				5,306,963
<b>Total Unit Cost for Printing and Mailing a Bill</b>				<b>\$0.74</b>

**EXHIBIT \_\_\_ (GRP-1)**  
**SCHEDULE 3**  
**PAGE 2 of 2**

**Consolidated Edison Company of New York, Inc.**  
**Receipts Processing**  
**December 31, 2019**

	<u>Gas Labor</u>	<u>Gas Non-Labor</u>	<u>Total Gas</u>
Direct Receipts Processing Costs	\$29,643	\$262,353	\$291,996
Allocation of Customer Care Costs	1,036,037	329,789	1,365,826
Allocation of Information Technology Costs	<u>3,537</u>	<u>5,221</u>	<u>8,758</u>
 Total Receipts Processing Costs	 \$1,069,217	 \$597,363	 \$1,666,580
 Allocation of Credit & Collection and Theft	 \$8,978	 \$2,466	 \$11,444
Allocation of Educ-Cust Advertising/Promo	\$0	\$644	\$644
Allocation of Uncollectibles	<u>\$0</u>	<u>\$6,863</u>	<u>\$6,863</u>
<b>Subtotal Unbundled Customer Care</b>	<b>\$8,978</b>	<b>\$9,974</b>	<b>\$18,952</b>
 <b>Subtotal with Commission Ordered Costs</b>	 <b>\$1,078,196</b>	 <b>\$607,337</b>	 <b>\$1,685,533</b>
 <b><u>Overheads</u></b>			
 <b>Total Overheads</b>			 <b>\$754,372</b>
 <b>Total Cost for Payment Processing</b>			 <b>\$2,439,905</b>
 <b>Total 2019 Gas Mailings</b>			 <b>5,306,963</b>
 <b>Total Unit Cost for Payment Processing</b>			 <b>\$0.46</b>

**EXHIBIT \_\_\_\_ (GRP-2)**

**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.**

**MARGINAL COST ANALYSIS**

**Consolidated Edison Company of New York, Inc.**

**Index Listing for EXHIBIT \_\_\_\_ (GRP-2)**

1. Exhibit \_\_\_\_ (GRP-2), Schedule 1 – Gas Marginal Transmission and Distribution Cost Analysis
2. Exhibit \_\_\_\_ (GRP-2), Schedule 2 – Gas Marginal Cost Analysis for Excelsior Jobs Program



**EXHIBIT \_\_\_ (GRP-2)**  
**Schedule 1**

**Consolidated Edison Company of New York, Inc.**  
**Gas Marginal Transmission and Distribution Cost Analysis**  
**12 Month Ending December 31, 2022**

<b>(1)</b>	Average Annual Capital Investment Years 2022-2026	\$22,957,000
<b>(2)</b>	Carrying Charge	8.46%
<b>(3)</b>	Annualized Cost (1) x (2)	\$1,942,162
<b>(4)</b>	O&M Expense = 1.80% x (1)	\$413,226
<b>(5)</b>	Total Annual Cost Including O&M	\$2,355,388
<b>(6)</b>	Incremental Annual Sales (Average of Years 2022-2026)	6,764,000
<b>(7)</b>	General Escalation Factor for RY1	1.034
<b>(8)</b>	Total Marginal Cost (Dollars per Therm)	\$0.3601
<b>(9)</b>	Total Marginal Cost (Dollars per Therm) Excludes Escalation	\$0.3482

CON EDISON GAS MARGINAL COST ANALYSIS for Excelsior Jobs Program (1)	\$/Therm (2)	Total System Therms <sup>1</sup> (3)	Total System Annual Costs <sup>2</sup> (4)	ECOS Reference <sup>2</sup> (5)	SC 2 RATE I			SC 2 RATE II		
					New Customer (6)	Existing Customer (7)	Average Customer (8)	New Customer (9)	Existing Customer (10)	Average Customer (11)
Total System Marginal Cost (\$ per therm)	\$0.3482	1,685,904,934	\$587,032,098	D02	\$50,025,167	\$50,025,167	\$50,025,167	\$126,096,407	\$126,096,407	\$126,096,407
Customer Costs <sup>3</sup>			<u>\$634,508,115</u>		<u>\$53,592,590</u>	<u>\$0</u>	<u>\$26,796,295</u>	<u>\$63,156,217</u>	<u>\$0</u>	<u>\$31,578,109</u>
Total			\$1,221,540,213		<u>\$103,617,757</u>	<u>\$50,025,167</u>	<u>\$76,821,462</u>	<u>\$189,252,624</u>	<u>\$126,096,407</u>	<u>\$157,674,515</u>

**Revenue Requirement \$ from 2019 ECOS<sup>4</sup>**

(January 2022 rate level)

Transmission							\$3,180,321			\$8,826,528
Total Distribution (includes demand and customer component of mains)							\$107,388,032			\$190,959,336
Customer Costs (excluding BPP)							<u>\$53,592,590</u>			<u>\$63,156,217</u>
Total							<u>\$164,160,942</u>			<u>\$262,942,081</u>

**Ratio (Marginal \$/Revenue Requirement \$)**

**0.4680**

**0.5997**

Notes:

- Column (3) is the E03 allocator in from Exhibit \_\_\_ (GRP-1), Table 7
- The Dollar per Therm in Column 2 is multiplied by the Total System Therms in Column 3 taken from the E03 allocator found in Exhibit \_\_\_(GRP-1), Table 7. This results in total system annualized marginal costs shown in column (4). This is then allocated to EJP eligible service classes shown in columns (6) through (11) based on the D02 allocator taken from Exhibit \_\_\_(GRP-1), Table 7.
- Customer Costs include services, meters & house regulators, customer installation, customer accounting, customer service, and uncollectibles.
- Competitive revenues (MFC and BPP) and Miscellaneous revenues have been excluded from this analysis.

**EXHIBIT \_\_\_ (GRP-3)**

**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.**

**RATE DESIGN – GAS DEPARTMENT  
RATE YEAR 2023**

**Consolidated Edison Company of New York, Inc.**

**Index Listing for EXHIBIT\_\_ (GRP-3)**

1. Exhibit \_\_ (GRP-3), Schedule 1 - Estimated Effect on Gas Customers' Bills and Company Revenues Resulting from Proposed Gas Rates
2. Exhibit \_\_ (GRP-3), Schedule 2 - Present and Proposed Rates in Brief, Billing & Payment Processing Rates
3. Exhibit \_\_ (GRP-3), Schedule 3 - CECONY Gas Bill Tables Based Upon Gas Rate Design in Rate Case 22-G-XXXX
4. Exhibit \_\_ (GRP-3), Schedule 4 - Projected Gas Bills

**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.**  
 Estimated Effect on Gas Customers' Bills and Company Revenues Resulting from Proposed Gas Rates  
 Based on Forecasted Sales and Revenues for the Twelve Months Ending December 31, 2023 for Service Classification Nos. 1, 2, 3, 13 and 14  
 and the Corresponding SC 9 Firm Transportation Sub-classes

Firm Service Classification (Sales and Transportation)	Annual Therms	Total Annual Revenues at Current 01/01/22 Rates (b)	Total Annual Revenues at Proposed 01/01/23 Rates (b)	Estimated Total Annual Revenues Increase/(Decrease)	Percent Change	Number of Customers' Bills Increased	Number of Customers' Bills Decreased	Number of Customers' Bills Not Changed (c)
1 - Residential & Religious	38,160,000	\$ 286,004,700	\$ 349,123,925	\$ 63,119,225	22.1%	6,333,450	0	0
2 - General - Rate I (a)	254,300,000	\$ 307,888,432	\$ 350,792,968	\$ 42,904,536	13.9%	801,562	0	0
2 - Rider H - Distribution Generation	75,430,000	\$ 61,162,935	\$ 65,966,276	\$ 4,803,341	7.9%	2,469	0	0
2 - General - Rate II - (a)	341,670,000	\$ 469,866,983	\$ 552,417,340	\$ 82,550,356	17.6%	734,048	0	0
2 - Total Commercial	671,400,000	\$ 838,918,350	\$ 969,176,584	\$ 130,258,234	15.5%	1,538,079	0	0
3 - Residential & Religious - Heating (a)	1,004,980,000	\$ 1,638,980,433	\$ 1,948,105,441	\$ 309,125,008	18.9%	3,565,477	0	0
3 - Rider J - Distribution Generation	20,000	\$ 26,031	\$ 30,412	\$ 4,382	16.8%	84	0	0
13 - Seasonal Off Peak Firm Service	540,000	\$ 805,870	\$ 948,972	\$ 143,102	17.8%	3,519	0	0
14 - Natural Gas Vehicles	120,000	\$ 284,264	\$ 284,264					
<b>Total Firm Sales &amp; Firm Transportation</b>	<b>1,715,220,000</b>	<b>2,765,019,648</b>	<b>3,267,669,598</b>	<b>502,649,950</b>	<b>18.2%</b>	<b>11,440,610</b>	<b>0</b>	<b>0</b>

(a) Gas air-conditioning is included in SC 2 and SC 3.

(b) Annual Revenues:

include gas cost factor, monthly rate adjustment, merchant function charges and various other charges used in calculating Rate Year Revenues;  
 include gas supply costs for transportation customers equivalent to what these customers would have paid as full service customers; and

(c) Number of customers' bills not changed have bill impacts ranging from -0.01% to 0.01%.

**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.**  
**Present and Proposed Rates in Brief**

**Present SC 1 and SC9 (A) (1) (Monthly)**

**Residential & Religious Firm Sales and Transportation Service**

First 3 therms (or less)                   \$   27.70  
 Over 3 therms                               171.31 cents per therm

Plus: Billing and Payment Processing Charge       See attached table

**Other Charges**

Plus: Merchant Function Charge       (Sales Service Only)  
 Plus: Monthly Rate Adjustment  
 Plus: System Benefits Charge

Plus: Revenue Tax Surcharge  
 Plus: Gas Cost Factor                   (Sales Service Only)

The Monthly Minimum Charge is the charge for the first 3 therms (or less)

**Proposed SC 1 and SC9 (A) (1) (Monthly)**

**Residential & Religious Firm Sales and Transportation Service**

First 3 therms (or less)                   \$   31.00  
 Over 3 therms                               317.07 cents per therm

Plus: Billing and Payment Processing Charge       See attached table

**Other Charges**

Plus: Merchant Function Charge       (Sales Service Only)  
 Plus: Monthly Rate Adjustment  
 Plus: System Benefits Charge

Plus: Revenue Decoupling Mechanism Adjustment  
 Plus: Revenue Tax Surcharge  
 Plus: Gas Cost Factor                   (Sales Service Only)

The Monthly Minimum Charge is the charge for the first 3 therms (or less)

**Present SC 2 Rate I and SC9 (A) (2) (Monthly)**

**General Firm Sales and Transportation Service**

First    3 therms (or less)               \$   34.80  
 Next   87 therms                         101.21 cents per therm  
 Next 2,910 therms                       52.21 cents per therm  
 Over 3,000 therms                       35.98 cents per therm

Plus: Billing and Payment Processing Charge       See attached table

**Other Charges**

Plus: Merchant Function Charge       (Sales Service Only)  
 Plus: Monthly Rate Adjustment  
 Plus: System Benefits Charge  
 Plus: Revenue Decoupling Mechanism Adjustment  
 Plus: Revenue Tax Surcharge  
 Plus: Gas Cost Factor                   (Sales Service Only)

The Monthly Minimum Charge is the charge for the first 3 therms (or less)

**Proposed SC 2 Rate I and SC9 (A) (2) (Monthly)**

**General Firm Sales and Transportation Service**

First    3 therms (or less)               \$   44.90  
 Next   87 therms                         117.78 cents per therm  
 Next 2,910 therms                       66.27 cents per therm  
 Over 3,000 therms                       49.20 cents per therm

Plus: Billing and Payment Processing Charge       See attached table

**Other Charges**

Plus: Merchant Function Charge       (Sales Service Only)  
 Plus: Monthly Rate Adjustment  
 Plus: System Benefits Charge  
 Plus: Revenue Decoupling Mechanism Adjustment  
 Plus: Revenue Tax Surcharge  
 Plus: Gas Cost Factor                   (Sales Service Only)

The Monthly Minimum Charge is the charge for the first 3 therms (or less)

**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.**  
**Present and Proposed Rates in Brief**

**Present SC 2 Rate II and SC9 (A) (4) (Monthly)**  
**General Firm Sales and Transportation Service**

First	3 therms (or less)	\$	34.80
Next	87 therms		101.21 cents per therm
Next	2,910 therms		76.09 cents per therm
Over	3,000 therms		51.75 cents per therm

Plus: Billing and Payment Processing Charge See attached table

**Other Charges**

Plus: Merchant Function Charge (Sales Service Only)  
 Plus: Monthly Rate Adjustment  
 Plus: System Benefits Charge  
 Plus: Revenue Decoupling Mechanism Adjustment  
 Plus: Revenue Tax Surcharge  
 Plus: Gas Cost Factor (Sales Service Only)

The Monthly Minimum Charge is the charge for the first 3 therms (or less)

**Proposed SC 2 Rate II and SC9 (A) (4) (Monthly)**  
**General Firm Sales and Transportation Service**

First	3 therms (or less)	\$	44.90
Next	87 therms		125.07 cents per therm
Next	2,910 therms		97.80 cents per therm
Over	3,000 therms		71.38 cents per therm

Plus: Billing and Payment Processing Charge See attached table

**Other Charges**

Plus: Merchant Function Charge (Sales Service Only)  
 Plus: Monthly Rate Adjustment  
 Plus: System Benefits Charge  
 Plus: Revenue Decoupling Mechanism Adjustment  
 Plus: Revenue Tax Surcharge  
 Plus: Gas Cost Factor (Sales Service Only)

The Monthly Minimum Charge is the charge for the first 3 therms (or less)

**Present SC 3 and SC9 (A) (6) (Monthly)**  
**Residential and Religious Heating Firm Sales and Transportation Service**

First	3 therms (or less)	\$	23.80
Next	87 therms		125.71 cents per therm
Next	2,910 therms		95.62 cents per therm
Over	3,000 therms		73.61 cents per therm

Plus: Billing and Payment Processing Charge See attached table

**Other Charges**

Plus: Merchant Function Charge (Sales Service Only)  
 Plus: Monthly Rate Adjustment  
 Plus: System Benefits Charge  
 Plus: Revenue Decoupling Mechanism Adjustment  
 Plus: Revenue Tax Surcharge  
 Plus: Gas Cost Factor (Sales Service Only)

The Monthly Minimum Charge is the charge for the first 3 therms (or less)

**Proposed SC 3 and SC9 (A) (6) (Monthly)**  
**Residential and Religious Heating Firm Sales and Transportation Service**

First	3 therms (or less)	\$	31.00
Next	87 therms		156.91 cents per therm
Next	2,910 therms		124.27 cents per therm
Over	3,000 therms		100.39 cents per therm

Plus: Billing and Payment Processing Charge See attached table

**Other Charges**

Plus: Merchant Function Charge (Sales Service Only)  
 Plus: Monthly Rate Adjustment  
 Plus: System Benefits Charge  
 Plus: Revenue Decoupling Mechanism Adjustment  
 Plus: Revenue Tax Surcharge  
 Plus: Gas Cost Factor (Sales Service Only)

The Monthly Minimum Charge is the charge for the first 3 therms (or less)

**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.**  
**Present and Proposed Rates in Brief**

**Present SC 2 Rate I & II, SC 3 and SC9 (A) (7) (Monthly)**  
**Air Conditioning Rate for Firm Sales and Transportation Service**

First 1,200 therms	46.81 cents per therm
Over 1,200 therms	40.04 cents per therm

Plus: Billing and Payment Processing Charge See attached table

**Other Charges**

Plus: Merchant Function Charge	(Sales Service Only)
Plus: Monthly Rate Adjustment	
Plus: System Benefits Charge	
Plus: Revenue Decoupling Mechanism Adjustment	
Plus: Revenue Tax Surcharge	
Plus: Gas Cost Factor	(Sales Service Only)

**Present SC 13 and SC9 (A) (8) (Monthly)**  
**Seasonal Off-Peak Firm Sales and Transportation Service**

First 3 therms (or less)	\$ 59.66
Next 1,197 therms	46.81 cents per therm
Over 1,200 therms	40.04 cents per therm

Plus: Billing and Payment Processing Charge See attached table

**Other Charges**

Plus: Merchant Function Charge	(Sales Service Only)
Plus: Monthly Rate Adjustment	
Plus: System Benefits Charge	
Plus: Revenue Tax Surcharge	
Plus: Gas Cost Factor	(Sales Service Only)

The Monthly Minimum Charge is the charge for the first 3 therms (or less)

**Proposed SC 2 Rate I & II, SC 3 and SC9 (A) (7) (Monthly)**  
**Air Conditioning Rate for Firm Sales and Transportation Service**

First 1,200 therms	60.29 cents per therm
Over 1,200 therms	51.57 cents per therm

Plus: Billing and Payment Processing Charge See attached table

**Other Charges**

Plus: Merchant Function Charge	(Sales Service Only)
Plus: Monthly Rate Adjustment	
Plus: System Benefits Charge	
Plus: Revenue Decoupling Mechanism Adjustment	
Plus: Revenue Tax Surcharge	
Plus: Gas Cost Factor	(Sales Service Only)

**Proposed SC 13 and SC9 (A) (8) (Monthly)**  
**Seasonal Off-Peak Firm Sales and Transportation Service**

First 3 therms (or less)	\$ 76.97
Next 1,197 therms	60.29 cents per therm
Over 1,200 therms	51.57 cents per therm

Plus: Billing and Payment Processing Charge See attached table

**Other Charges**

Plus: Merchant Function Charge	(Sales Service Only)
Plus: Monthly Rate Adjustment	
Plus: System Benefits Charge	
Plus: Revenue Tax Surcharge	
Plus: Gas Cost Factor	(Sales Service Only)

The Monthly Minimum Charge is the charge for the first 3 therms (or less)



**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.**  
**Present and Proposed Rates in Brief**  
**Rider H and J - Distributed Generation Rates**

**Present Rider H and SC 9 (A) (9) Rates**

**Delivery Charges:**

**Rates for Distributed Generation Capacity < 5 MegaWatts**

First 3 Therms (or less)		
<= 0.25 MW	\$186.10	
0.25 MW > & <= 1 MW	\$254.30	
1 MW > & <= 3 MW	\$505.90	
3 MW > & < 5 MW	\$674.30	
Over 3 Therms Summer	25.13	cents per therm
Over 3 Therms Winter	31.40	cents per therm

**Other Charges:**

Rates and other provisions of the customer's otherwise applicable service classification (excluding the RDM Adjustment)

The Monthly Minimum Charge is the charge for the first 3 therms (or less)

**Rates for Distributed Generation Capacity 5 MW => & < 50 MW**

First 3 Therms (or less)		
5 MW => & < 50 MW	\$102.10	
Contract Demand Charge	\$43.43	per therm
Over 3 Therms Summer	5.01	cents per therm
Over 3 Therms Winter	6.30	cents per therm

**Other Charges:**

Rates and other provisions of the customer's otherwise applicable service classification (excluding the RDM Adjustment)

The Monthly Minimum Charge is the charge for the first 3 therms plus the Contract Demand Charge

**Present Rider J Rates**

**Delivery Charges:**

**SC 1 and SC 9 (A) (10)**

First 3 Therms (or less)	\$28.00	
Over 3 Therms	54.84	cents per therm

**SC 3 (<= 4 Dwelling Units) and SC 9 (A) (10)**

First 3 Therms (or less)	\$43.20	
Over 3 Therms	51.70	cents per therm

**Other Charges:**

Rates and other provisions of the customer's otherwise applicable service classification (excluding the RDM Adjustment)

The Monthly Minimum Charge is the charge for the first 3 therms (or less)

**Proposed Rider H and SC 9 (A) (9) Rates**

**Delivery Charges:**

**Rates for Distributed Generation Capacity < 5 MegaWatts**

First 3 Therms (or less)		
<= 0.25 MW	\$235.42	
0.25 MW > & <= 1 MW	\$321.69	
1 MW > & <= 3 MW	\$639.96	
3 MW > & < 5 MW	\$852.99	
Over 3 Therms Summer	31.79	cents per therm
Over 3 Therms Winter	39.72	cents per therm

**Other Charges:**

Rates and other provisions of the customer's otherwise applicable service classification (excluding the RDM Adjustment)

The Monthly Minimum Charge is the charge for the first 3 therms (or less)

**Rates for Distributed Generation Capacity 5 MW => & < 50 MW**

First 3 Therms (or less)		
5 MW => & < 50 MW	\$129.16	
Contract Demand Charge	\$54.94	per therm
Over 3 Therms Summer	6.34	cents per therm
Over 3 Therms Winter	7.97	cents per therm

**Other Charges:**

Rates and other provisions of the customer's otherwise applicable service classification (excluding the RDM Adjustment)

The Monthly Minimum Charge is the charge for the first 3 therms plus the Contract Demand Charge

**Proposed Rider J Rates**

**Delivery Charges:**

**SC 1 and SC 9 (A) (10)**

First 3 Therms (or less)	\$31.30	
Over 3 Therms	101.5	cents per therm

**SC 3 (<= 4 Dwelling Units) and SC 9 (A) (10)**

First 3 Therms (or less)	\$56.40	
Over 3 Therms	67.42	cents per therm

**Other Charges:**

Rates and other provisions of the customer's otherwise applicable service classification (excluding the RDM Adjustment)

The Monthly Minimum Charge is the charge for the first 3 therms (or less)

**CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.**

**Billing and Payment Processing Charge / Credit Applicable to Single Service Accounts and ESCO's - Current and Proposed**

**A. Single Service (Gas only) accounts – BPP and ESCO charges**

	Full Service	Retail Choice Utility Single Bill (POR)	Retail Choice Two Bills	Retail Choice ESCO Single Bill
Gas Customer	\$1.28	\$0.00	\$1.28	\$0.00
Gas ESCO	N/A	\$1.28	\$0.00	\$0.00

**B. Dual Service (Gas and Electric) – Gas BPP and Gas ESCO charges for accounts with both services served by either Con Edison or by one ESCO or with only one service served by an ESCO**

	Electric Service Type	Gas Full Service	Gas Retail Choice Utility Single Bill (POR)	Gas Retail Choice Two Bills	Gas Retail Choice ESCO Single Bill
Gas Customer	Electric Full Service	\$0.64***	\$0.00	\$0.64***	\$0.00
Gas ESCO	Electric Full Service	N/A	\$1.28	\$0.00	\$0.00
Gas Customer	Electric Retail Choice Utility Single Bill (POR)	\$0.00	\$0.00	\$0.00	N/A
Gas ESCO	Electric Retail Choice Utility Single Bill (POR)	\$0.00*	\$0.64**	\$0.00*	N/A
Gas Customer	Electric Retail Choice Two Bill	\$0.64***	\$0.00	\$0.64***	\$0.00
Gas ESCO	Electric Retail Choice Two Bill	\$0.00	\$1.28	\$0.00	\$0.00
Gas Customer	Electric Retail Choice ESCO Single Bill	\$0.00	N/A	\$0.00	\$0.00
Gas ESCO	Electric Retail Choice ESCO Single Bill	\$0.00	N/A	\$0.00	\$0.00

\*The ESCO, as the electric ESCO will pay \$1.28 because of the electric billing option.

\*\*The ESCO, as the electric ESCO will also pay \$0.64.

\*\*\*The Customer, as an electric customer, will also pay \$0.64.

**C. Dual Service (Gas and Electric) – Gas BPP and Gas ESCO charges for accounts with each service served by a different ESCO**

	Electric Service Type	Gas Retail Choice Utility Single Bill (POR)	Gas Retail Choice Two Bills	Gas Retail Choice ESCO Single Bill
Gas Customer	Electric Retail Choice Utility Single Bill (POR)	\$0.00	\$0.00	N/A
Gas ESCO	Electric Retail Choice Utility Single Bill (POR)	\$0.64**	\$0.00*	N/A
Gas Customer	Electric Retail Choice Two Bill	\$0.00	\$0.64***	\$0.00
Gas ESCO	Electric Retail Choice Two Bill	\$1.28	\$0.00	\$0.00
Gas Customer	Electric Retail Choice ESCO Single Bill	N/A	\$0.00	N/A
Gas ESCO	Electric Retail Choice ESCO Single Bill	N/A	\$0.00	N/A

\*The electric ESCO will pay \$1.28.

\*\*The electric ESCO will also pay \$0.64.

\*\*\*The Customer, as an electric customer, will also pay \$0.64.

**Consolidated Edison Company of New York, Inc.**

Gas Bill Tables Based Upon Gas Rate Design in Rate Case 22-G-XXXX  
 Comparison of Bills Calculated at Current Rates vs. Rate Year Proposed Rates

**Gas S.C. No. 01**  
 Residential and Religious  
 Current vs Rate Year 1

Therm Use 30 Days	Bill at Current Rates 1/1/2022	Bill at Proposed Rates 1/1/2023 (RY1)	Dollar Variance	Percentage Variance
0	\$29.09	\$32.48	\$3.39	11.65%
3	30.85	34.25	3.40	11.02%
4	33.19	38.08	4.89	14.73%
5	35.54	41.94	6.40	18.01%
6	37.88	45.77	7.89	20.83%
7	40.22	49.62	9.40	23.37%
8	42.57	53.46	10.89	25.58%
9	44.92	57.30	12.38	27.56%
10	47.26	61.14	13.88	29.37%
12	51.95	68.84	16.89	32.51%
14	56.63	76.53	19.90	35.14%
16	61.32	84.20	22.88	37.31%
18	66.01	91.89	25.88	39.21%
20	70.70	99.58	28.88	40.85%
25	82.42	118.80	36.38	44.14%
30	94.14	138.02	43.88	46.61%
35	105.87	157.23	51.36	48.51%
40	117.57	176.45	58.88	50.08%
42	122.27	184.14	61.87	50.60%
50	141.04	214.88	73.84	52.35%
54	150.41	230.26	79.85	53.09%
60	164.47	253.32	88.85	54.02%
90	234.80	368.62	133.82	56.99%
100	258.24	407.05	148.81	57.62%
150	375.47	599.22	223.75	59.59%
200	492.66	791.40	298.74	60.64%
300	727.09	1,175.72	448.63	61.70%
400	961.52	1,560.06	598.54	62.25%
500	1,195.95	1,944.40	748.45	62.58%
600	1,430.37	2,328.74	898.37	62.81%
800	1,899.22	3,097.40	1,198.18	63.09%
1,000	2,368.07	3,866.08	1,498.01	63.26%
2,000	4,712.32	7,709.44	2,997.12	63.60%
3,000	7,056.59	11,552.80	4,496.21	63.72%

Note:

Current and Proposed bills reflect a charge for Delivery rates, a Billing & Payment Processing Charge, a System Benefits Charge, the Monthly Rate Adjustment, the Gas Cost Factor, the Merchant Function Charge and applicable GRT.

**Consolidated Edison Company of New York, Inc.**

Gas Bill Tables Based Upon Gas Rate Design in Rate Case 22-G-XXXX  
 Comparison of Bills Calculated at Current Rates vs. Rate Year Proposed Rates

**Gas S.C. No. 01**  
 Residential and Religious - Low Income Tiers 1-4  
 Current vs Rate Year 1

Therm Use 30 Days	Bill at Current Rates 1/1/2022	Bill at Proposed Rates 1/1/2023 (RY1)	Dollar Variance
0	\$21.90	\$25.29	\$3.39
3	23.66	27.06	3.40
4	26.00	30.89	4.89
5	28.35	34.75	6.40
6	30.69	38.58	7.89
7	33.03	42.43	9.40
8	35.38	46.27	10.89
9	37.73	50.11	12.38
10	40.07	53.95	13.88
12	44.76	61.65	16.89
14	49.44	69.34	19.90
16	54.13	77.01	22.88
18	58.82	84.70	25.88
20	63.51	92.39	28.88
25	75.23	111.61	36.38
30	86.95	130.83	43.88
35	98.68	150.04	51.36
40	110.38	169.26	58.88
42	115.08	176.95	61.87
50	133.85	207.69	73.84
54	143.22	223.07	79.85
60	157.28	246.13	88.85
90	227.61	361.43	133.82
100	251.05	399.86	148.81
150	368.28	592.03	223.75
200	485.47	784.21	298.74
300	719.90	1,168.53	448.63
400	954.33	1,552.87	598.54
500	1,188.76	1,937.21	748.45
600	1,423.18	2,321.55	898.37
800	1,892.03	3,090.21	1,198.18
1,000	2,360.88	3,858.89	1,498.01
2,000	4,705.13	7,702.25	2,997.12
3,000	7,049.40	11,545.61	4,496.21

**Note:**

Current and Proposed bills reflect a charge for Delivery rates, a Billing & Payment Processing Charge, a System Benefits Charge, the Monthly Rate Adjustment, the Gas Cost Factor, the Merchant Function Charge and applicable GRT.

**Consolidated Edison Company of New York, Inc.**

Gas Bill Tables Based Upon Gas Rate Design in Rate Case 22-G-XXXX  
Comparison of Bills Calculated at Current Rates vs. Rate Year Proposed Rates

**Gas S.C. No. 02 Rate I**

General Firm Sales  
Current vs Rate Year 1

Therm Use 30 Days	Bill at Current Rates 1/1/2022	Bill at Proposed Rates 1/1/2023 (RY1)	Dollar Variance	Percentage Variance
0	\$36.38	\$46.75	\$10.37	28.50%
3	38.11	48.48	10.37	27.21%
10	49.42	61.00	11.58	23.43%
20	65.59	78.87	13.28	20.25%
30	81.75	96.75	15.00	18.35%
40	97.90	114.64	16.74	17.10%
50	114.05	132.51	18.46	16.19%
75	154.46	177.19	22.73	14.72%
90	178.69	204.01	25.32	14.17%
100	189.82	216.61	26.79	14.11%
150	245.46	279.55	34.09	13.89%
200	301.10	342.48	41.38	13.74%
300	412.39	468.38	55.99	13.58%
500	634.97	720.15	85.18	13.41%
900	1,080.12	1,223.71	143.59	13.29%
1,000	1,191.40	1,349.58	158.18	13.28%
2,000	2,304.27	2,608.46	304.19	13.20%
3,000	3,417.15	3,867.33	450.18	13.17%
4,000	4,363.42	4,951.04	587.62	13.47%
5,000	5,309.68	6,034.76	725.08	13.66%
6,000	6,255.95	7,118.47	862.52	13.79%
8,000	8,148.49	9,285.92	1,137.43	13.96%
10,000	10,041.03	11,453.35	1,412.32	14.07%
20,000	19,503.71	22,290.52	2,786.81	14.29%
50,000	47,891.73	54,802.06	6,910.33	14.43%
100,000	95,205.12	108,987.93	13,782.81	14.48%
150,000	142,518.49	163,173.81	20,655.32	14.49%
200,000	189,831.88	217,359.69	27,527.81	14.50%
250,000	237,145.26	271,545.56	34,400.30	14.51%
300,000	284,458.65	325,731.45	41,272.80	14.51%

Note:

Current and Proposed bills reflect a charge for Delivery rates, a Billing & Payment Processing Charge, a System Benefits Charge, the Monthly Rate Adjustment, the Gas Cost Factor, the Merchant Function Charge and applicable GRT.

**Consolidated Edison Company of New York, Inc.**

Gas Bill Tables Based Upon Gas Rate Design in Rate Case 22-G-XXXX  
Comparison of Bills Calculated at Current Rates vs. Rate Year Proposed Rates

**Gas S.C. No. 02 Rate II**  
General Firm Sales  
Current vs Rate Year 1

Therm Use 30 Days	Bill at Current Rates 1/1/2022	Bill at Proposed Rates 1/1/2023 (RY1)	Dollar Variance	Percentage Variance
0	\$36.38	\$46.75	\$10.37	28.50%
3	38.11	48.48	10.37	27.21%
10	49.42	61.53	12.11	24.50%
20	65.59	80.14	14.55	22.18%
30	81.75	98.78	17.03	20.83%
40	97.90	117.41	19.51	19.93%
50	114.05	136.02	21.97	19.26%
75	154.46	182.58	28.12	18.21%
90	178.69	210.52	31.83	17.81%
100	192.27	226.35	34.08	17.73%
150	260.16	305.48	45.32	17.42%
200	328.06	384.60	56.54	17.23%
250	395.96	463.74	67.78	17.12%
300	463.87	542.86	78.99	17.03%
500	735.48	859.37	123.89	16.84%
900	1,278.68	1,492.41	213.73	16.71%
1,000	1,414.47	1,650.66	236.19	16.70%
2,000	2,772.48	3,233.23	460.75	16.62%
3,000	4,130.50	4,815.82	685.32	16.59%
4,000	5,238.65	6,127.13	888.48	16.96%
5,000	6,346.80	7,438.44	1,091.64	17.20%
6,000	7,454.95	8,749.76	1,294.81	17.37%
8,000	9,671.26	11,372.40	1,701.14	17.59%
10,000	11,887.56	13,995.04	2,107.48	17.73%
20,000	22,969.08	27,108.20	4,139.12	18.02%
50,000	56,213.62	66,447.72	10,234.10	18.21%
100,000	111,621.19	132,013.57	20,392.38	18.27%
150,000	167,028.76	197,579.43	30,550.67	18.29%
200,000	222,436.33	263,145.29	40,708.96	18.30%
250,000	277,843.90	328,711.14	50,867.24	18.31%
300,000	333,251.48	394,277.00	61,025.52	18.31%

Note:

Current and Proposed bills reflect a charge for Delivery rates, a Billing & Payment Processing Charge, a System Benefits Charge, the Monthly Rate Adjustment, the Gas Cost Factor, the Merchant Function Charge and applicable GRT.

**Consolidated Edison Company of New York, Inc.**  
 Gas Bill Tables Based Upon Gas Rate Design in Rate Case 22-G-XXXX  
 Comparison of Bills Calculated at Current Rates vs. Rate Year Proposed Rates

**Gas S.C. No. 03**  
 Residential and Religious Heating  
 Current vs Rate Year 1

Therm Use 30 Days	Bill at Current Rates 1/1/2022	Bill at Proposed Rates 1/1/2023 (RY1)	Dollar Variance	Percentage Variance
0	\$25.09	\$32.48	\$7.39	29.45%
3	26.85	34.25	7.40	27.56%
4	28.72	36.44	7.72	26.88%
5	30.60	38.65	8.05	26.31%
6	32.47	40.84	8.37	25.78%
7	34.35	43.05	8.70	25.33%
8	36.23	45.25	9.02	24.90%
9	38.11	47.44	9.33	24.48%
10	39.98	49.63	9.65	24.14%
12	43.73	54.03	10.30	23.55%
14	47.49	58.44	10.95	23.06%
16	51.23	62.83	11.60	22.64%
18	54.99	67.23	12.24	22.26%
20	58.74	71.64	12.90	21.96%
25	68.12	82.63	14.51	21.30%
30	77.50	93.63	16.13	20.81%
35	86.89	104.62	17.73	20.41%
40	96.25	115.62	19.37	20.12%
42	100.01	120.02	20.01	20.01%
50	115.03	137.62	22.59	19.64%
54	122.53	146.41	23.88	19.49%
60	133.78	159.60	25.82	19.30%
90	190.07	225.59	35.52	18.69%
100	205.75	244.23	38.48	18.70%
150	284.12	337.44	53.32	18.77%
170	315.47	374.72	59.25	18.78%
200	362.47	430.65	68.18	18.81%
300	519.20	617.07	97.87	18.85%
400	675.93	803.49	127.56	18.87%
500	832.66	989.92	157.26	18.89%
750	1,224.48	1,455.95	231.47	18.90%
1,000	1,616.29	1,922.00	305.71	18.91%
2,000	3,183.56	3,786.18	602.62	18.93%
3,000	4,750.85	5,650.36	899.51	18.93%
5,000	7,433.52	8,888.45	1,454.93	19.57%
10,000	14,140.20	16,983.65	2,843.45	20.11%
20,000	27,553.56	33,174.07	5,620.51	20.40%
25,000	34,260.24	41,269.29	7,009.05	20.46%
50,000	67,793.63	81,745.33	13,951.70	20.58%
100,000	134,860.43	162,697.44	27,837.01	20.64%
200,000	268,994.02	324,601.65	55,607.63	20.67%

Note:

Current and Proposed bills reflect a charge for Delivery rates, a Billing & Payment Processing Charge, a System Benefits Charge, the Monthly Rate Adjustment, the Gas Cost Factor, the Merchant Function Charge and applicable GRT.

**Consolidated Edison Company of New York, Inc.**

Gas Bill Tables Based Upon Gas Rate Design in Rate Case 22-G-XXXX  
Comparison of Bills Calculated at Current Rates vs. Rate Year Proposed Rates

**Gas S.C. No. 03**

Residential and Religious Heating - Low Income Tier 1  
Current vs Rate Year 1

Therm Use 30 Days	Bill at	Bill at	Dollar Variance
	Current Rates 1/1/2022	Proposed Rates 1/1/2023 (RY1)	
0	(\$69.99)	(\$62.60)	\$7.39
3	(\$68.23)	(\$60.83)	7.40
4	(\$66.36)	(\$58.64)	7.72
5	(\$64.48)	(\$56.43)	8.04
6	(\$62.61)	(\$54.24)	8.37
7	(\$60.73)	(\$52.03)	8.70
8	(\$58.85)	(\$49.83)	9.01
9	(\$56.97)	(\$47.64)	9.33
10	(\$55.10)	(\$45.45)	9.66
12	(\$51.35)	(\$41.05)	10.30
14	(\$47.59)	(\$36.64)	10.95
16	(\$43.85)	(\$32.25)	11.60
18	(\$40.09)	(\$27.85)	12.24
20	(\$36.34)	(\$23.44)	12.90
25	(\$26.96)	(\$12.45)	14.51
30	(\$17.58)	(\$1.45)	16.13
35	(\$8.19)	\$9.54	17.73
40	\$1.17	\$20.54	19.37
42	\$4.93	\$24.94	20.01
50	\$19.95	\$42.54	22.59
54	\$27.45	\$51.33	23.88
60	\$38.70	\$64.52	25.82
90	\$94.99	\$130.51	35.52
100	\$110.67	\$149.15	38.49
150	\$189.04	\$242.36	53.32
170	\$220.39	\$279.64	59.25
200	\$267.39	\$335.57	68.17
300	\$424.12	\$521.99	97.87
400	\$580.85	\$708.41	127.56
500	\$737.58	\$894.84	157.26
1,000	\$1,521.21	\$1,826.92	305.71
2,000	\$3,088.48	\$3,691.10	602.62
3,000	\$4,655.77	\$5,555.28	899.51
5,000	\$7,338.44	\$8,793.37	1,454.93
10,000	\$14,045.12	\$16,888.57	2,843.45
25,000	\$34,165.16	\$41,174.21	7,009.05
50,000	\$67,698.55	\$81,650.25	13,951.70
100,000	\$134,765.35	\$162,602.36	27,837.01
200,000	\$268,898.94	\$324,506.57	55,607.63

**Note:**

Current and Proposed bills reflect a charge for Delivery rates, a Billing & Payment Processing Charge, a System Benefits Charge, the Monthly Rate Adjustment, the Gas Cost Factor, the Merchant Function Charge and applicable GRT.



**Consolidated Edison Company of New York, Inc.**

Gas Bill Tables Based Upon Gas Rate Design in Rate Case 22-G-XXXX  
 Comparison of Bills Calculated at Current Rates vs. Rate Year Proposed Rates

**Gas S.C. No. 13**  
 Seasonal Off-Peak Service  
 Current vs Rate Year 1

Therm Use 30 Days	Bill at Current Rates 1/1/2022	Bill at Proposed Rates 1/1/2023 (RY1)	Dollar Variance	Percentage Variance
0	\$61.90	\$79.67	\$17.77	28.71%
3	63.63	81.40	17.77	27.93%
4	64.69	82.60	17.91	27.69%
5	65.74	83.80	18.06	27.47%
6	66.80	85.00	18.20	27.25%
7	67.85	86.19	18.34	27.03%
8	68.92	87.39	18.47	26.80%
9	69.97	88.59	18.62	26.61%
10	71.04	89.79	18.75	26.39%
12	73.14	92.18	19.04	26.03%
14	75.27	94.58	19.31	25.65%
16	77.38	96.98	19.60	25.33%
18	80.52	99.37	18.85	23.41%
20	83.66	101.76	18.10	21.64%
25	89.97	107.74	17.77	19.75%
30	96.29	113.74	17.45	18.12%
35	102.60	119.72	17.12	16.69%
40	108.91	125.72	16.81	15.43%
42	112.05	128.10	16.05	14.32%
50	121.54	137.69	16.15	13.29%
54	126.79	142.49	15.70	12.38%
60	134.17	149.67	15.50	11.55%
90	166.92	185.58	18.66	11.18%
100	178.53	197.56	19.03	10.66%
150	232.42	257.45	25.03	10.77%
200	286.31	317.31	31.00	10.83%
300	393.09	437.07	43.98	11.19%
400	499.86	556.81	56.95	11.39%
500	606.64	676.57	69.93	11.53%
1,000	1,136.37	1,275.32	138.95	12.23%
2,000	2,139.25	2,401.22	261.97	12.25%
3,000	3,128.22	3,509.23	381.01	12.18%
5,000	5,105.14	5,725.21	620.07	12.15%
10,000	10,045.89	11,265.21	1,219.32	12.14%
25,000	24,866.09	27,885.16	3,019.07	12.14%
50,000	49,565.74	55,585.10	6,019.36	12.14%

Note:

Current and Proposed bills reflect a charge for Delivery rates, a Billing & Payment Processing Charge, a System Benefits Charge, the Monthly Rate Adjustment, the Gas Cost Factor, the Merchant Function Charge and applicable GRT.

**CASE 22-G-xxxx**  
**Consolidated Edison Company of New York, Inc**  
**Projected Gas Bills**

<b>Residential and Religious Cooking (Service Classification No. 1)</b>
---

**Average Monthly Bill for a Customer Using 5 Therms for Twelve Months Ending**

	12/31/2022	12/31/2023	12/31/2024	12/31/2025
Delivery	\$32.71	\$39.11	\$41.71	\$44.18
Commodity	\$2.83	\$2.83	\$3.06	\$3.09
Total	\$35.54	\$41.94	\$44.77	\$47.27

<b>Residential and Religious Heating (Service Classification No. 3)</b>
---

**Average Monthly Bill for a Customer Using 100 Therms for Twelve Months Ending**

	12/31/2022	12/31/2023	12/31/2024	12/31/2025
Delivery	\$141.79	\$179.67	\$195.11	\$210.35
Commodity	\$56.75	\$56.75	\$61.16	\$61.90
Total	\$198.54	\$236.42	\$256.27	\$272.25

Notes:

- Service Classification No. 1 assumes 5 therms of usage for each month.
- Service Classification No. 3 assumes an average monthly bill based on 170 therms of usage for the 5 winter months (November to March) and 50 therms of usage for the 7 summer months.

**CASE 22-G-xxxx**  
**Consolidated Edison Company of New York, Inc**  
**Projected Gas Bills**

<b>General Service (Service Classification No. 2 Rate 1)</b>
--

**Average Monthly Bill for a Customer Using 255 Therms for Twelve Months Ending**

	<b>12/31/2022</b>	<b>12/31/2023</b>	<b>12/31/2024</b>	<b>12/31/2025</b>
Delivery	\$215.44	\$264.26	\$279.88	\$293.57
Commodity	\$142.43	\$142.43	\$153.51	\$155.37
<b>Total</b>	<b>\$357.87</b>	<b>\$406.69</b>	<b>\$433.39</b>	<b>\$448.94</b>

<b>General Service (Service Classification No. 2 Rate 2)</b>
--

**Average Monthly Bill for a Customer Using 405 Therms for Twelve Months Ending**

	<b>12/31/2022</b>	<b>12/31/2023</b>	<b>12/31/2024</b>	<b>12/31/2025</b>
Delivery	\$376.97	\$479.63	\$522.64	\$563.01
Commodity	\$230.06	\$230.06	\$247.94	\$250.95
<b>Total</b>	<b>\$607.03</b>	<b>\$709.69</b>	<b>\$770.58</b>	<b>\$813.96</b>

**Notes:**

- Service Classification No. 2 Rate1 assumes an average monthly bill based on 251 therms of usage for all months.
- Service Classification No. 2 Rate 2 assumes an average monthly bill based on 672 therms of usage for the 5 winter months (November to March) and 215 therms of usage for the 7 summer months.

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

DEVELOPMENT OF 12 MONTHS ENDING DECEMBER 31, 2023  
FORECASTED FIRM GAS VOLUMES (MDTs)

Line No.	Description	SC 1	SC 2 R1	DG Rider H	Contract	SC 2 R2	SC 3	DG Rider J	SC 13	SC 14	Total
1	Historic Year Volumes**	3,895	19,179	5,481	2,328	30,769	96,366	2	54	12	158,086
2	Weather Normalization	-	-	-	-	1,820	4,843	-	-	-	6,663
3	Water Normalization	82	255	-	-	(17)	(39)	-	-	-	281
4	Normalized Volumes	3,977	19,434	5,481	2,328	32,572	101,170	2	54	12	165,030
5	Transfers From Interruptible Service	-	-	-	-	59	(96)	-	-	-	(37)
6	Billing Schedule Adjustment	(6)	(14)	-	-	(10)	(31)	-	-	-	(61)
7	Base Estimate	3,971	19,420	5,481	2,328	32,621	101,043	2	54	12	164,932
8	Oil to Gas Conversions	-	-	-	-	105	1,507	-	-	-	1,612
9	New Business	103	819	2,062	-	186	644	-	-	-	3,814
10	Energy Efficiencies	(258)	(661)	-	-	(615)	(1,616)	-	-	-	(3,150)
11	Electrification	-	(24)	-	-	(226)	(337)	-	-	-	(587)
12	Climate Change	-	-	-	-	(276)	(743)	-	-	-	(1,019)
13	COVID Adjustment	-	3,548	-	-	2,372	-	-	-	-	5,920
Forecasted Firm Volumes											
14	12 Months Ending 12/31/2023	3,816	23,102	7,543	2,328	34,167	100,498	2	54	12	171,522

\*\* Adjusted 12 months ended September 30, 2021

NOTE: MDT Volumes reflect monthly rounding and summing

NOTE: Includes impact of forecasts related to Lead-In Periods

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

DEVELOPMENT OF 12 MONTHS ENDING DECEMBER 31, 2024  
 FORECASTED FIRM GAS VOLUMES (MDts)

Line No.	Description	SC 1	SC 2 R1	DG Rider H	Contract	SC 2 R2	SC 3	DG Rider J	SC 13	SC 14	Total
<b>Forecasted Firm Delivery Volumes</b>											
1	12 Months Ending 12/31/2023	3,816	23,102	7,543	2,328	34,167	100,498	2	54	12	171,522
2	Billing Schedule Adjustment	27	163	-	-	61	247	-	-	-	497
3	Oil to Gas Conversions	-	-	-	-	35	641	-	-	-	676
4	New Business	(29)	560	548	-	212	514	-	-	-	1,806
5	Energy Efficiencies	(137)	(403)	-	-	(381)	(928)	-	-	-	(1,849)
6	Electrification	-	(13)	-	-	(133)	(200)	-	-	-	(346)
7	Climate Change	-	-	-	-	203	510	-	-	-	713
8	COVID Adjustment	-	-	-	-	-	-	-	-	-	-
9	<b>Forecasted Firm Volumes</b>										
	12 Months Ending 12/31/2024	3,677	23,409	8,091	2,328	34,164	101,282	2	54	12	173,019

NOTE: MDT Volumes reflect monthly rounding and summing

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

DEVELOPMENT OF 12 MONTHS ENDING DECEMBER 31, 2025  
 FORECASTED FIRM GAS VOLUMES (MDts)

Line No.	Description	SC 1	SC 2 R1	DG Rider H	Contract	SC 2 R2	SC 3	DG Rider J	SC 13	SC 14	Total
<b>Forecasted Firm Delivery Volumes</b>											
1	12 Months Ending 12/31/2024	3,677	23,409	8,091	2,328	34,164	101,282	2	54	12	173,019
2	Billing Schedule Adjustment	(11)	(47)	-	-	(23)	(101)	-	-	-	(182)
3	Oil to Gas Conversions	-	-	-	-	35	614	-	-	-	649
4	New Business	(17)	317	54	-	180	445	-	-	-	979
5	Energy Efficiencies	(145)	(471)	-	-	(448)	(1,039)	-	-	-	(2,103)
6	Electrification	(2)	(20)	-	-	(133)	(193)	-	-	-	(348)
7	Climate Change	-	-	-	-	(163)	(406)	-	-	-	(569)
8	COVID Adjustment	-	-	-	-	-	-	-	-	-	-
9	<b>Forecasted Firm Volumes</b>										
	12 Months Ending 12/31/2025	3,502	23,188	8,145	2,328	33,612	100,602	2	54	12	171,445

NOTE: MDT Volumes reflect monthly rounding and summing

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
 FORECASTED GAS VOLUMES AND REVENUES - 3 MONTHS ENDING DECEMBER 31, 2021  
 AT CURRENT RATES

REVENUES IN \$1000's

Line No.	Service Classification	Gas Delivery	Non-	Competitive	Other Charges	SBC	Gas Cost Factor	Revenue Tax	Total Revenue
		Volumes (MDTs)	Competitive <sup>A</sup>	<sup>B</sup>	<sup>C</sup>				
		(Column 1)	(Column 2)	(Column 3)	(Column 4)	(Column 5)	(Column 6)	(Column 7)	(Column 8)
1	SC 1 - Residential & Religious	1,029	\$60,081	\$1,119	\$22	\$0	\$4,369	\$441	\$66,032
2	SC 2R1 - General, Commerical and Industrial	4,540	\$31,738	\$273	\$98	\$0	\$19,276	\$1,947	\$53,332
3	SC 2 R1 - General, Commerical and Industrial Rider H	1,375	\$3,077	\$0	\$30	\$0	\$5,838	\$590	\$9,535
4	SC 2 R1 - General, Commerical and Industrial Contract	582	\$429	\$0	\$13	\$0	\$2,471	\$250	\$3,162
5	SC 2 R2- General, Commerical and Industrial	7,440	\$57,000	\$336	\$160	\$0	\$31,589	\$3,191	\$92,276
6	SC 3 - Residential and Religious	24,895	\$230,961	\$2,091	\$535	\$0	\$105,701	\$10,678	\$349,966
7	SC 3 - Residential and Religious - Rider J	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8	SC 13 - Seasonal Off Peak	7	\$77	\$1	\$0	\$0	\$30	\$3	\$111
9	SC 14 - Natural Gas Vehicles	3	\$53	\$0	\$0	\$0	\$13	\$1	\$67
10	<b>Total Firm</b>	<b>39,871</b>	<b>\$383,416</b>	<b>\$3,820</b>	<b>\$857</b>	<b>\$0</b>	<b>\$169,287</b>	<b>\$17,101</b>	<b>\$574,481</b>
11	SC 12 R1 - Non Firm	1,648	\$7,445	\$0	\$0	\$0	\$6,997	\$707	\$15,149
12	SC 12 R2 - Off Peak Firm	5,603	\$4,469	\$0	\$0	\$0	\$23,790	\$2,403	\$30,661
13	<b>Total Interruptible</b>	<b>7,251</b>	<b>\$11,914</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$30,787</b>	<b>\$3,110</b>	<b>\$45,810</b>
14	Low Income Discount	0	(\$6,150)	\$0	\$0	\$0	\$0	\$0	(\$6,150)
15	<b>Total System</b>	<b>47,122</b>	<b>\$389,179</b>	<b>\$3,820</b>	<b>\$857</b>	<b>\$0</b>	<b>\$200,074</b>	<b>\$20,211</b>	<b>\$614,142</b>

<sup>A</sup> Non-Competative reflects base revenue block pricing rounded monthly and summed

<sup>B</sup> Competitive revenue reflects Merchant Function Charges of Supply, Credit and Collections, and Billing and Payment Processing Charges rounded monthly and summed

<sup>C</sup> Other Charges include Storage Working Capital and UBs

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
 FORECASTED GAS VOLUMES AND REVENUES - 12 MONTHS ENDING DECEMBER 31, 2022  
 AT CURRENT RATES

REVENUES IN \$1000's

Line No.	Service Classification	Gas Delivery	Non-	Competitive	Other Charges	SBC	Gas Cost Factor	Revenue Tax	Total Revenue
		Volumes (MDTs)	Competitive <sup>A</sup>	<sup>B</sup>	<sup>C</sup>				
		(Column 1)	(Column 2)	(Column 3)	(Column 4)	(Column 5)	(Column 6)	(Column 7)	(Column 8)
1	SC 1 - Residential & Religious	3,954	\$254,909	\$4,538	\$109	\$0	\$18,466	\$1,552	\$279,574
2	SC 2R1 - General, Commercial and Industrial	20,800	\$145,105	\$1,155	\$572	\$0	\$97,142	\$8,163	\$252,137
3	SC 2 R1 - General, Commercial and Industrial Rider H	5,747	\$13,513	\$0	\$158	\$0	\$26,840	\$2,256	\$42,767
4	SC 2 R1 - General, Commercial and Industrial Contract	2,328	\$1,716	\$0	\$64	\$0	\$10,872	\$914	\$13,566
5	SC 2 R2- General, Commercial and Industrial	33,436	\$261,525	\$1,483	\$919	\$0	\$156,156	\$13,123	\$433,206
6	SC 3 - Residential and Religious	101,195	\$1,031,279	\$8,760	\$2,781	\$0	\$472,612	\$39,716	\$1,555,148
7	SC 3 - Residential and Religious - Rider J	2	\$11	\$0	\$0	\$0	\$9	\$1	\$21
8	SC 13 - Seasonal Off Peak	54	\$475	\$7	\$1	\$0	\$252	\$21	\$757
9	SC 14 - Natural Gas Vehicles	12	\$211	\$0	\$0	\$0	\$56	\$5	\$272
10	<b>Total Firm</b>	<b>167,528</b>	<b>\$1,708,743</b>	<b>\$15,943</b>	<b>\$4,603</b>	<b>\$0</b>	<b>\$782,407</b>	<b>\$65,750</b>	<b>\$2,577,447</b>
11	SC 12 R1 - Non Firm	5,625	\$27,944	\$0	\$0	\$0	\$26,270	\$2,208	\$56,422
12	SC 12 R2 - Off Peak Firm	19,128	\$15,255	\$0	\$0	\$0	\$89,334	\$7,507	\$112,096
13	<b>Total Interruptible</b>	<b>24,753</b>	<b>\$43,199</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$115,604</b>	<b>\$9,715</b>	<b>\$168,518</b>
14	Low Income Discount	0	(\$24,600)	\$0	\$0	\$0	\$0	\$0	(\$24,600)
15	<b>Total System</b>	<b>192,281</b>	<b>\$1,727,343</b>	<b>\$15,943</b>	<b>\$4,603</b>	<b>\$0</b>	<b>\$898,011</b>	<b>\$75,465</b>	<b>\$2,721,365</b>

<sup>A</sup> Non-Competative reflects base revenue block pricing rounded monthly and summed

<sup>B</sup> Competitive revenue reflects Merchant Function Charges of Supply, Credit and Collections, and Billing and Payment Processing Charges rounded monthly and summed

<sup>C</sup> Other Charges include Storage Working Capital and UBs



CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
 FORECASTED GAS VOLUMES AND REVENUES - 12 MONTHS ENDING DECEMBER 31, 2023  
 AT CURRENT AND PROPOSED RATES

REVENUES IN \$1000's

Line No.	Service Classification	Gas Delivery	Non-	Competitive	Other Charges	SBC	Gas Cost Factor	Revenue Tax	Total Revenue at	Rate Increase Non-	Rate Increase	Rate Increase	Total Revenue at
		Volumes (MDTs)	Competitive	<sup>A</sup>	<sup>B</sup>	<sup>C</sup>			Current Rates	Competitive	Competitive	Revenue Tax	Proposed Rates
		(Column 1)	(Column 2)	(Column 3)	(Column 4)	(Column 5)	(Column 6)	(Column 7)	(Column 8)	(Column 9)	(Column 10)	(Column 11)	(Column 12)
1	SC 1 - Residential & Religious	3,816	\$252,815	\$4,535	\$102	\$0	\$17,604	\$1,397	\$276,453	\$61,618	\$98	\$1,595	\$339,764
2	SC 2R1 - General, Commerical and Industrial	23,102	\$155,808	\$1,323	\$615	\$0	\$106,573	\$8,459	\$272,777	\$41,722	\$250	\$1,085	\$315,834
3	SC 2 R1 - General, Commerical and Industrial Rider H	7,543	\$17,186	\$0	\$201	\$0	\$34,797	\$2,762	\$54,946	\$4,555	\$0	\$118	\$59,619
4	SC 2 R1 - General, Commerical and Industrial Contract	2,328	\$1,716	\$0	\$62	\$0	\$10,739	\$852	\$13,370	\$0	\$0	\$0	\$13,370
5	SC 2 R2- General, Commerical and Industrial	34,167	\$265,915	\$1,570	\$909	\$0	\$157,617	\$12,511	\$438,522	\$80,124	\$340	\$2,080	\$521,065
6	SC 3 - Residential and Religious	100,498	\$1,028,004	\$9,175	\$2,673	\$0	\$463,610	\$36,800	\$1,540,262	\$310,448	\$1,369	\$8,059	\$1,860,139
7	SC 3 - Residential and Religious - Rider J	2	\$11	\$0	\$0	\$0	\$9	\$1	\$21	\$3	\$0	\$0	\$24
8	SC 13 - Seasonal Off Peak	54	\$479	\$7	\$1	\$0	\$249	\$20	\$756	\$139	\$1	\$4	\$900
9	SC 14 - Natural Gas Vehicles	12	\$211	\$0	\$0	\$0	\$55	\$4	\$271	\$0	\$0	\$0	\$271
10	<b>Total Firm</b>	<b>171,522</b>	<b>\$1,722,145</b>	<b>\$16,610</b>	<b>\$4,563</b>	<b>\$0</b>	<b>\$791,253</b>	<b>\$62,807</b>	<b>\$2,597,378</b>	<b>\$498,609</b>	<b>\$2,058</b>	<b>\$12,940</b>	<b>\$3,110,985</b>
11	SC 12 R1 - Non Firm	5,625	\$27,944	\$0	\$0	\$0	\$25,949	\$2,060	\$55,953	\$9,474	\$0	\$245	\$65,671
12	SC 12 R2 - Off Peak Firm	19,128	\$15,255	\$0	\$0	\$0	\$88,240	\$7,004	\$110,499	\$0	\$0	\$0	\$110,499
13	<b>Total Interruptible</b>	<b>24,753</b>	<b>\$43,199</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$114,189</b>	<b>\$9,064</b>	<b>\$166,452</b>	<b>\$9,474</b>	<b>\$0</b>	<b>\$245</b>	<b>\$176,171</b>
14	Low Income Discount	0	\$0	(\$24,600)	\$0	\$0	\$0	\$0	(\$24,600)	(\$10,744)	\$0	\$0	(\$35,344)
15	<b>Total System</b>	<b>196,275</b>	<b>\$1,765,344</b>	<b>(\$7,990)</b>	<b>\$4,563</b>	<b>\$0</b>	<b>\$905,442</b>	<b>\$71,871</b>	<b>\$2,739,230</b>	<b>\$497,339</b>	<b>\$2,058</b>	<b>\$13,185</b>	<b>\$3,251,812</b>

<sup>A</sup> Non-Competative reflects base revenue block pricing rounded monthly and summed

<sup>B</sup> Competitive revenue reflects Merchant Function Charges of Supply, Credit and Collections, and Billing and Payment Processing Charges rounded monthly and summed

<sup>C</sup> Other Charges include Storage Working Capital and UBs

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

FORECASTED GAS VOLUMES AND REVENUES - 12 MONTHS ENDING DECEMBER 31, 2024  
AT CURRENT RATES

REVENUES IN \$1000's

Line No.	Service Classification	REVENUES IN \$1000's							
		Gas Delivery Volumes (MDTs) (Column 1)	Non- Competitive <sup>A</sup> (Column 2)	Competitive <sup>B</sup> (Column 3)	Other Charges <sup>C</sup> (Column 4)	SBC (Column 5)	Gas Cost Factor (Column 6)	Revenue Tax (Column 7)	Total Revenue (Column 8)
1	SC 1 - Residential & Religious	3,677	\$249,523	\$4,480	\$95	\$0	\$16,625	\$1,329	\$272,052
2	SC 2R1 - General, Commerical and Industrial	23,409	\$159,167	\$1,373	\$602	\$0	\$105,842	\$8,463	\$275,447
3	SC 2 R1 - General, Commerical and Industrial Rider H	8,091	\$18,742	\$0	\$208	\$0	\$36,583	\$2,925	\$58,458
4	SC 2 R1 - General, Commerical and Industrial Contract	2,328	\$1,716	\$0	\$60	\$0	\$10,526	\$842	\$13,143
5	SC 2 R2- General, Commerical and Industrial	34,164	\$266,552	\$1,571	\$879	\$0	\$154,470	\$12,351	\$435,823
6	SC 3 - Residential and Religious	101,282	\$1,037,437	\$9,265	\$2,605	\$0	\$457,939	\$36,616	\$1,543,862
7	SC 3 - Residential and Religious - Rider J	2	\$11	\$0	\$0	\$0	\$9	\$1	\$21
8	SC 13 - Seasonal Off Peak	54	\$484	\$7	\$1	\$0	\$244	\$20	\$756
9	SC 14 - Natural Gas Vehicles	12	\$211	\$0	\$0	\$0	\$54	\$4	\$269
10	<b>Total Firm</b>	<b>173,019</b>	<b>\$1,733,843</b>	<b>\$16,696</b>	<b>\$4,450</b>	<b>\$0</b>	<b>\$782,293</b>	<b>\$62,550</b>	<b>\$2,599,832</b>
11	SC 12 R1 - Non Firm	5,625	\$27,944	\$0	\$0	\$0	\$25,433	\$2,034	\$55,411
12	SC 12 R2 - Off Peak Firm	19,128	\$15,255	\$0	\$0	\$0	\$86,486	\$6,915	\$108,656
13	<b>Total Interruptible</b>	<b>24,753</b>	<b>\$43,199</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$111,919</b>	<b>\$8,949</b>	<b>\$164,067</b>
14	Low Income Discount	0	(\$24,600)	\$0	\$0	\$0	\$0	\$0	(\$24,600)
15	<b>Total System</b>	<b>197,772</b>	<b>\$1,752,442</b>	<b>\$16,696</b>	<b>\$4,450</b>	<b>\$0</b>	<b>\$894,212</b>	<b>\$71,499</b>	<b>\$2,739,298</b>

<sup>A</sup> Non-Competative reflects base revenue block pricing rounded monthly and summed

<sup>B</sup> Competitive revenue reflects Merchant Function Charges of Supply, Credit and Collections, and Billing and Payment Processing Charges rounded monthly and summed

<sup>C</sup> Other Charges include Storage Working Capital and UBs

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

FORECASTED GAS VOLUMES AND REVENUES - 12 MONTHS ENDING DECEMBER 31, 2025  
AT CURRENT RATES

REVENUES IN \$1000's

Line No.	Service Classification	REVENUES IN \$1000's							
		Gas Delivery Volumes (MDTs) (Column 1)	Non- Competitive <sup>A</sup> (Column 2)	Competitive <sup>B</sup> (Column 3)	Other Charges <sup>C</sup> (Column 4)	SBC (Column 5)	Gas Cost Factor (Column 6)	Revenue Tax (Column 7)	Total Revenue (Column 8)
1	SC 1 - Residential & Religious	3,502	\$246,357	\$4,433	\$91	\$0	\$16,009	\$1,272	\$268,162
2	SC 2R1 - General, Commerical and Industrial	23,188	\$159,298	\$1,382	\$603	\$0	\$106,003	\$8,422	\$275,708
3	SC 2 R1 - General, Commerical and Industrial Rider H	8,145	\$18,908	\$0	\$212	\$0	\$37,234	\$2,958	\$59,313
4	SC 2 R1 - General, Commerical and Industrial Contract	2,328	\$1,716	\$0	\$61	\$0	\$10,642	\$846	\$13,264
5	SC 2 R2- General, Commerical and Industrial	33,612	\$264,146	\$1,556	\$874	\$0	\$153,655	\$12,208	\$432,440
6	SC 3 - Residential and Religious	100,602	\$1,034,441	\$9,256	\$2,616	\$0	\$459,897	\$36,540	\$1,542,750
7	SC 3 - Residential and Religious - Rider J	2	\$11	\$0	\$0	\$0	\$9	\$1	\$21
8	SC 13 - Seasonal Off Peak	54	\$490	\$7	\$1	\$0	\$247	\$20	\$765
9	SC 14 - Natural Gas Vehicles	12	\$211	\$0	\$0	\$0	\$55	\$4	\$270
10	<b>Total Firm</b>	<b>171,445</b>	<b>\$1,725,578</b>	<b>\$16,634</b>	<b>\$4,458</b>	<b>\$0</b>	<b>\$783,752</b>	<b>\$62,271</b>	<b>\$2,592,694</b>
11	SC 12 R1 - Non Firm	5,625	\$27,944	\$0	\$0	\$0	\$25,714	\$2,043	\$55,701
12	SC 12 R2 - Off Peak Firm	19,128	\$15,255	\$0	\$0	\$0	\$87,443	\$6,948	\$109,645
13	<b>Total Interruptible</b>	<b>24,753</b>	<b>\$43,199</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$113,157</b>	<b>\$8,991</b>	<b>\$165,347</b>
14	Low Income Discount	0	(\$24,600)	\$0	\$0	\$0	\$0	\$0	(\$24,600)
15	<b>Total System</b>	<b>196,198</b>	<b>\$1,744,177</b>	<b>\$16,634</b>	<b>\$4,458</b>	<b>\$0</b>	<b>\$896,909</b>	<b>\$71,262</b>	<b>\$2,733,440</b>

<sup>A</sup> Non-Competative reflects base revenue block pricing rounded monthly and summed

<sup>B</sup> Competitive revenue reflects Merchant Function Charges of Supply, Credit and Collections, and Billing and Payment Processing Charges rounded monthly and summed

<sup>C</sup> Other Charges include Storage Working Capital and UBs

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
FORECASTED GAS VOLUMES AND BASE REVENUES - 12 MONTHS ENDING DECEMBER 31, 2023 AT CURRENT RATES BY BILLING DETERMINANTS

	30-Day Bills	Therm	Unit Rate	Base Revenue (\$)
<b>Service Classification 1</b>				
Annual Bills	6,211,065		\$ 27.70	\$ 172,046,502.39
Therms 0-3		9,951,993		
Therms >3		20,838,007	\$ 1.7131	\$ 35,697,590.06
Total Annual Volumes		30,790,000		\$ 207,744,092.45
<b>Service Classification 1 - Low Income</b>				
Annual Bills	1,361,925		\$ 27.70	\$ 37,725,313.64
Therms 0-3		3,081,130		
Therms >3		4,288,870	\$ 1.7131	\$ 7,347,263.28
Total Annual Volumes		7,370,000		\$ 45,072,576.92
<b>Service Classification 2 Rate 1</b>				
Annual Bills	919,220		\$ 34.80	\$ 31,988,850.91
Therms 0-3		1,258,559		
Therms 4-90		31,445,989	\$ 1.0121	\$ 31,826,485.87
Therms 91-3000		125,521,000	\$ 0.5221	\$ 65,534,514.15
Therms >3000		68,444,451	\$ 0.3598	\$ 24,626,313.63
Total Annual Volumes		226,670,000		\$ 153,976,164.56
<b>Service Classification 2 Rate 1 - Air Conditioning</b>				
Annual Bills	784		\$ 34.80	\$ 27,284.94
Therms 0-1200		940,860	\$ 0.4681	\$ 440,416.57
Therms >1200		3,409,140	\$ 0.4004	\$ 1,365,019.66
Total Annual Volumes		4,350,000		\$ 1,832,721.17
<b>Service Classification 2 Rate 2</b>				
Annual Bills	824,696		\$ 34.80	\$ 28,699,428.18
Therms 0-3		1,176,565		
Therms 4-90		43,571,143	\$ 1.0121	\$ 44,098,354.31
Therms 91-3000		163,492,379	\$ 0.7609	\$ 124,401,351.30
Therms >3000		129,409,913	\$ 0.5175	\$ 66,969,629.80
Total Annual Volumes		337,650,000		\$ 264,168,763.59
<b>Service Classification 2 Rate 2 - Air Conditioning</b>				
Annual Bills	1,172		\$ 34.80	\$ 40,793.29
Therms 0-1200		1,406,665	\$ 0.4681	\$ 658,459.98
Therms >1200		2,613,335	\$ 0.4004	\$ 1,046,379.25
Total Annual Volumes		4,020,000		\$ 1,745,632.52
<b>Service Classification 3 (1 to 4 Housing Units)</b>				
Annual Bills	3,322,594		\$ 23.80	\$ 79,077,740.10
Therms 0-3		10,070,876		
Therms 4-90		172,057,204	\$ 1.2571	\$ 216,293,111.12
Therms 91-3000		147,583,728	\$ 0.9562	\$ 141,119,561.17
Therms >3000		968,191	\$ 0.7361	\$ 712,685.53
Total Annual Volumes		330,680,000		\$ 437,203,097.92
<b>Service Classification 3 (1 to 4 Housing Units) - Low Income</b>				
Annual Bills	262,562		\$ 23.80	\$ 6,248,979.65
Therms 0-3		767,169		
Therms 4-90		12,584,588	\$ 1.2571	\$ 15,820,085.07
Therms 91-3000		6,810,148	\$ 0.9562	\$ 6,511,863.15
Therms >3000		18,096	\$ 0.7361	\$ 13,320.13
Total Annual Volumes		20,180,000		\$ 28,594,248.00
<b>Service Classification 3 (1 to 4 Housing Units) - Air Conditioning</b>				
Annual Bills	-		\$ 23.80	\$ -
Therms 0-1200		-	\$ 0.4681	\$ -
Therms >1200		-	\$ 0.4004	\$ -
Total Annual Volumes		-		\$ -
<b>Service Classification 3 (More than 4 Housing Units)</b>				
Annual Bills	275,596		\$ 23.80	\$ 6,559,185.27
Therms 0-3		845,559		
Therms 4-90		22,648,797	\$ 1.2571	\$ 28,471,802.56
Therms 91-3000		294,447,078	\$ 0.9562	\$ 281,550,296.09
Therms >3000		329,108,566	\$ 0.7361	\$ 242,256,815.62
Total Annual Volumes		647,050,000		\$ 558,838,099.54
<b>Service Classification 3 (More than 4 Housing Units) - Low Income</b>				
Annual Bills	992		\$ 23.80	\$ 23,605.55
Therms 0-3		2,773		
Therms 4-90		66,206	\$ 1.2571	\$ 83,227.86
Therms 91-3000		430,877	\$ 0.9562	\$ 412,004.67
Therms >3000		420,144	\$ 0.7361	\$ 309,267.90
Total Annual Volumes		920,000		\$ 828,105.98
<b>Service Classification 3 (More than 4 Housing Units) - Air Conditioning</b>				
Annual Bills	745		\$ 23.80	\$ 17,719.58
Therms 0-1200		893,424	\$ 0.4681	\$ 418,211.77
Therms >1200		5,256,576	\$ 0.4004	\$ 2,104,733.03
Total Annual Volumes		6,150,000		\$ 2,540,664.38
<b>Service Classification 13</b>				
Annual Bills	3,886		\$ 59.66	\$ 231,841.10
Therms 0-3		11,348		
Therms 4-1200		528,652	\$ 0.4681	\$ 247,461.88
Therms >1200		-	\$ 0.4004	\$ -
Total Annual Volumes		540,000		\$ 479,302.98
<b>Service Classification 2 - Commercial Distributed Generation</b>				
Annual Bills	2,469			
Total Annual Volumes		75,430,000		\$ 17,186,419.85
<b>Service Classification 2 - Contract Sales</b>				
Total Annual Volumes		23,280,000		\$ 1,716,000.00
<b>Service Classification 3 - Residential Distributed Generation</b>				
Annual Bills	84			
Total Annual Volumes		20,000		\$ 13,838.52
<b>Service Classification 14</b>				
Total Annual Volumes		120,000	\$ 1.7548	\$ 210,581.36
<b>Summary of Volumes</b>	<b>30-Day Bills</b>	<b>Volume (Therms)</b>		<b>Base Revenue (\$)</b>
Service Classification 1	7,572,990	38,160,000		\$ 252,816,669
Service Classification 2 Rate 1	920,004	231,020,000		\$ 155,808,886
Service Classification 2 Rate 2	825,868	341,670,000		\$ 285,914,396
Service Classification 2 - DG	2,469	75,430,000		\$ 17,186,420
Service Classification 2 - Contract		23,280,000		\$ 1,716,000
Service Classification 3	3,862,489	1,004,980,000		\$ 1,028,004,216
Service Classification 3 - DG	84	20,000		\$ 13,839
Service Classification 13	3,886	540,000		\$ 479,303
Service Classification 14	-	120,000		\$ 210,581
<b>Total Annual Volumes</b>	<b>13,187,790</b>	<b>1,715,220,000</b>		<b>\$ 1,722,150,310</b>

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

FORECASTED GAS VOLUMES AND BASE REVENUES - 12 MONTHS ENDING DECEMBER 31, 2024 AT CURRENT RATES BY BILLING DETERMINANTS

	30-Day Bills	Therm	Unit Rate	Base Revenue (\$)
<b>Service Classification 1</b>				
Annual Bills	6,151,664		\$ 27.70	\$ 170,401,082.35
Therms 0-3		9,524,690		
Therms >3		19,875,310	\$ 1.7131	\$ 34,048,393.21
Total Annual Volumes		29,400,000		\$ 204,449,475.56
<b>Service Classification 1 - Low Income</b>				
Annual Bills	1,361,925		\$ 27.70	\$ 37,725,313.64
Therms 0-3		3,081,130		
Therms >3		4,288,870	\$ 1.7131	\$ 7,347,263.28
Total Annual Volumes		7,370,000		\$ 45,072,576.92
<b>Service Classification 2 Rate 1</b>				
Annual Bills	942,366		\$ 34.80	\$ 32,794,323.86
Therms 0-3		1,301,263		
Therms 4-90		32,562,547	\$ 1.0121	\$ 32,956,554.18
Therms 91-3000		130,043,820	\$ 0.5221	\$ 67,895,878.24
Therms >3000		65,832,370	\$ 0.3598	\$ 23,686,486.79
Total Annual Volumes		229,740,000		\$ 157,333,243.07
<b>Service Classification 2 Rate 1 - Air Conditioning</b>				
Annual Bills	784		\$ 34.80	\$ 27,284.94
Therms 0-1200		940,860	\$ 0.4681	\$ 440,416.57
Therms >1200		3,409,140	\$ 0.4004	\$ 1,365,019.66
Total Annual Volumes		4,350,000		\$ 1,832,721.17
<b>Service Classification 2 Rate 2</b>				
Annual Bills	826,969		\$ 34.80	\$ 28,778,505.91
Therms 0-3		1,186,687		
Therms 4-90		43,979,435	\$ 1.0121	\$ 44,511,586.55
Therms 91-3000		165,043,762	\$ 0.7609	\$ 125,581,798.41
Therms >3000		127,410,116	\$ 0.5175	\$ 65,934,734.85
Total Annual Volumes		337,620,000		\$ 264,806,625.72
<b>Service Classification 2 Rate 2 - Air Conditioning</b>				
Annual Bills	1,172		\$ 34.80	\$ 40,793.29
Therms 0-1200		1,406,665	\$ 0.4681	\$ 658,459.98
Therms >1200		2,613,335	\$ 0.4004	\$ 1,046,379.25
Total Annual Volumes		4,020,000		\$ 1,745,632.52
<b>Service Classification 3 (1 to 4 Housing Units)</b>				
Annual Bills	3,356,618		\$ 23.80	\$ 79,887,510.04
Therms 0-3		10,205,268		
Therms 4-90		174,525,644	\$ 1.2571	\$ 219,396,186.51
Therms 91-3000		149,729,205	\$ 0.9562	\$ 143,171,066.30
Therms >3000		979,883	\$ 0.7361	\$ 721,291.59
Total Annual Volumes		335,440,000		\$ 443,176,054.44
<b>Service Classification 3 (1 to 4 Housing Units) - Low Income</b>				
Annual Bills	262,562		\$ 23.80	\$ 6,248,979.65
Therms 0-3		767,169		
Therms 4-90		12,584,588	\$ 1.2571	\$ 15,820,085.07
Therms 91-3000		6,810,148	\$ 0.9562	\$ 6,511,863.15
Therms >3000		18,096	\$ 0.7361	\$ 13,320.13
Total Annual Volumes		20,180,000		\$ 28,594,248.00
<b>Service Classification 3 (1 to 4 Housing Units) - Air Conditioning</b>				
Annual Bills	-		\$ 23.80	\$ -
Therms 0-1200		-	\$ 0.4681	\$ -
Therms >1200		-	\$ 0.4004	\$ -
Total Annual Volumes		-		\$ -
<b>Service Classification 3 (More than 4 Housing Units)</b>				
Annual Bills	277,726		\$ 23.80	\$ 6,609,872.39
Therms 0-3		857,582		
Therms 4-90		22,976,313	\$ 1.2571	\$ 28,883,522.74
Therms 91-3000		298,889,698	\$ 0.9562	\$ 285,798,328.86
Therms >3000		327,406,408	\$ 0.7361	\$ 241,003,857.00
Total Annual Volumes		650,130,000		\$ 562,295,580.99
<b>Service Classification 3 (More than 4 Housing Units) - Low Income</b>				
Annual Bills	992		\$ 23.80	\$ 23,605.55
Therms 0-3		2,773		
Therms 4-90		66,206	\$ 1.2571	\$ 83,227.86
Therms 91-3000		430,877	\$ 0.9562	\$ 412,004.67
Therms >3000		420,144	\$ 0.7361	\$ 309,267.90
Total Annual Volumes		920,000		\$ 828,105.98
<b>Service Classification 3 (More than 4 Housing Units) - Air Conditioning</b>				
Annual Bills	745		\$ 23.80	\$ 17,719.58
Therms 0-1200		893,424	\$ 0.4681	\$ 418,211.77
Therms >1200		5,256,576	\$ 0.4004	\$ 2,104,733.03
Total Annual Volumes		6,150,000		\$ 2,540,664.38
<b>Service Classification 13</b>				
Annual Bills	3,959		\$ 59.66	\$ 236,210.60
Therms 0-3		11,348		
Therms 4-1200		528,652	\$ 0.4681	\$ 247,461.88
Therms >1200		-	\$ 0.4004	\$ -
Total Annual Volumes		540,000		\$ 483,672.48
<b>Service Classification 2 - Commercial Distributed Generation</b>				
Annual Bills	2,536			
Total Annual Volumes		80,910,000		\$ 18,742,274.97
<b>Service Classification 2 - Contract Sales</b>				
Total Annual Volumes		23,280,000		\$ 1,716,000.00
<b>Service Classification 3 - Residential Distributed Generation</b>				
Annual Bills	84			
Total Annual Volumes		20,000		\$ 13,838.52
<b>Service Classification 14</b>				
Total Annual Volumes		120,000	\$ 1.7548	\$ 210,581.36
<b>Summary of Volumes</b>	<b>30-Day Bills</b>	<b>Volume (Therms)</b>		<b>Base Revenue (\$)</b>
Service Classification 1	7,513,588	36,770,000		\$ 249,522,052
Service Classification 2 Rate 1	943,150	234,090,000		\$ 159,165,964
Service Classification 2 Rate 2	828,141	341,640,000		\$ 266,552,258
Service Classification 2 - DG	2,536	80,910,000		\$ 18,742,275
Service Classification 2 - Contract		23,280,000		\$ 1,716,000
Service Classification 3	3,898,642	1,012,820,000		\$ 1,037,434,654
Service Classification 3 - DG	84	20,000		\$ 13,839
Service Classification 13	3,959	540,000		\$ 483,672
Service Classification 14	-	120,000		\$ 210,581
<b>Total Annual Volumes</b>	<b>13,190,100</b>	<b>1,730,190,000</b>		<b>\$ 1,733,841,296</b>

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

FORECASTED GAS VOLUMES AND BASE REVENUES - 12 MONTHS ENDING DECEMBER 31, 2025 AT CURRENT RATES BY BILLING DETERMINANTS

	30-Day Bills	Therm	Unit Rate	Base Revenue (\$)
<b>Service Classification 1</b>				
Annual Bills	6,112,884		\$ 27.70	\$ 169,326,873.52
Therms 0-3		8,995,727		
Therms >3		18,654,273	\$ 1.7131	\$ 31,956,635.00
Total Annual Volumes		27,650,000		\$ 201,283,508.52
<b>Service Classification 1 - Low Income</b>				
Annual Bills	1,361,925		\$ 27.70	\$ 37,725,313.64
Therms 0-3		3,081,130		
Therms >3		4,288,870	\$ 1.7131	\$ 7,347,263.28
Total Annual Volumes		7,370,000		\$ 45,072,576.92
<b>Service Classification 2 Rate 1</b>				
Annual Bills	953,671		\$ 34.80	\$ 33,187,748.55
Therms 0-3		1,311,917		
Therms 4-90		32,973,444	\$ 1.0121	\$ 33,372,422.98
Therms 91-3000		131,701,330	\$ 0.5221	\$ 68,761,264.55
Therms >3000		61,543,308	\$ 0.3598	\$ 22,143,282.28
Total Annual Volumes		227,530,000		\$ 157,464,718.36
<b>Service Classification 2 Rate 1 - Air Conditioning</b>				
Annual Bills	784		\$ 34.80	\$ 27,284.94
Therms 0-1200		940,860	\$ 0.4681	\$ 440,416.57
Therms >1200		3,409,140	\$ 0.4004	\$ 1,365,019.66
Total Annual Volumes		4,350,000		\$ 1,832,721.17
<b>Service Classification 2 Rate 2</b>				
Annual Bills	828,489		\$ 34.80	\$ 28,831,401.57
Therms 0-3		1,194,414		
Therms 4-90		44,269,470	\$ 1.0121	\$ 44,805,130.84
Therms 91-3000		166,107,284	\$ 0.7609	\$ 126,391,032.52
Therms >3000		120,528,831	\$ 0.5175	\$ 62,373,670.19
Total Annual Volumes		332,100,000		\$ 262,401,235.12
<b>Service Classification 2 Rate 2 - Air Conditioning</b>				
Annual Bills	1,172		\$ 34.80	\$ 40,793.29
Therms 0-1200		1,406,665	\$ 0.4681	\$ 658,459.98
Therms >1200		2,613,335	\$ 0.4004	\$ 1,046,379.25
Total Annual Volumes		4,020,000		\$ 1,745,632.52
<b>Service Classification 3 (1 to 4 Housing Units)</b>				
Annual Bills	3,388,846		\$ 23.80	\$ 80,654,541.17
Therms 0-3		10,315,531		
Therms 4-90		176,385,408	\$ 1.2571	\$ 221,734,095.80
Therms 91-3000		147,659,963	\$ 0.9562	\$ 141,192,456.68
Therms >3000		989,099	\$ 0.7361	\$ 728,075.46
Total Annual Volumes		335,350,000		\$ 444,309,169.11
<b>Service Classification 3 (1 to 4 Housing Units) - Low Income</b>				
Annual Bills	262,562		\$ 23.80	\$ 6,248,979.65
Therms 0-3		767,169		
Therms 4-90		12,584,588	\$ 1.2571	\$ 15,820,085.07
Therms 91-3000		6,810,148	\$ 0.9562	\$ 6,511,863.15
Therms >3000		18,096	\$ 0.7361	\$ 13,320.13
Total Annual Volumes		20,180,000		\$ 28,594,248.00
<b>Service Classification 3 (1 to 4 Housing Units) - Air Conditioning</b>				
Annual Bills	-		\$ 23.80	\$ -
Therms 0-1200		-	\$ 0.4681	\$ -
Therms >1200		-	\$ 0.4004	\$ -
Total Annual Volumes		-		\$ -
<b>Service Classification 3 (More than 4 Housing Units)</b>				
Annual Bills	279,532		\$ 23.80	\$ 6,652,870.78
Therms 0-3		866,417		
Therms 4-90		23,208,383	\$ 1.2571	\$ 29,175,258.48
Therms 91-3000		301,848,709	\$ 0.9562	\$ 288,627,735.11
Therms >3000		317,496,492	\$ 0.7361	\$ 233,709,167.48
Total Annual Volumes		643,420,000		\$ 558,165,031.85
<b>Service Classification 3 (More than 4 Housing Units) - Low Income</b>				
Annual Bills	992		\$ 23.80	\$ 23,605.55
Therms 0-3		2,773		
Therms 4-90		66,206	\$ 1.2571	\$ 83,227.86
Therms 91-3000		430,877	\$ 0.9562	\$ 412,004.67
Therms >3000		420,144	\$ 0.7361	\$ 309,267.90
Total Annual Volumes		920,000		\$ 828,105.98
<b>Service Classification 3 (More than 4 Housing Units) - Air Conditioning</b>				
Annual Bills	745		\$ 23.80	\$ 17,719.58
Therms 0-1200		893,424	\$ 0.4681	\$ 418,211.77
Therms >1200		5,256,576	\$ 0.4004	\$ 2,104,733.03
Total Annual Volumes		6,150,000		\$ 2,540,664.38
<b>Service Classification 13</b>				
Annual Bills	4,032		\$ 59.66	\$ 240,570.61
Therms 0-3		11,348		
Therms 4-1200		528,652	\$ 0.4681	\$ 247,461.88
Therms >1200		-	\$ 0.4004	\$ -
Total Annual Volumes		540,000		\$ 488,032.49
<b>Service Classification 2 - Commercial Distributed Generation</b>				
Annual Bills	2,544			
Total Annual Volumes		81,450,000		\$ 18,908,351.01
<b>Service Classification 2 - Contract Sales</b>				
Total Annual Volumes		23,280,000		\$ 1,716,000.00
<b>Service Classification 3 - Residential Distributed Generation</b>				
Annual Bills	84			
Total Annual Volumes		20,000		\$ 13,839.52
<b>Service Classification 14</b>				
Total Annual Volumes		120,000	\$ 1.7548	\$ 210,581.36
<b>Summary of Volumes</b>	<b>30-Day Bills</b>	<b>Volume (Therms)</b>		<b>Base Revenue (\$)</b>
Service Classification 1	7,474,808	35,020,000		\$ 246,356,085
Service Classification 2 Rate 1	954,455	231,880,000		\$ 159,297,440
Service Classification 2 Rate 2	829,661	336,120,000		\$ 264,146,868
Service Classification 2 - DG	2,544	81,450,000		\$ 18,908,351
Service Classification 2 - Contract		23,280,000		\$ 1,716,000
Service Classification 3	3,932,677	1,006,020,000		\$ 1,034,437,219
Service Classification 3 - DG	84	20,000		\$ 13,839
Service Classification 13	4,032	540,000		\$ 488,032
Service Classification 14	-	120,000		\$ 210,581
<b>Total Annual Volumes</b>	<b>13,198,261</b>	<b>1,714,450,000</b>		<b>\$ 1,725,574,415</b>

**CONSOLIDATED EDISON  
COMPANY OF NEW YORK, INC.  
2023-2025 GAS OPERATIONS  
CAPITAL PROGRAMS/PROJECTS**

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. 2023-2025 GAS CAPITAL PROGRAMS		Year Total Current Budget Total Dollars (\$000)		
Project/Program Description	Category Code	RY1	RY2	RY3
<b>Distribution System Improvement Programs</b>				
<b>Distribution Integrity</b>				
Leak Prone Main Replacement Program*	Operationally Required	\$ 404,786	\$ 425,235	\$ 442,174
Distribution Integrity Main Enhancement*	Operationally Required	\$ 7,790	\$ 8,600	\$ 8,600
Service Replacement Program*	Operationally Required	\$ 110,141	\$ 111,609	\$ 111,191
Large Diameter Gas Main Program*	Strategic	\$ 7,410	\$ 8,728	\$ 8,728
Methane Capture Technology Project	Strategic	\$ 1,000	\$ 1,000	\$ 1,000
	<b>Sub-Total</b>	<b>\$ 531,127</b>	<b>\$ 555,172</b>	<b>\$ 571,693</b>
<b>System Reliability</b>				
Winter Load Relief*	Operationally Required	\$ 13,351	\$ 13,954	\$ 14,278
System Reliability/WLR Gas Regulators*	Operationally Required	\$ 5,715	\$ 5,715	\$ 5,715
Regulator Station Revamp*	Operationally Required	\$ 3,383	\$ 3,652	\$ 3,652
Gas Reliability Improvement Program* (CONFIDENTIAL)^	Strategic	\$ 10,082	\$ 10,700	\$ 10,700
Ossining IP Upgrade to HP	Strategic	\$ 4,316	\$ -	\$ -
Purchase Armonk High Pressure Tie	Strategic	\$ 2,005	\$ 1,086	\$ 1,086
Rehabilitation of the Gas Supply Main to City Island*	Strategic	\$ 650	\$ -	\$ -
	<b>Sub-Total</b>	<b>\$ 39,502</b>	<b>\$ 35,107</b>	<b>\$ 35,431</b>
<b>Distribution System Improvement Program Total</b>		<b>\$ 570,629</b>	<b>\$ 590,279</b>	<b>\$ 607,124</b>
<b>Transmission Programs and Projects</b>				
<b>Transmission Risk Reduction and Reliability Projects</b>				
Westchester / Bronx Border to White Plains*	Regulatory Mandated	\$ 42,173	\$ 37,217	\$ 37,217
Bronx River Tunnel to Bronx Westchester Border*	Regulatory Mandated	\$ 37,602	\$ 34,142	\$ 33,200
I95/Cross Bronx Expressway Crossing*	Regulatory Mandated	\$ 10,000	\$ 10,000	\$ -
Grand Central Parkway (GCP) Crossing*	Regulatory Mandated	\$ 10,000	\$ 10,000	\$ -
Queens Transmission Upgrade*	Regulatory Mandated	\$ -	\$ 13,957	\$ 13,957
Remotely Operated Valves (ROVs)*	Strategic	\$ 3,085	\$ 3,257	\$ 3,257
Newtown Creek Metering Station*	Strategic	\$ -	\$ 15,600	\$ 14,400
Mount Vernon RNG	Strategic	\$ 1,500	\$ -	\$ -
Cortlandt Gate Station Refurbishment*	Strategic	\$ 11,000	\$ -	\$ -
Gate Station Outlet Piping & OPP*(CONFIDENTIAL)^	Strategic	\$ -	\$ 6,562	\$ 6,731
Knollwood Gate Station Overpressure Protection*	Strategic	\$ 4,135	\$ -	\$ -
	<b>Sub-Total</b>	<b>\$ 119,495</b>	<b>\$ 130,735</b>	<b>\$ 108,762</b>
<b>Pressure Control</b>				
Regulator Automation OPP*	Strategic	\$ 19,100	\$ 19,100	\$ 19,100
Regulator Station Related Improvements*	Strategic	\$ 1,024	\$ 1,087	\$ 1,087
Station Gas Detector Fire Detection Alarm Systems* (CONFIDENTIAL)^	Strategic	\$ 150	\$ -	\$ -
	<b>Sub-Total</b>	<b>\$ 20,274</b>	<b>\$ 20,187</b>	<b>\$ 20,187</b>
<b>Transmission Programs and Projects Total</b>		<b>\$ 139,769</b>	<b>\$ 150,922</b>	<b>\$ 128,949</b>
<b>Customer Connections</b>				
Customer Connections	Regulatory Required	\$ 73,138	\$ 74,600	\$ 76,689
<b>Customer Connections Total</b>		<b>\$ 73,138</b>	<b>\$ 74,600</b>	<b>\$ 76,689</b>
<b>Technical Operations</b>				
<b>Liquefied Natural Gas (LNG)</b>				
Plant Boil-Off Compressor	Strategic	\$ 2,000	\$ 400	\$ -
Plant Motor Control Center	Strategic	\$ 2,800	\$ 500	\$ -
Electrical Distribution System Upgrade Project (CONFIDENTIAL)^	Strategic	\$ 1,900	\$ -	\$ -
Nitrogen Refrigeration Cycle Replacement	Strategic	\$ 10,000	\$ 10,000	\$ -
Plant Controls Instrumentation Upgrade Program(CONFIDENTIAL)^	Strategic	\$ 12,000	\$ 2,000	\$ -
Relocating Metering(CONFIDENTIAL)^	Strategic	\$ 3,500	\$ 3,500	\$ -
Pilot and Sweep Gas Independent Feed*(CONFIDENTIAL)^ Security Upgrade Program* (CONFIDENTIAL)^	Strategic	\$ -	\$ 1,250	\$ 1,250
Upgrade Program* (CONFIDENTIAL)^	Strategic	\$ 2,870	\$ -	\$ -
Reliability Remediation Program*(CONFIDENTIAL)^	Strategic	\$ 3,500	\$ 3,500	\$ 3,500
	<b>Sub-Total</b>	<b>\$ 38,570</b>	<b>\$ 21,150</b>	<b>\$ 4,750</b>
<b>Tunnels</b>				
Tunnels - Concrete Restoration Program	Operationally Required	\$ 225	\$ -	\$ -
Tunnels - Astoria Elevator Modernization	Operationally Required	\$ 600	\$ -	\$ -
Tunnels - Ravenswood Tunnel - NYF Gas Main Rollers	Strategic	\$ 1,732	\$ 1,839	\$ -
Tunnels - Conduit Bulkhead Replacement (CONFIDENTIAL)^	Strategic	\$ 1,000	\$ -	\$ -
Tunnels - Steel Replacement Program*	Strategic	\$ 877	\$ 930	\$ 957

^Will be distributed pursuant to a protective order

\*Projects devoted to making our gas system safe



CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. 2023-2025 GAS CAPITAL PROGRAMS		Year Total Current Budget Total Dollars (\$000)		
Project/Program Description	Category Code	RY1	RY2	RY3
<b>Tunnels - cont'd</b>				
Tunnels - Annual Sump Pumps*	Strategic	\$ 100	\$ 100	\$ 100
Tunnels - Carbon Fiber Wrap Program*	Strategic	\$ 701	\$ 744	\$ 765
Tunnels- Astoria Cast Steel Liner Replacement* (CONFIDENTIAL)^	Strategic	\$ 1,000	\$ -	\$ -
Tunnels- Hudson Replacement Feeder Rollers (CONFIDENTIAL)^	Strategic	\$ -	\$ 1,700	\$ -
Tunnels - Lighting Improvement Program	Strategic	\$ 1,000	\$ 1,000	\$ 1,000
Tunnels - Various Fire & Gas Monitoring Replacement Program*	Strategic	\$ 1,500	\$ 1,500	\$ -
	<b>Sub-Total</b>	<b>\$ 8,735</b>	<b>\$ 7,813</b>	<b>\$ 2,822</b>
<b>Meters</b>				
Meter Purchases	Regulatory Required	\$ 12,023	\$ 12,023	\$ 12,023
Meter Installations	Regulatory Required	\$ 19,376	\$ 20,866	\$ 20,866
AMI Natural Gas Detector*	Strategic	\$ 29,975	\$ 34,127	\$ 33,003
	<b>Sub-Total</b>	<b>\$ 61,373</b>	<b>\$ 67,015</b>	<b>\$ 65,891</b>
<b>Technical Operations Total</b>		<b>\$ 108,678</b>	<b>\$ 95,978</b>	<b>\$ 73,463</b>
<b>Gas Information Technology</b>				
GCC OTS Simulator Project*	Operationally Required	\$ 1,100	\$ 400	\$ -
GCC EOL Equipment Replacement Program*	Operationally Required	\$ 65	\$ 175	\$ 67
GCC Improvements Project*(CONFIDENTIAL)^	Operationally Required	\$ 2,700	\$ 3,000	\$ 3,950
Gas Outage Management System	Strategic	\$ 9,036	\$ 8,799	
<b>Gas Information Technology Total</b>		<b>\$ 12,901</b>	<b>\$ 12,374</b>	<b>\$ 4,017</b>
<b>Municipal Infrastructure Total</b>		<b>\$ 127,005</b>	<b>\$ 133,300</b>	<b>\$ 139,000</b>
<b>Grand Total</b>		<b>\$ 1,032,120</b>	<b>\$ 1,057,453</b>	<b>\$ 1,029,242</b>

^Will be distributed pursuant to a protective order

\*Projects devoted to making our gas system safe

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# **1. DISTRIBUTION SYSTEM IMPROVEMENT PROGRAMS**

DISTRIBUTION INTERGRITY:  
**Gas Operations**  
2022

<b>1. Project / Program Summary</b>	
Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
Project/Program Title: <b>Leak Prone Main Replacement Program</b>	
Project/Program Manager: <b>Stephen Sweeney</b>	Project/Program Number (Level 1): 10039406 (23320236/23320226/23320234/23320233)
Status: <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: <b>Ongoing</b>	Estimated Date In Service: <b>Ongoing</b>
A. <u>Total Funding Request (\$000)</u> Capital: \$2,196,017 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:	D. <u>Investment Payback Period:</u> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  <p>This program includes the replacement of leak prone gas mains, defined as small diameter (12” and smaller) cast iron, wrought iron, and unprotected steel (pre-1972) mains. Small diameter unprotected steel gas mains account for approximately 17.5 percent (758 miles) of the gas distribution main inventory, while small diameter cast iron has a similar proportion at 16.5 percent (717 miles). Wrought iron mains account for approximately 1 percent (48 miles). This program will be spread across all four service territories and will replace gas mains on both a planned and emergent basis.</p> <p>During the 2023-2025 rate period, the Main Replacement Program will replace 80 miles, or 422,400 feet of leak prone main per year. The average unit cost for this program during the 2023-2025 period is forecasted at \$965 per foot of replacement. This annual level of replacement will allow for elimination of all leak prone pipe by 2040.</p>	
<b>Justification Summary:</b>	

The Main Replacement Program mitigates the Enterprise Risk of a Gas Distribution System Event – the second highest risk in the Gas Operations Enterprise Risk portfolio. The program mitigates the risk of fire or explosion on the gas distribution system, by replacing leak prone gas mains with plastic and/or protected steel. These materials are proven to be more resilient and will provide many years of additional service. Methane emission reduction will be addressed by focusing on the replacement of cast iron and unprotected steel pipe, which is a significant contributor to methane emissions.

This program also mitigates the Enterprise Risk of a Significant Customer Loss Event through the proactive replacement of low-pressure gas mains within flood zones. This will reduce the likelihood of water infiltration and gas service outages during a flood event or water main break.

Planned main replacement can be driven by multiple reasons such as high risk, methane emissions opportunities, or system planning improvements. We utilize a computer based probabilistic risk model to prioritize the risk-based planned portion of our replacement program. Emergent main replacement occurs due to conditions such as irreparable leaks, cast iron encroachments, or compromised main conditions discovered by field personnel.

Historically, the Company has targeted 10 miles per year of the Main Replacement Program to be focused on “High Risk.” Going forward, this program will increase its target for “High Risk” main replacement. Replacement of leak prone pipe also supports the reduction of O&M costs for leak repair, by replacing gas assets with high leak maintenance costs, with plastic and protected steel mains which leak at much lower rates.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

The Main Replacement Program is a main component of the risk reduction and decarbonization strategies for the gas system. The program will support decarbonization of the gas system by targeting simplification opportunities that will decrease the footprint of the distribution gas system. The Company will target five miles of “simplification” per year, meaning strategically decommissioning five miles of the gas distribution system per year. This effort will include abandonment of redundant facilities, as well as pursuing customer electrification opportunities on radial blocks of the gas system.

The program will also target main replacement in areas where electrification is not a viable short-term decarbonization strategy. This will include the areas such as the Bronx and Manhattan, where the density of large buildings makes electrification unlikely in the short-term. Main replacement in these areas will serve to lower the risk of the gas system in neighborhoods where the system is anticipated to remain operational long-term.

The Main Replacement Program will also support climate adaption activities, by replacing low pressure gas mains in flood-prone areas. Going forward, the criteria for flood-prone gas main replacement will be increased to the identified “FEMA+3 feet” level. The Company will target six miles of flood-prone gas main replacement per year.

## 2. Supplemental Information

### Alternatives

None

### Risk of No Action

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

### Non-Financial Benefits

The elimination of small diameter cast iron, wrought iron, and unprotected steel gas mains has a direct impact on our Principal Sustainability Strategy objective to continue to reduce methane emissions from the gas distribution system. According to methodology from nationally recognized EPA emissions factors, cast iron mains are the largest contributors to methane emissions on our gas distribution system. Overall, cast iron pipe comprises 20 percent of the gas distribution system mileage, however it is responsible for 50% of emissions from the system. Going forward, the Company will preferentially select cast/wrought iron replacement, over bare steel, when risk factors are equivalent. This shift could result in additional methane emissions reductions through gas main replacement. Simplification of the gas distribution system (targeted 5 miles per year) will also serve to accelerate our methane emissions reduction. Simplification projects will abandon assets which will not be required long-term, given the lower system demand anticipated from Climate Leadership and Community Protection Act investment activities.

The replacement of cast iron and unprotected steel gas mains is a primary mitigation program for the Enterprise Risk Management (ERM) Gas Distribution system event. In addition to the safety benefits, main replacement also reduces the need to respond to and repair gas leaks thus, decreasing negative reaction from the public.

### Summary of Financial Benefits and Costs (attach backup)

#### 1. Cost-benefit analysis (if required)

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

#### 2. Major financial benefits

This program will allow for cost avoidance of a rate case performance indicator penalty.

#### 3. Total cost

The Main Replacement Program is expected to cost an average of \$407M per year for the rate case from 2023 through 2025. Of this amount, \$236M per year can be attributed to climate mitigation and adaptation.

**4. Basis for estimate**

The estimate was created based on a historical distribution of costs while factoring in a 2% annual escalation cost due to inflation. These historical patterns were applied to the planned distribution of work designed to accomplish the previously stated goals. In calculating the portion that contributed directly to climate change mitigation, two main assumptions were used. 90% of the total budget was expected to go toward the replacement of leak prone pipe with the other 10% spent on replacing adjacent non-leak prone pipe. This is conservative, as the emissions for the new pipe are expected to be lower even than the non-leak prone pipe in some cases. Of the 90% of the budget considered, it is expected that an average of 10% must be spent on restoration which could be considered ungermane to climate efforts.

**5. Conclusion**

This program is a rate case performance indicator and therefore a penalty will be received for failing to meet the target. Additionally, the program is a large part of the Gas Operations risk reduction and climate change adaption strategies

**Project Risks and Mitigation Plan**

Risk 1		Mitigation plan
Changes to Company climate change mitigation plan. Ex: Electrification and retirement of the gas system becomes a viable option in some areas of the gas territory.		Re-address the planned gas Main Replacement Levels and adjust goal to replace all leak prone gas pipe by 2040.
Risk 2		Mitigation plan
Unable to complete targeted miles due to constructability barriers (lack of resources, lack of materials, pandemic, etc.).		Shift miles of replacement to other program years, to maintain goal of all leak prone replacement by 2040.

**Technical Evaluation / Analysis**

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



**Project Relationships (if applicable)**

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

## 3. Funding Detail

**Historical Spend (\$000)**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
<b>Capital</b>	\$294,945	\$381,443	\$392,277	\$352,171		\$473,138
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$469,956	\$404,786	\$425,235	\$442,174	\$455,067
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$96,262	\$84,570	\$89,939	\$97,772	\$96,290
M&S	\$13,531	\$11,824	\$11,843	\$12,107	\$12,952
Contract Services	\$329,173	\$289,159	\$301,886	\$304,564	\$320,083
Other					
Overheads	\$30,990	\$19,233	\$21,567	\$27,730	\$25,812
<b>Total</b>	\$469,956	\$404,786	\$425,235	\$442,174	\$455,067

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

Gas Operations  
2022

**1. Project / Program Summary**

Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program		Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic			
Project/Program Title: Distribution Integrity Main Enhancement			
Project/Program Manager: Gregory Kasbarian		Project/Program Number (Level 1): 23320326, 23320433, 23320434, 23320441	
Status: <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
Estimated Start Date: Ongoing		Estimated Date In Service: Ongoing	
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$40,091 O&M:		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:	
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:		<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>	
<b>Work Description:</b>  The Con Edison gas main system consists of mains that vary in age, size, material, and pressure. Gas Operations has been utilizing the Main Replacement Prioritization (MRP) Program to provide funding for the replacement of leak prone pipe (LPP) such as cast iron, wrought iron, and unprotected steel (pre-1972) in order to reduce risk. Analysis of the system on a planned and emergent basis has determined that non-LPP such as plastic and protected steel (post-1971) mains must also be replaced under certain limited conditions where required due to external requirements or in association with other larger project requirements. This is known as the Distribution Integrity Main Enhancement (DIME) program.			
<b>Justification Summary:</b>  This program covers the replacement of existing plastic and protected steel gas mains. Both types of mains may warrant replacement under conditions including, but not limited to: third party damages, leaks, burnouts, water intrusion, code compliance, proximity to steam, or ancillary benefits to other program work. Also, replacement of these mains may be made with a larger pipe to improve pressures in particular situations, for example, in response to poor pressure complaints or when eliminating short system bottlenecks.			

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

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

The DIME program is utilized to ensure we provide best in class safety, quality, compliance, and customer experience through identifying active or potential risks and creating a plan of action to resolve them.

The Gas Long Range Plan includes this program in the Gas Infrastructure Plan Overview. The Gas Long Range Plan also indicates the Distribution Integrity Management Plan enhances safety by identifying and reducing distribution pipeline integrity risks. Aldyl A and Driscopipe 7000 are identified as sub-threats under the material or weld failure primary threat category within the Distribution Integrity Management Plan. Although Aldyl A is considered a low threat in the Distribution Integrity Management Plan, it may require replacement under this program when it is in the vicinity of other work or is potentially subject to a squeeze-off.

Replacement of aging infrastructure and materials that do not meet current design criteria or that have been subject to potential or actual damage by external forces or circumstances are key components of reducing the risk of a Distribution System Event as defined in the Enterprise Risk Management Strategy.

## 2. Supplemental Information

**Alternatives**

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

**Risk of No Action**

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

**Non-Financial Benefits**

The replacement of specified mains will improve the reliability of the gas system, reducing the likelihood of large-scale customer outages. The replacement of substandard pipe has a direct impact on our Principle Sustainability Strategy objective to continue to reduce methane emissions from the gas distribution system and is a primary mitigation method for the Enterprise Risk Management (ERM) Gas Distribution system event. Another objective impacted by this program is New York State's Climate Leadership and Community Protection Act, which aims to reduce greenhouse gas emissions by 40% of 1990 levels by 2030, and by 80% by 2050 (NYS DEC, 2020). In addition to the safety benefits, main replacement also reduces the need to respond to and repair gas leaks thus, decreasing negative reaction from the public. The replacement of undersized gas mains or mains that were subject to water intrusion will ensure that customers have adequate supply and do not experience poor pressure conditions or loss of service.

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Total cost

The total projected cost of \$40,091 for years 2022 through 2026. Increased forecasted spending for 2023-2025 can be seen in the Funding Detail below.

4. Basis for estimate

The estimate is based on historical unit costs and projected volume of work.

5. Conclusion

The DIME program is necessary to ensure the gas system operates safely and effectively.

**Project Risks and Mitigation Plan**

Risk 1 & Mitigation plan:

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

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

Risk 2 & Mitigation plan:

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

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

**Technical Evaluation / Analysis**

Computer model analysis software is utilized to determine if a Polyethylene (PE) main is undersized for existing and future loads. Some factors incorporated in this model include design basis criteria and projected customer demands. Distribution Integrity Management Program (DIMP) analytics, including the use of a computer based probabilistic risk model, are utilized to determine specific asset classes that are considered substandard.

**Project Relationships (if applicable)**

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

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>	\$1,477	\$8,653	\$6,842	\$5,226		\$7,501
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**\*Note: Historical Spend includes the replacement of existing plastic and emergent water intrusion.**

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$6,243	\$7,790	\$8,600	\$8,600	\$8,858
<b>O&amp;M*</b>					

<b>Regulatory Asset</b>					
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**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$1,626	\$1,791	\$2,013	\$2,112	\$2,148
M&S	\$242	\$255	\$273	\$277	\$300
Contract Services	\$3852	\$5,192	\$5,726	\$5,614	\$5763
Other				-	
Overheads	\$523	\$522	\$588	\$597	\$647
<b>Total</b>	<b>\$6,243</b>	<b>\$7,790</b>	<b>\$8,600</b>	<b>\$8,600</b>	<b>\$8,858</b>

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations  
2022**

# 1. Project / Program Summary

<b>Type:</b> <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
<b>Project/Program Title:</b> Service Replacement Program	
<b>Project/Program Manager:</b> Stephen Sweeney	<b>Project/Program Number (Level 1):</b> .23320449/ 23320453/ 23320450/ 23320452
<b>Status:</b> <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> Ongoing	<b>Estimated Date In Service:</b> Ongoing
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$573,022  O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <b><u>(Years/months) (If applicable)</u></b>
<b>Work Description:</b>  <p>This program will replace gas services that are actively leaking, associated with capital main replacement programs, or identified for replacement by the Distribution Integrity Management Program (DIMP). This program will also address leak prone services, also known as vintage services, that are connected to non-leak prone mains. A leak prone gas service or vintage service is defined by the Company as an unprotected (pre-1972) steel service.</p>	
<b>Justification Summary:</b>  <p>Approximately 19% of incoming outside gas leaks are identified to be on existing pre-1972 steel gas services. Leaking gas services often require multiple repairs, which is not cost effective as the services are likely to leak again, which negatively impacts the customer. Therefore, to enhance safety and reliability for the customer, these services must be replaced.</p> <p>Approximately one service is replaced for every 150 feet of associated capital main replacement through the main replacement program. While these services may not be actively leaking, we proactively replace them to avoid future leaks, limit repeated customer and community impacts,</p>	



and reduce emissions. The replacement of non-leaking services when completing the replacement of the main complies with the Company's Gas Specifications G-8100 and G-8005.

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

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

This program is specifically included and discussed within the Gas Long Range Plan. The Gas Long-Range Plan includes the replacement of about 40 percent of the distribution system, requiring a detailed level of prioritization. These priorities are based off analyzing the risk score for mains and services through a risk-prioritization model that optimizes the removal of gas mains and vintage services. In addition, vintage services are being targeted for replacement in conjunction with main replacement projects identified. The quantity of service replacements associated with main replacements and rehabilitation projects varies in accordance with the quantity of main replacement footage.

The Gas Long-Range plan also highlights the Company's investment to replace services that have been identified as being a source of an active leak. Replacement of these services is critical to maintain public safety and support the efforts of emissions reduction.

Part of the main replacement program plans are to accelerate the replacement of leak prone pipe within flood-prone areas. These areas are identified as within the "FEMA +3 feet" level, which considers one foot of sea level rise and two feet of freeboard added to the 2015 PFIRM Base Flood Elevation to determine the Design Flood Elevation. Replacement of these leak prone mains and services will also strengthen our gas distribution system against future storms, part of the efforts for mitigating climate effects and adaptation activity.

This program also follows the Risk Management Strategy to replace leak prone pipe and prevent leaks as part of a strategy to reduce the risk of a Distribution System Event.

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

The only alternative in this scenario would be to take no action and not replace leaking services, which would not be in conformance with the Company's specifications, or to replace leak prone services retroactively, potentially resulting in a public safety hazard.

**Risk of No Action**

Risk 1

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

**Non-Financial Benefits**

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

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

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Total cost

The total program implementation cost is approximately \$341,960,173 for years 2023-2025 of the program.

Up to \$61M per year for the rate case from 2023 to 2025 can be attributed to climate change mitigation and adaption due to the mitigation of gas leaks and gas emissions through the replacement of leaking services, and vintage services.

4. Basis for estimate

The estimate is based on historical leaking service replacement and projected volume of work for 2023-2025 built upon the main replacement program and other capital program goals. The historical unit costs for service replacement were utilized to project future spend.

5. Conclusion

Replacing actively leaking services, services on capital main projects, services identified by DIMP to be replaced due to risk, and vintage services should be replaced to reduce leaks and the leak backlog, ensure public safety, reduce customer impact, and reduce emissions.

**Project Risks and Mitigation Plan**

Risk 1 & Mitigation plan

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

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

**Technical Evaluation / Analysis**

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

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

**Project Relationships (if applicable)**

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

**3. Funding Detail**

**Historical Spend**

	<u>Actual</u> <u>2017</u>	<u>Actual</u> <u>2018</u>	<u>Actual</u> <u>2019</u>	<u>Actual</u> <u>2020</u>	<u>Historic</u> <u>Year</u>	<u>Forecast</u> <u>2021</u>
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					(O&M only)	
<b>Capital</b>	\$103,948	\$114,555	\$106,311	\$96,486		\$119,345
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$125,804	\$110,141	\$111,609	\$111,191	\$114,277
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<b>EOE</b>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$79,126	\$70,700	\$73,021	\$74,287	\$76,121
M&S	\$9,972	\$8,319	\$8,119	\$8,122	\$8,132
Contract Services	\$17,954	\$15,442	\$15,340	\$13,781	\$14,318
Other	\$4,025	\$3,444	\$3,366	\$3,309	\$3,330
Overheads	\$14,727	\$12,236	\$11,764	\$11,692	\$12,376
<b>Total</b>	\$125,804	\$110,141	\$111,609	\$111,191	\$114,277

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

Gas Operations  
2022

**1. Project / Program Summary**

Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program		Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic			
Project/Program Title: Large Diameter Gas Main Program			
Project/Program Manager: Stephen Sweeney		Project/Program Number (Level 1): PR.23320210/ 23320212/ 23320219/ 23320225	
Status: <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
Estimated Start Date: Ongoing		Estimated Date In Service: Ongoing	
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$39,665 O&M:		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:	
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:		<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>	
<b>Work Description:</b>  This is a multi-year program focusing on rehabilitating or replacing large diameter distribution supply gas mains 16" and larger. Since these mains are critical for supply, disruption of service can have severe impacts on the distribution system. Because of the high cost and system impact associated with the replacement of these large diameter mains, rehabilitation is typically preferred and investigated first. However, due to logistical or field constraints or main condition, replacement may be deemed necessary.  In addition, some 12" cast iron and steel mains may also be considered Supply Mains by the Gas System Analysis and Planning group. These mains would therefore be candidates for rehabilitation under this program using the methods listed below.  This program will utilize three methods of addressing identified mains: <ol style="list-style-type: none"> <li>1. Cast Iron Sealing Robot (CISBOT): Seals and reinforces cast iron joints internally. This technology can be performed on live mains and it requires one small pit for entry. This technology uses minimal excavation, can travel up to 600 feet in each direction, and can seal up to 80 joints.</li> </ol>			

2. Liner: Uses cured-in-place liner technology on mains to seal the main and extend the life of the host pipe. Cured-In-Place liner is a seamless / joint-less circular woven fabric-hose made of polyester yarns and a plastic coating which is bonded as inner liner into the host pipe using a solvent-free two-component adhesive custom fit to each project. This method can be used on steel or cast iron and will extend the life of the existing main.
  
3. Replacement: Existing gas main is removed from active service and replaced with a new gas main. This program does not include the replacement of 12-inch low pressure cast iron mains or unprotected Steel mains, as that would fall under the Main Replacement Program.

**Justification Summary:**

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

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

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

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

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

The Gas Long-Range Plan identifies the design criteria for the future of the gas distribution system prioritizing system reliability, reduced impact of coastal flooding, and the reduction of the risk of events that threaten public and employee safety. This program is a key component of System Reliability Improvement and is one of the other programs included in the Gas Infrastructure Plan Overview sections of the Gas Long Range Plan.

The Gas Long Range Plan also indicates the Distribution Integrity Management Plan enhances safety by identifying and reducing distribution pipeline integrity risks. The Distribution Integrity Management Plan identifies this program as a measure to address the risk associated with corrosion.

Climate adaption is also addressed through emissions reduction through the rehabilitation or replacement of large diameter mains in the efforts to restore the mains and prevent potential leaks and gas emissions. In addition, there is approximately seventeen miles of low-pressure large diameter cast iron and unprotected steel main within the Company's distribution system identified in the "FEMA +3 feet" NYC and Westchester flood prone areas. Restoring some of these mains will strengthen the gas distribution system, increase reliability and efficiency, and support the Company's efforts to reducing the impact of coastal flooding due to climate change.

Replacement and rehabilitation of aging infrastructure decreases the risk of a Distribution System Event in accordance with the Enterprise Risk Management Strategy such as reducing operating penalties for customer outages due to distribution system events such as water main breaks.

## 2. Supplemental Information

### Alternatives

#### Alternative 1 description and reason for rejection

One alternative is to replace these mains instead of rehabilitating them. This was rejected because of the high cost and system impact associated with the replacement of these large diameter mains.

### Risk of No Action

#### Risk 1

If these mains are not rehabilitated or replaced, they will continue to deteriorate and develop leaks that will need to be repaired as they occur. Repairing active leaks is a rate case mandate and, in many cases, necessary to ensure public safety. There is an increased risk of customer outages if a serious leak develops on a large diameter main, especially during the heating season. The Company would like to address these mains before there is a leak that necessitates such an impact.

### Non-Financial Benefits



Benefits of rehabilitating or replacing large diameter gas mains include increased safety by preventing leaks and reducing emissions, improving reliability and efficiency of the system and supply runs, and reducing the threat of an interruption to customers' gas service in the event of an emergency. This program extends the useful life of the identified gas main and reduces gas emissions as well as the risk of water infiltration.

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Total cost

The total program implementation cost is \$41,767,000 for the years 2023-2025.

4. Basis for estimate

The estimate is based on historical unit costs and projected volume of work. Increased forecasted spending for 2023-2025 is based on an increase in the number of CISBOT units, as well as higher projected levels of large diameter main replacement.

5. Conclusion

In order to avoid gas leaks and emergencies, prevent large customer outages, and potential gas emissions, the methods previously listed (CISBOT, Liner, Replacement) should be implemented.

**Project Risks and Mitigation Plan**

Risk 1 & Mitigation plan

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

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

**Risk 2 & Mitigation plan**

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

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

**Technical Evaluation / Analysis**

CISBOT is a joint sealing robot manufactured by ULC Robotics that travels within the gas main to seal joints and prevent future leaks. This process is designed to launch a tool head through a special fitting into a live cast iron gas main, which travels up to 600 feet inside the pipe then drills and injects anaerobic sealant into each joint it passes, sealing any active leaks and preventing any future joint leaks while being pulled back to the launch site. The robot is then turned around to the other side of the launch fitting and the process is repeated in the second direction to complete up to 1,200 feet of main joint sealing from one insertion point with no release of gas to the environment and without disturbing service to our customers. The sealant used is an anaerobic sealant (cures in the absence of oxygen) made up primarily of acrylics that acts as a packing to stop gas from flowing between the dried-up jute fibers installed when the main was originally installed. This sealant has demonstrated through testing to be able to withstand the repeated ground movement from vehicular traffic, seasonal pipe movement from thermal expansion and contraction and will last at least 50 years.

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

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

In cases which logistical or field condition constraints prevent the use of the aforementioned technologies, large diameter distribution gas mains will be replaced.

**Project Relationships (if applicable)**

N/A

### 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
Capital	\$2,514	\$5,997	\$2,735	\$6,301		\$15,046
O&M						
Regulatory Asset						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital	\$5,808	\$7,410	\$8,728	\$8,728	\$8,990
O&M*					
Regulatory Asset					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	2022	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$531	\$528	\$528	\$528	\$638
M&S	\$1,117	\$1,116	\$1,116	\$1,115	\$1,345
Contract Services	\$3,411	\$5,018	\$6,337	\$6,338	\$6,106
Other					
Overheads	\$749	\$748	\$748	\$747	\$901
<b>Total</b>	\$5,808	\$7,410	\$8,728	\$8,728	\$8,990

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M					

Capital					
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\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations  
2022**

# 1. Project / Program Summary

<b>Type:</b> <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
<b>Project/Program Title:</b> Methane Capture Technology	
<b>Project/Program Manager:</b> Lauraine Di Leonardo	<b>Project/Program Number (Level 1):</b> TBD
<b>Status:</b> <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> 01/01/2023	<b>Estimated Date In Service:</b> Ongoing
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$4,000 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  <p>The Methane Capture program has been created to identify sources of greenhouse gas (GHG) emissions within the Con Edison gas system and resolve them by utilizing the Zero Emissions Vacuum Units (ZEVACs), or other similar technologies. The GHG sources and solutions are listed below:</p> <p><u>Potential Emission Sources</u></p> <p><b>Purging:</b> When an in-service gas main is taken out of service to perform work the residual gas in the main must be released. Purging is performed on nearly every main replacement and can release a significant volume of natural gas into the atmosphere.</p> <p><b>Blowdowns:</b> During flow test procedures, gas must be emitted from live gas mains to confirm whether the pipe is tied to the gas main system. This procedure is known as a blowdown and is required on the majority of main cut-outs.</p> <p><u>Methane Capture Efforts</u></p> <p><b>ZEVAC:</b> The current process of blowdowns and purging on gas pipe replacements releases natural gas to the atmosphere. The ZEVAC unit commercialized by TPE Midstream Inc. can be utilized to mitigate methane emissions on larger volume pipe replacements for pipes</p>	

operating at greater than or equal to medium pressure (15 psig MAOP) pipe replacements. The ZEVAC units mitigate emissions by being attached to standpipes, that are used to perform purging and blowdowns, and pumping the gas out of the isolated pipe segment being replaced and into the portion of pipe remaining in service. The ZEVAC unit is also capable of drawing a vacuum. Currently, Con Edison has five ZEVAC Twin-D units and upon gaining operational experience with this fleet of units will purchase additional units.

Vacuum Purging: The current process of purging a pipe into service releases natural gas until 98% concentration of gas is measured. A means to minimize emissions from purging a pipe into service is to draw down the new pipe to a vacuum prior to it containing natural gas and then introducing natural gas till 0 psig is measured. Vacuum purging can be accomplished by the ZEVAC unit. The process of vacuum purging and additional equipment to perform vacuum purging is still being analyzed by Research & Development (R&D) and is anticipated to be completed within the next few years and incorporated into operational procedures.

**Justification Summary:**

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

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

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

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

## 2. Supplemental Information

### Alternatives

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

**Flaring and Applied Load:** For some procedures such as pickling and purging, using a flare or applying a load (commonly a generator) at the outlet of the main can provide a reduction in methane emissions. Several vendors produce mobile flaring apparatuses that can be transported to job sites and eliminate the need for temporary setups to be erected. This alternative is not recommended because combustion still releases carbon dioxide to the atmosphere instead of methane.

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

### Risk of No Action

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

### Non-Financial Benefits

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

### Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

Con Edison aims to reduce GHG emissions from routine pipe work during flow tests and main purging, which is estimated to be over 33 million cubic feet of natural gas over the next 18 years as the Main Replacement Prioritization Program expects to come to completion. By ensuring

that gas is delivered to the customer and not released to the atmosphere, the Company will be more efficient in its use of resources and spend less on purchasing.

### 3. Total cost

The total projected cost by 2026 is \$4,000,000. All of the funds allocated to this program are aimed towards mitigating our carbon footprint and improving our impact on climate change.

### 4. Basis for estimate

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

### 5. Conclusion

The Methane Capture program is necessary to Con Edison in order to do our part for climate change and lead the gas industry by example.

## **Project Risks and Mitigation Plan**

### Risk 1 & Mitigation plan:

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

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

### Risk 2 & Mitigation plan:

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

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

## **Technical Evaluation / Analysis**

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

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



**Project Relationships (if applicable)**

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

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
<b>Capital</b>						
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$0	\$1000	\$1000	\$1000	\$1000
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor					
M&S					
Contract Services					
Other					
Overheads					
<b>Total</b>					

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

SYSTEM RELIABILITY:  
**Gas Operations**  
**2022**

**1. Project / Program Summary**

<b>Type:</b> <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
<b>Project/Program Title:</b> System Reinforcement Program – Winter Load Relief	
<b>Project/Program Manager:</b> Richard Gachette	<b>Project/Program Number (Level 1):</b> 10039468/ 10039495/ 10039501/ 10039509
<b>Status:</b> <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> Ongoing	<b>Estimated Date In Service:</b> Ongoing
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$68,443 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <b><u>(Years/months) (If applicable)</u></b>
<b>Work Description:</b>  This project includes the installation and replacement of gas mains for system reinforcement in areas where pressures do not meet the current design criteria on a design hour based on the prior winter’s system performance.  The winter load relief projects are associated with traditional new business.  The PSC Code (NYCRR 255.623) and the Con Edison Gas System Design Criteria requirements are:  <ul style="list-style-type: none"> <li>• Each operator shall maintain a pressure throughout its low-pressure distribution systems at no less than 4” water column (w.c.) and shall not be more than 12” w.c. as measured at the customer’s end of service.</li> <li>• The maximum pressure variation at any point on the system shall not be greater than 50% of the maximum pressure on that day (Part 255.623).</li> <li>• As per Con Edison’s System Design Criteria, supply mains shall be designed to maintain system pressures as per the “Operating Pressure Guidelines” issued by the Gas Distribution Engineering Planning Section. These guidelines are intended to reduce operating system pressures and, in turn, reduce incoming leaks in the distribution system.</li> </ul>	

Additionally, the HP supply pressure to any medium or low-pressure regulating station shall not be lower than 25 psig.

- The optimal pressure range at the outlet of a medium pressure regulating station shall be 7 psig to 13 psig.
- The minimum pressure at extremity points on a medium pressure system shall not be lower than 2 psig.
- The MP supply pressure to any low-pressure regulating station shall not be lower than 5 psig.

**Justification Summary:**

Gas Engineering is responsible for analyzing the gas distribution system using the Synergi Gas network model. Each year, these models are updated to include newly installed facilities and added system loads to replicate actual system conditions for the coldest day of the season. Once calibrated, gas engineers look for areas of our gas distribution systems that do not meet the pressure requirements of the current design criteria and PSC code requirements on a design peak hour. System reinforcement is then recommended for these areas to improve gas system pressures to meet these requirements.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

The Winter Load Relief (WLR) program improves the safety and reliability of the gas system by ensuring that gas customers receive adequate pressures for their gas equipment at the end of the service line. The system reinforcement performed under the WLR program helps to ensure reliable service and reduce the potential of customer outages that can affect many customers at once. Having a safe and reliable gas system is a major goal of both the Con Edison Gas 5-year and Long Range plans.

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

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

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

## 2. Supplemental Information

### Alternatives

#### Alternative 1 description and reason for rejection

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

#### Alternative 2 description and reason for rejection

#### Alternative 3 description and reason for rejection

### Risk of No Action

#### Risk 1

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

#### Risk 2

#### Risk 3

### Non-Financial Benefits

-

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

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

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

3. Total cost

4. Basis for estimate

Historical cost of similar projects.

5. Conclusion

**Project Risks and Mitigation Plan**

Risk 1

Mitigation plan

Risk 2

Mitigation plan

**Technical Evaluation / Analysis**

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

**Project Relationships (if applicable)**

Winter load relief projects have been recommended in the Manhattan, Bronx, Queens, and Westchester.

### 3. Funding Detail

#### Historical Spend

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
Capital	<b>10,152.56</b>	<b>5,025.31</b>	<b>8,576.13</b>	<b>4,374.07</b>		<b>11,865</b>
O&M						
Regulatory Asset						

#### Total Request (\$000):

#### Total Request by Year:

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital	12,155	\$13,351	\$13,954	\$14,278	14,706
O&M*					
Regulatory Asset					

#### Capital/Regulatory Asset Request by Elements of Expense:

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	1,236.50	1,229.68	1,228.93	1,228.26	1,221.36
M&S	2,852.78	2,608.60	2,280.28	2,604.79	2,601.37
Contract Services	6,309.85	7,759.16	8,692.05	8,692.06	9,133.37
Other					
Overheads	1,755.99	1,753.38	1,753.09	1,752.84	1,750.20
<b>Total</b>	<b>\$12,155</b>	<b>\$13,351</b>	<b>\$13,954</b>	<b>\$14,278</b>	<b>\$14,706</b>

#### Total Gross Cost Savings / Avoidance by Year:

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

#### Total Ongoing Maintenance Expense by Year:

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M					
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

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**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program



**Gas Operations**  
**2022**

# 1. Project / Program Summary

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
<b>Project/Program Title:</b> System Reliability / WLR Gas Regulator Station	
<b>Project/Program Manager:</b> Russ Grogan	<b>Project/Program Number (Level 1):</b> 22979814
<b>Status:</b> <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: Project Not Started	
<b>Estimated Start Date:</b> ongoing	<b>Estimated Date In Service:</b> ongoing
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$28,577 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  Install new regulator station to support new system reliability construction and upgrading of existing systems from low pressure to higher pressures.	
<b>Justification Summary:</b>  With the System of the Future, the gas system is systematically being upgraded from low pressure to the more efficient elevated pressures. This program is needed to support the system upgrade which will improve gas system reliability and efficiency and improve safety.	

This is a strategic plan which requires the installation of a new regulator stations to reinforce the existing gas system which will improve the system capacity to the area and enable future pressure increases. This program will also improve the safety to our gas customers because these regulators will prevent the loss of gas service that may become essential for heating in the wintertime and potentially supply life sustaining equipment.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

The System Reliability Regulator Station program improves the safety and reliability of the gas system by ensuring that gas customers receive adequate pressures for their gas equipment at the end of the service line. The installation of regulator stations under this program helps to ensure reliable service and reduce the potential of customer outages that can affect many customers at once. Having a safe and reliable gas system is a major goal of both the Con Edison Gas 5-year and Long-Range plans.

Additionally, these new regulator stations also mitigate the Corporate ERM (Enterprise Risk Management) risk of a Gas Distribution Event. The regulator stations are additional gas supply source into the gas distribution system and offer sufficient redundancy when there is outage of a nearby regulator station thereby mitigating potential large scale customer outages. Regulator stations installed under this program both improve the resiliency of the gas system during a Gas Distribution Event and would mitigate customer outages from this risk.

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

As such, when regulator stations are installed for areas being upgraded to elevated pressures, they play a role in helping to mitigate the potential water intrusion issue due to flooding. Gas system operating at elevated pressure such as our high pressure system or our medium pressure system, help to minimize water intrusion because the higher gas pressure will make it less likely for water to infiltrate the gas system.

## 2. Supplemental Information

### Alternatives

#### Alternative 1 description and reason for rejection

In lieu of installing new regulator stations, one alternative is to install significantly more gas main to supply additional high pressure gas feed to a low pressure area, then convert existing low pressure gas mains and services to high pressure. This would result in significantly more street and customer disruption, and a significantly higher cost of main reinforcement.

#### Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

Risk 2

Risk 3

**Non-Financial Benefits**

•

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

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

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

3. Total cost

4. Basis for estimate

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

<p>4. <u>Conclusion</u> 5.</p> <p>Gas regulator stations are the sources of gas into the gas distribution system. Additional source points may be required as systems are upgraded from lower pressure to higher pressure, as well as when system demand requires them. Therefore, in order to ensure sufficient gas pressure in the system, this project is needed.</p>	
<p><b>Project Risks and Mitigation Plan</b></p>	
Risk 1	Mitigation plan
Risk 2	Mitigation plan
<p><b>Technical Evaluation / Analysis</b></p> <p>The Synergi Gas Model is used to identify capacity needs for specific regulator stations. The models are “validated” annually after each winter to reflect actual system performance on the coldest days of the winter. The validated model then becomes the design model until the next validation. Utilizing the design model which reflects both actual system load and new load from pending customer requests, an ideal gas capacity for regulator stations.</p>	
<p><b>Project Relationships (if applicable)</b></p> <p>N/A</p>	

### 3. Funding Detail

**Historical Spend**

	<u>Actual</u> <u>2017</u>	<u>Actual</u> <u>2018</u>	<u>Actual</u> <u>2019</u>	<u>Actual</u> <u>2020</u>	<u>Historic</u> <u>Year</u> (O&M only)	<u>Forecast</u> <u>2021</u>
<b>Capital</b>		10,798.25	4,467.53	9,823.64		1,291.00
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	5,715	5,715	5,715	5,715	5,715
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	1,026.16	1,026.16	1,026.16	1,026.16	1,026.16
M&S	383.54	383.54	383.54	383.54	383.54
Contract Services	2,209.80	2,209.80	2,209.80	2,209.80	2,209.80
Other	264.16	264.16	264.16	264.16	264.16
Overheads	1,831.34	1,831.34	1,831.34	1,831.34	1,831.34
<b>Total</b>	<b>5,715</b>	<b>5,715</b>	<b>5,715</b>	<b>5,715</b>	<b>5,715</b>

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

Gas Operations  
2022

**1. Project / Program Summary**

Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program		Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic			
Project/Program Title: Regulator Station Revamp Program			
Project/Program Manager: Russell Grogan		Project/Program Number (Level 1): 23318346	
Status: <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
Estimated Start Date: 1/1/2020		Estimated Date In Service: 12/31/2022	
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$17,655 O&M:		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:	
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:		<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>	
<b>Work Description:</b>  <p>This program is for the revamp of existing regulator stations in order to continue the Company's obligation to serve existing gas customers. The work required will vary, depending on the existing design of each regulator station and the future gas load. Work can involve the installation of new regulator station vaults, inlet and outlet piping, replacement of regulator hardware, and installation of new communication to the Gas Operation's SCADA system, Gas Operations Supervisory System (GOSS).</p> <p>The schedule is a multi-year program to retrofit a number of stations across the system. Target regulator stations will be identified each year.</p>			
<b>Justification Summary:</b>  <p>Con Edison's gas system has an aging infrastructure that had seen relatively steady growth prior to 2011. While this growth has slowed more recently, the demand for gas has not yet fully stopped increasing. Additionally, the impact of Super Storm Sandy on the New York metro area has created a great deal of interest in natural gas fed backup generators. Previous harsh winters (winter of 2014-2015 and winter of 2015-2016) had seen extended cold snaps. This led to record</p>			

interruptions on our interruptible customers, triggering a large number of these customers to switch to firm rates. The importance of maintaining a reliable system is therefore, more crucial than ever.

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

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

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

This program improves the safety and reliability of the gas system by ensuring that gas customers receive adequate pressures for their gas equipment at the end of the service line. The system reinforcement performed under this program helps to ensure reliable service and reduce the potential of customer outages that can affect many customers at once. Having a safe and reliable gas system is a major goal of both the Con Edison Gas 5-year and Long-Range plans.

Additionally, the gas regulator revamp work under this program also mitigates the Corporate ERM risk of a Gas Distribution Event. Adequately sized regulator stations play a significant role in ensuring that gas customers get adequate gas pressure at their service take off during the coldest of days and mitigates customer outages when an adjacent regulator station fails. Work under this program will improve the resiliency of the gas system during a Gas Distribution Event and would mitigate customer outages from this risk.

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

As such gas regulator stations reinforced under this program will also help to mitigate customer outages due to the potential water intrusion issue due to flooding. Additional adequately sized regulator station will help to mitigate customer loss when nearby regulator stations are lost due to flooding.



## 2. Supplemental Information

### Alternatives

#### Alternative 1 description and reason for rejection

An alternative option would be to install new regulator stations. This would require additional real estate for a new vault, more transmission main for high pressure regulators, and comes at a significantly higher cost.

#### Alternative 2 description and reason for rejection

#### Alternative 3 description and reason for rejection

### Risk of No Action

#### Risk 1

The system saw capacity issues previous past winter (Winter 2017-2018) with inadequate pressure being seen at a number of regulator stations. While no poor pressure complaints were directly linked to this, no action can potentially lead to large scale outages due to inability to supply the system and harm to customers can lead to legal issues.

#### Risk 2

#### Risk 3

### Non-Financial Benefits

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

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

Reinforcing the gas regulator to address these capacity and equipment issues will mitigate downstream customer loss and avoid the O&M cost of service restoration.

3. Total cost

4. Basis for estimate

Estimate is based on historical spend of similar upgrade work.

5. Conclusion

Gas regulator stations are the sources of gas into the gas distribution system. When these sources are unable to provide the gas supply to the downstream customer due to limitations of the equipment, gas system pressures can be greatly impacted leading to customer outages. This is especially the case during cold winter months when the gas demand is high as customers use gas for heating. To ensure that our customers have adequate gas for heating in the cold winter months, this program is needed.

**Project Risks and Mitigation Plan**

Risk 1

Mitigation plan

Risk 2

Mitigation plan

**Technical Evaluation / Analysis**

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

**Project Relationships (if applicable)**

# 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
<b>Capital</b>			1,307.80	2,957.13		<b>720.03</b>
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	3,206	3,383	3,652	3,652	3,762
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	575.66	607.44	655.74	655.74	675.49
M&S	215.16	227.04	245.09	245.09	252.47
Contract Services	1,239.65	1,308.09	1,412.11	1,412.11	1,454.64
Other	148.19	156.37	168.80	168.80	173.89
Overheads	1,027.34	1,084.06	1,170.26	1,170.26	1,205.51
<b>Total</b>	<b>3,206</b>	<b>3,383</b>	<b>3,652</b>	<b>3,652</b>	<b>3,762</b>

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					

Capital					
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\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations**  
**2022**

# 1. Project / Program Summary

<b>Type:</b> <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
<b>Project/Program Title:</b> Gas Reliability Improvement	
<b>Project/Program Manager:</b> Stephen Sweeney	<b>Project/Program Number (Level 1):</b> 21680782
<b>Status:</b> <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> Ongoing	<b>Estimated Date In Service:</b> Ongoing
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$52,503 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  Con Edison Gas Operations provides an essential commodity to 1.1 million customers year round. If loss of service occurs, the safety of customers can be placed at risk. It is important that integrity be maintained throughout the Con Edison natural gas system. Given the current infrastructure of the gas system, a number of vulnerabilities exist. If issues were to arise at these points, the Company could see large scale outages. To address these concerns, system reinforcement must be performed in order to increase system reliability.	
<div style="background-color: red; color: white; padding: 2px; display: inline-block;">Redacted</div> <div style="background-color: gray; width: 100%; height: 100px; margin-top: 10px;"></div>	

Redacted

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

**Justification Summary:**

**Bronx - Westchester Creek**

This project is a continuation of efforts to improve the reliability of the Throgs Neck medium pressure system and minimize potential loss of customers. This program will also improve the safety to our gas customers because it will prevent the loss of gas service that may become essential for heating in the winter time and potential life sustaining equipment.

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

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

**Redacted**

Its location makes it difficult to repair immediately. The new cathodically protected steel main is needed in order to retire the old 24-inch cast iron main.

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

**Bronx - Loss of Supply to Morris Height High Pressure Loop**

The Morris Height High Pressure system is located on the west run of the West Bronx High Pressure loop. In the event that the north supply main of this west run is lost, approximately 88,000 customers in Morris Height and surrounding vicinity will be impacted. The south part of this west run consists of approximately 11,000 feet of smaller diameter high pressure main and in the event of a contingency on the north main, the south main does not have the capacity to fully supply the load to the north which includes the Morris Height area.

This project provides another large diameter supply main connecting the west and east runs of the West Bronx HP loop and will feed directly into the Morris Height area. This program will also improve safety to our gas customers because it will prevent the loss of gas service that may become essential for heating in the winter and potential life sustaining equipment.

**Bronx - Loss of GR-182 and GR-192**

The HP system that provides gas to the Wakefield area of Bronx is supplied by 3 regulator stations. However, only one station, GR-182, directly feeds the Wakefield area while the other two stations are connected to the area by a small diameter HP main. This small main prevents

the other two stations to fully back up GR-182. Additionally, a nearby fourth regulator station, GR-192 is the only supply to a HP radial system. By connecting GR-192 to the HP mains in Wakefield, GR-192 and GR-182 can back each other up and can alleviate a loss of approximately 26,000 customers in the event of a loss of GR-182 and GR-192.

**Manhattan - Loss of GR-3 or GR-55**

The Midtown Manhattan main loop is a circular configuration of trunk mains that supply gas to midtown and northern Manhattan. Redacted

In addition to high pressure customers, it currently feeds over 20 low pressure regulators. The loop itself is supplied by several high-pressure regulators. While each of these high-pressure regulators feeds into different segments of the loop, two stations have been identified as critical regulators that could lead to outages of up to approximately 6,185 high pressure services and 177,075 low pressure services if a single one were to be lost. Redacted

To offset the impact of losing one of the critical regulator stations on the Midtown Manhattan main loop, Redacted. Also, install a high-pressure main tie from an existing radial high-pressure system located on Redacted adding an additional high-pressure regulator Redacted supply point. This not only protects the system from a single critical regulator station loss, it will also tie a radial high pressure system to the Midtown Manhattan main loop. This reliability project will also improve the safety to our gas customers because there are hospitals in this area supplied by our gas. This project will prevent the loss of gas service that potentially supplies life sustaining equipment as well as equipment that is essential for heating in the winter for other customers.

**Manhattan - Loss of GR-61**

Redacted GR-59 is a 2-inch regulator station which limits its output compared to the other existing high pressure regulator stations. Therefore, if GR-61 is lost, it would lose both high pressure customers and two low pressure regulator stations at the northern tip of the high-pressure systems, leading to outages of up to approximately 1,425 high pressure services and 50,595 low pressure services.

Redacted it is recommended to tie the northern tip of the Manhattan high-pressure system to the 16-inch high-pressure main Redacted This will tie Manhattan and the Bronx, allowing each to support the other. In this case, Bronx will become a supply point. This program will also improve the safety to our gas customers because it will prevent the loss of gas service that may become essential for heating in the winter and potential life sustaining equipment.

**Manhattan - Loss of GR-58**

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



**Queens - Break in the 1<sup>st</sup> Ward High Pressure Loop**

The Long Island City High Pressure loop is fed by three high pressure regulator stations, Redacted Continuity in the loop is important in maintaining all customers and regulators. A break in the high-pressure loop between GR-251 and GR-282 would impact the supply to five low-pressure regulators, which could result in the potential outage of over 71,000 firm customers in the 1<sup>st</sup> Ward of Queens.

This potential loss is mitigated with the upsizing of the bottleneck on the high-pressure loop with larger diameter main. This project will also improve the safety to our gas customers because it will prevent the loss of gas service that may become essential for heating in the winter and potential life sustaining equipment.

**Westchester - Loss of GR-484**

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

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

**Westchester - Elimination of Redacted High Pressure Radial**

Redacted  
This radial is supplied by a single 20-inch diameter HP main. In the event that this supply is lost, approximately 14,000 customers will be affected.

This reinforcement work will provide a second high pressure supply main to the Spruce Street high-pressure radial system as well as eliminate a radial main within the radial system. This program will also improve the safety to our gas customers because it will prevent the loss of gas service that may become essential for heating in the winter and potential life sustaining equipment. This program will also improve safety to our gas customers because it will prevent the loss of gas service that may become essential for heating in the winter and potential life sustaining equipment.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

The Gas Reliability Improvement program improves the safety and reliability of the gas system by ensuring that gas customers receive adequate pressures for their gas equipment at the end of the service line. The system reinforcement performed under this program helps to ensure reliable service and reduce the potential of customer outages that can affect many customers at once. Having a safe and reliable gas system is a major goal of both the Con Edison Gas 5-year and Long-Range plans.

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

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

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

**2. Supplemental Information**

**Alternatives**

Alternative 1 description and reason for rejection

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

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

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

Risk 2

Risk 3

**Non-Financial Benefits**

Public relations could become strained if gas supply is interrupted and buildings are left without gas. This is likely to occur on the coldest days of the year resulting in potentially unsafe conditions for the oldest and youngest of residents. This program will support reducing the risk of a distribution event. It will also support the continued reliability and availability of the gas system.

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

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

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

3. Total cost

4. Basis for estimate

Historical cost of similar projects.

5. Conclusion

In order to avoid major customer outages, system reinforcement as mentioned above should be implemented.

<b>Project Risks and Mitigation Plan</b>	
Risk 1	Mitigation plan
Risk 2	Mitigation plan
<b>Technical Evaluation / Analysis</b>	
<p>The Synergi Gas software was used to model the impact of the various weaknesses throughout the Con Edison natural gas system. The model was able to simulate the losses at the weak point and display the areas of concern. Area Profile System and Cuflink were used to determine outage numbers as a result of poor pressure locations</p>	
<b>Project Relationships (if applicable)</b>	
<p>Several recommended reinforcements address more than a single weakness. This synergy can be an opportunity for Con Edison to strengthen its gas system at more than a single location.</p>	

## 3. Funding Detail

### Historical Spend

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>	4,259.36	2,593.47	2,792.96	4,375.36		6,827.00
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

### Total Request (\$000):

### Total Request by Year:

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	10,000	10,082	10,700	10,700	11,021
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	842.42	837.77	837.26	836.80	832.10
M&S	1,777.40	1,775.09	1,774.84	1,774.62	1,772.29
Contract Services	6,183.85	6,274.38	6,893.54	6,894.39	7,224.22
Other					
Overheads	1,196.34	1,194.56	1,194.37	1,194.19	1,192.39
<b>Total</b>	10,000	10,082	10,700	10,700	11,021

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations**  
**2022**

# 1. Project / Program Summary

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
<b>Project/Program Title:</b> Ossining Intermediate Pressure to High Pressure Upgrade	
<b>Project/Program Manager:</b> Jack Ng	<b>Project/Program Number (Level 1):</b> 23317793
<b>Status:</b> <input checked="" type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> 2023	<b>Estimated Date In Service:</b> 2023
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: 4,316 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  This project is for upgrade of the last remaining intermediate pressure (IP) system in the Con Edison Gas System to high pressure (HP). The Ossining IP consists of ~50,000 ft of intermediate pressure main which will be upgraded to high pressure. This system also has a large number of IP services and will need to be converted to high pressure as well.	
<b>Justification Summary:</b>  The Ossining Intermediate Pressure system is the last IP system on the Con Edison Gas System. This system largely is made up of a single supply main that spans north and south throughout the system supplied by one HP to IP regulator stations on each end of the system.  Upgrading to high pressure will allow this system to be directly tied into the surrounding HP system providing additional feeds for these customers and will also provide additional large supply mains for the Ossining HP system. This project will also eliminate the HP to IP regulator stations GR-486 and GR-482 once the IP system is upgraded.	

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

The Ossining Intermediate Pressure to High Pressure Upgrade project improves the safety and reliability of the gas system by ensuring that gas customers receive adequate pressures for their gas equipment at the end of the service line. The system reinforcement performed under this program helps to ensure reliable service and reduce the potential of customer outages that can affect many customers at once. Having a safe and reliable gas system is a major goal of both the Con Edison Gas 5-year and Long Range plans.

Additionally, the system reinforcement work under the Ossining Intermediate Pressure to High Pressure Upgrade project also mitigates the Corporate ERM risk of a Gas Distribution Event. Reinforcement of the gas system is performed to ensure that single point failures that can cause large scale customer outages are eliminated. Both improve the resiliency of the gas system during a Gas Distribution Event and would mitigate customer outages from this risk.

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

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

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

The alternative is to continue to build redundancies and additional supplies for both the Ossining IP system and separately for the Ossining HP system.

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

There will be customer outages in the event of a contingency to the existing supply main and/or regulator stations feeding the Ossining IP system.

Risk 2

Risk 3

**Non-Financial Benefits**

- N/A

This project will reduce the potential cost of customer outages due to the loss of the Intermediate Pressure supply main or malfunction of the two High Pressure to Intermediate Pressure regulator stations. Avoided potential outages will also result in improved customer satisfaction, safety and better community and regulatory relations.

This project will allow for the retirement of leak-prone mains as well as address potential climate change challenges such as flooding due to expansion of floodplains, and extreme weather events that can result in increased rainfall amounts. Plastic main along with the increase system pressure will mitigate water intrusion into the gas system.

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

*N/A*

2. Major financial benefits

This project will also eliminate the High Pressure to Intermediate Pressure regulator stations GR-486 and GR-482 once the Intermediate Pressure system is upgraded which will reduce O&M costs.

3. Total cost

*\$4,316.00*

4. Basis for estimate

Estimate is based on historical spend of similar main installation and upgrade work.

5. Conclusion



This project will retire the only remaining Intermediate Pressure gas system in the company and connect this load pocket to the adjoining High Pressure system. This will be providing additional reliability and resiliency against customer outages in this load pocket.

**Project Risks and Mitigation Plan**

Risk 1	Mitigation plan
Risk 2	Mitigation plan

**Technical Evaluation / Analysis**

Our Synergi network analysis model shows that connecting the upgraded IP system to the surrounding HP system will create a network of gas mains with redundancy that will reduce customer outages.

This project will allow for the retirement of leak-prone mains.

**Project Relationships (if applicable)**

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
Capital						
O&M						
Regulatory Asset						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital		4,316			
O&M*					
Regulatory Asset					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor		774.96			
M&S		289.65			
Contract Services		1,668.85			
Other		199.50			
Overheads		1,383.04			
<b>Total</b>		4,316			

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

Gas Operations  
2022

**1. Project / Program Summary**

Type: <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program		Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic			
Project/Program Title: Purchase Armonk High Pressure Tie			
Project/Program Manager: Jack Ng		Project/Program Number (Level 1): 10040203	
Status: <input checked="" type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
Estimated Start Date:		Estimated Date In Service:	
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: 5,296 O&M:		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:	
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:		<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>	
<b>Work Description:</b>  This project consists of the installation of 16,100 feet of 12 inch plastic between the Purchase and Armonk high pressure radial systems.			
<b>Justification Summary:</b>  The Armonk high pressure system is one of the large radial systems in Northern Westchester service territory. This system is fed from regulator station GR-484 through an 8 inch steel supply main mostly installed in 1950s and 1960s. The Purchase high pressure system is also a radial system that is solely fed by GR-498. Purchase and Armonk radial systems supply approximately 1,100 high pressure customers including several major accounts such as SUNY, Manhattanville College, Doral Arrowood, etc. The recommended tie is vital to providing back up service to these customers, GR-498, and GR-484. This alternate supply tie will prevent loss of gas service to customers, which provides essential heating in the winter time and supplies potential life sustaining equipment.			

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

The Purchase Armonk High Pressure Tie project improves the safety and reliability of the gas system by ensuring that gas customers receive adequate pressures for their gas equipment at the end of the service line. The system reinforcement performed under this program helps to ensure reliable service and reduce the potential of customer outages that can affect many customers at once. Having a safe and reliable gas system is a major goal of both the Con Edison Gas 5-year and Long-Range plans.

Additionally, the system reinforcement work under the Purchase Armonk High Pressure Tie project also mitigates the Corporate ERM risk of a Gas Distribution Event. Reinforcement of the gas system is performed to ensure that single point failures that can cause large scale customer outages are eliminated. Both will improve the resiliency of the gas system during a Gas Distribution Event and would mitigate customer outages from this risk.

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

As such, gas facilities installed under this project will also help to mitigate the potential water intrusion issue due to flooding. PE pipe is the predominant replacement piping and its ability to withstand water intrusion will greatly reduce the chance of water getting into the gas system. Additionally, the operating pressure of the mains in this project will be high pressure and high pressure will help to minimize water intrusion because the higher gas pressure will make it less likely for water to infiltrate the gas system.

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

A possible alternative to provide redundant feeds to each of these two radial systems is to extend the Transmission System into each area and build two new regulator stations. These new regulator stations will create additional sources of gas into each system and improve the resiliency of the gas system in the event the original feed is lost. However, this alternative is not preferred because it greatly extends our transmission system foot print and involves installing much more facilities (~45,000 feet of transmission main and 2 regulator stations).

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

If supply through an 8 inch main (Nanny Hagen Road and Columbus Avenue) and/or GR-498 were interrupted, the Purchase and Armonk radial systems would remain at risk of outages to 1,100 high pressure customers including large users.

Also, if the Hawthorne Station (GR-484) were forced out of service, the Armonk radial system would suffer significant outages during peak demand periods.

Risk 2

Risk 3

**Non-Financial Benefits**

This project will reduce the potential cost of customer outages due to the loss of supply or malfunction of the GR-498 feeding the Purchase radial system. Avoided potential outages will also result in improved customer satisfaction, and better community and regulatory relations.

By providing a redundant supply feed will mitigate customer loss due to loss of supply feed of the current main that may be a result of flooding caused by climate change such as extreme weather events that can result in increased rainfall amounts.

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

Currently there are residential and commercial properties along the proposed route. The tie will allow the opportunity to add these customers.

3. Total cost

4. Basis for estimate

Historical unit cost.

5. Conclusion

The installation of this main tie will improve system reliability for the Purchase and Armonk are of the High Pressure gas system by eliminating two large radial systems. This tie will also improve reliability of the gas system by allowing gas to flow form the Rye supply area to the

Armonk area supplied by northern Westchester as well as by regulator station GR-484 in Hawthorne.

**Project Risks and Mitigation Plan**

Risk 1 Mitigation plan  
Risk 2 Mitigation plan

**Technical Evaluation / Analysis**

Our Synergi network analysis model shows that the tie will not only back up the Purchase and Armonk radial systems but also will back the Hawthorne Regulator Station (GR-484) up when the average temperature is at or above 33 degrees F.

Installation of main from Purchase side will bring additional benefits, such as elimination of small radial (with nearly 50 customers) fed by Country Club Drive main and provide service to future potential customers, earlier than otherwise will have brought due to extension from Armonk side.

**Project Relationships (if applicable)**

**3. Funding Detail**

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
Capital						
O&M						
Regulatory Asset						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital	0	2,005	1,086	1,086	1,119
O&M*					
Regulatory Asset					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor		360	195	195	201
M&S		135	73	73	75
Contract Services		775	420	420	433
Other		93	50	50	52
Overheads		642	348	348	358
<b>Total</b>		2,005	1,086	1,086	1,119

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations**  
**2022**

# 1. Project / Program Summary

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
<b>Project/Program Title:</b> Rehabilitation of the Gas Supply Main to City Island	
<b>Project/Program Manager:</b> Stephen Sweeney	<b>Project/Program Number (Level 1):</b> 24611875/22229386
<b>Status:</b> <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> 3/1/2022	<b>Estimated Date In Service:</b> 12/31/2023
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$12,567 O&M: 0	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b> The purpose of this project is to ensure a reliable supply of gas to all customers on City Island. A new 8” subaqueous main will be installed in a 16” sleeve that will be installed using horizontal directional drilling (HDD).	
<b>Justification Summary:</b> The subaqueous gas main that supplied City Island since the 1950’s has exhibited declining reliability through its leak history and due to a portion of the main lying above the sediment layer. City Island has a main on the bridge that is not authorized for continuous use and is currently the only alternative to reach the subaqueous main. A new 8” subaqueous main will be installed within a 16” sleeve using a HDD. Suitable locations for the entry and exit pits have been identified, although the City Island-side location is dependent on the Department of Transportation (DOT) taking action to correct the unauthorized use of the site by a private contractor. This lack of access has contributed greatly to overall permit delays that have delayed the project’s completion.	
<b>Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)</b> The replacement of the primary City Island main carries with it a considerable enhancement from a reliability standpoint while also benefiting the area in a number of other ways. The new	



main will enable the retirement of the existing and leak prone subaqueous main. This elimination of pervading leaks will reduce the emission of methane gas from this part of the system. This reduction in methane emissions is a critical step in combatting climate change given the characteristics of methane in the atmosphere. A silt fence will be installed for all excavations near the water to protect water quality.

The planned route of the new main is within the bedrock, and this will eliminate the potential of the public interacting with the main as they can now (e.g. risk damaging it with a boat's anchor), enhancing public safety. The manner of installation of using the sleeve to encase the main portends for the main's useful service life extending indefinitely.

## 2. Supplemental Information

### Alternatives

#### Alternative 1 description and reason for rejection

Maintaining service through the existing subaqueous main is untenable due to the material condition and where it is spatially situated in the waterway. The alternative would be using the gas main on the bridge to supply the island and its nearly 2,000 customers. This option was rejected due to the views expressed by the city and the lack of redundancy to the gas supply such an option would confer.

#### Alternative 2 description and reason for rejection

#### Alternative 3 description and reason for rejection

### Risk of No Action

#### Risk 1

The nearly 2,000 gas customers on City Island could lose service in the event of a major leak or damage to the current supply main.

#### Risk 2

N/A

#### Risk 3

N/A

### Non-Financial Benefits

The new gas main will improve the reliability of the supply to City Island while also removing the risk of the unsightly appearance of bubbles emanating from beneath the surface of the water from leaks that have previously concerned members of the public.

The new main will also eliminate the need for repairs on the existing main, that would inevitably disturb the benthic environment in the surrounding area, increasing system resilience.

### **Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

2. Major financial benefits

The major benefit is ensuring gas supply to paying customers while eliminating potentially costly repairs to the existing subaqueous main.

3. Total cost

The total expected cost of the project is \$26,970,000

4. Basis for estimate

The estimate was created based on a review of the contract drawings, specifications, and a comparable adjacent city project. The cost estimate did not include the cost for any easements.

5. Conclusion

The project is necessary. There are no feasible alternatives, and the proposed method conveys benefits to the environment while also providing a more reliable and safer gas supply to City Island.

### **Project Risks and Mitigation Plan**

Risk 1

Permit delays impact the planned start

Mitigation plan

Engage with the DOT Commissioner for the Bronx continuously to maintain an open discussion on the plans and the status of approval.

Risk 2

Problems encountered during the drilling (e.g. variance from planned route or a stuck drill rig)

Mitigation plan

The company awarded the HDD contract is expected to implement contingency plans should the job conditions dictate.

### **Technical Evaluation / Analysis**

Detailed engineering and analysis of documents created by federal, state, and local authorities on the area were performed to determine the best solution.

**Project Relationships (if applicable)**

None

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
<b>Capital</b>	\$3,690	\$86	\$804	\$13		\$474
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$6,850	\$650	\$0	\$0	\$0
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$162	\$6			
M&S	\$175				
Contract Services	\$3,624	\$426			
Other	\$833	\$23			
Overheads	\$2,055	\$195			
<b>Total</b>	\$6,850	\$650			

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					

<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

## **2. TRANSMISSION PROGRAMS AND PROJECTS**

TRANSMISSION RISK REDUCTION AND RELIABILITY PROJECTS:

**Gas Operations**  
**2022**

**1. Project / Program Summary**

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program		<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
<b>Work Plan Category:</b> <input checked="" type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic			
<b>Project/Program Title:</b> Westchester/Bronx Border to White Plains			
<b>Project/Program Manager:</b> John Powers		<b>Project/Program Number (Level 1):</b> 10039582	
<b>Status:</b> <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input checked="" type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
<b>Estimated Start Date:</b> 2017		<b>Estimated Date In Service:</b> 2026	
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$263,705 O&M:		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:	
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:		<b>D. <u>Investment Payback Period:</u></b> <b><u>(Years/months) (If applicable)</u></b>	
<b>Work Description:</b>  This is a multi-year project to install approximately ten miles of 36-inch distribution main operating above 125 pounds per square inch gauge (psig), to replace the existing 1948, 24-inch transmission main from the Westchester/Bronx Border to White Plains (section W-2). The 36-inch main will connect to the already in progress Bronx River Tunnel to Bronx Border 36-inch main (section X-3) and the planned replacement of the 24-inch main located in the Bronx River Tunnel in the south, thereby connecting directly to the Hunts Point 350 psig system. The scope of work will require the installation of valves as required by NYCRR Part 255. A number of the valves installed would be remotely operated valves (ROVs) as required to meet the Con Edison Design Criteria. The installation will also require the replacement or reconnection of supply to thirteen existing regulators, which would utilize straddle connections.			
<b>Justification Summary:</b>  The replacement of the 24-inch, 245 psig Maximum Allowable Operating Pressure (MAOP) transmission pipe is required to comply with PHMSA's Pipeline Safety rule, effective July 1, 2020. PHMSA revised the Federal Pipeline Safety Regulations to improve the safety of onshore gas transmission pipelines. Recently, the NY State Public Service Commission (PSC) also			

adopted these rules. The rules require an Operator to have traceable, verifiable, and complete records necessary to establish the MAOP, per 192.619(a) including records for a hydrostatic pressure test in accordance with 192.517(a). If records are not available to comply with the rule, PHMSA provided six (6) methods to reconfirm the MAOP of a main. Method 4, Pipe Replacement is the only feasible method that will provide for continual safe delivery of natural gas to the firm gas customers.

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

This replacement will provide many significant enhancements:

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

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

The Pipeline and Hazardous Materials Safety Administration (PHMSA) finalized the Safety of Gas Transmission and Gathering Pipelines rulemaking. A final rule was recently published, indicating pending changes to integrity management requirements, verification of maximum allowable operating pressure (MAOP), records for material verification, repair criteria and the expansion of integrity management beyond high consequence areas. These changes impact Con Edison's Gas assets. Replacement of approximately 35 miles of existing transmission pipelines

will be required to meet this standard and reduce system risk and is a major goal in the Con Edison's Long-Range Plan.

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

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

## 2. Supplemental Information

### Alternatives

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

- Method 1 - Pressure test: The pressure test method also requires the verification of material property records. This method requires the section of main to be removed from service and regulator stations isolated so that a hydrostatic pressure test can be performed. If successful, the section then needs to be dewatered and reconnected to the system. All water removed from the gas main must be treated as hazardous waste contaminated with benzene. If the pressure test is unsuccessful, extensive investigation would need to be conducted to identify the source of the anomaly. Any liquid that is leaked into the environment will be required to be remediated. This entire process is time consuming and can only be conducted during warmer temperatures which would prevent the series of projects to be completed in the required timeframe. If the anomaly cannot be identified and/or repaired, the section of main will need to be replaced.
- Method 2 – Pressure Reduction: This method requires derating the pipeline so that the new MAOP is less than the historical actual sustained operating pressure by using a pressure test safety factor of 0.67 times the sustained operating pressure. This method is not feasible due to the fact that Con Edison's 350 psig transmission system supplies National Grid's 350 psig transmission system. In addition, the decreased MAOP would be insufficient to maintain adequate gas pressure to safely supply natural gas to the firm gas customer.



- Method 3 – Engineering Critical Assessment: This method requires the use of a smart pig and an engineering critical assessment to establish a safety margin equivalent to that provided by a pressure test. It is an analytical process utilizing fracture mechanics principles to determine if a pipeline is structurally sound enough to meet the service requirements for a specific period of time. Con Edison’s transmission mains are not piggable and would need to be retrofitted to be able to accommodate a smart pig. In addition, the level of specific data and conservative assumptions required to perform a rigorous engineering assessment that assesses the criticality of the anomaly and adjusts the projected growth rates based on site specific parameters cannot be obtained.
- Method 4 – Pipe Replacement: Replacement of the transmission main which would require a new hydrostatic pressure test and all pertinent material and testing records. This method has been selected.
- Method 5 – Pressure reduction for pipeline segments with small potential impact radii. Con Edison’s gas transmission system does not have a potential impact radius of less than 150 feet and therefore this method cannot be used employed.
- Method 6 – Alternative Technology: An alternative technology that provides an equivalent or greater level of safety cannot be identified at this time.

**Risk of No Action**

No action will result in the Company not meeting the requirements of the PHMSA and NY PSC rules.

**Non-Financial Benefits**

The gas main replacement project is required to meet the PHMSA and NY PSC rules.

**Summary of Financial Benefits and Costs (attach backup)**

N/A

**Project Risks and Mitigation Plan**

N/A

**Technical Evaluation / Analysis**

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

**Project Relationships (if applicable)**

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

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
<b>Capital</b>	19,912	29,896	7,782	1,197		25,477
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$24,500	\$42,173	\$37,217	\$37,217	\$38,334
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$1,348	\$2,319	\$2,047	\$2,047	\$2,108
M&S	\$3,011	\$5,183	\$4,574	\$4,574	\$4,711
Contract Services	\$15,925	\$27,412	\$24,191	\$24,191	\$24,917
Other	\$162	\$278	\$246	\$246	\$253
Overheads	\$4,045	\$6,963	\$6,145	\$6,145	\$6,329
<b>Total</b>	\$24,500	\$42,173	\$37,217	\$37,217	\$38,334

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

Gas Operations  
2022

**1. Project / Program Summary**

Type: <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input checked="" type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
Project/Program Title: TG - Bronx River Tunnel to Bronx-Westchester Border	
Project/Program Manager: John Powers	Project/Program Number (Level 1): 21002824
Status: <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input checked="" type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: 2017	Estimated Date In Service: 2026
A. <u>Total Funding Request (\$000)</u> Capital: \$297,415 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:	D. <u>Investment Payback Period:</u> <u>(Years/months) (If applicable)</u>
<p><b>Work Description:</b> This is a multi-year project to install approximately seven miles of 36-inch distribution main operating above 125 pounds per square inch gauge (“psig”), to replace the existing 1948, 24-inch, transmission main from the Bronx River Tunnel to the Bronx Westchester Border (section X-3). The 36-inch main will connect to the already in progress Bronx Border to White Plains 36-inch main (section W-8) in the north and the planned replacement of the 24-inch main located in the Bronx River Tunnel in the south, thereby connecting directly to the Hunts Point 350 psig system. Additionally, the existing 24-inch and 20-inch gas transmission mains will be downgraded to distribution pressure. This project will utilize gas supplied from the new 36-inch main and integrate the downgraded 24-inch and 20-inch mains into the distribution system. The following are the reinforcement projects that are required for this initiative:</p> <p><u>Upper Downgrade</u></p> <ul style="list-style-type: none"> <li>• Install 100 feet of 12-inch high pressure gas main to bypass regulator station GR-182</li> <li>• Install 125 feet of 12-inch high pressure gas main to bypass regulator station GR-117</li> <li>• Install 75 feet of 12-inch high pressure gas main to bypass regulator station GR-148</li> <li>• Install 25 feet of 12-inch high pressure gas main to bypass regulator station GR-192</li> <li>• Install 25 feet of 12-inch high pressure gas main to bypass existing regulator station GR-110</li> <li>• Install 1,000 feet of 20-inch high pressure gas main to connect the existing 24-inch transmission gas main at South 11th Ave. and West 5th St. to the existing 20-inch</li> </ul>	

transmission gas main at South 7th Ave. and West 5th St. Tie into the existing 20-inch high pressure gas main at South 7th Ave. and West 5th St.

- Install new transmission to high pressure regulator station GR-707 and straddle. Install 3,750 feet of 20-inch high pressure gas main to connect new regulator station GR-707 to the downgraded 24-inch transmission gas main. Tie into the downgraded 24-inch transmission gas main must be at the intersection of Bronxwood Ave and Bussing Ave.
- Install new transmission to high pressure regulator station GR-711 and straddle. Install 1,500 feet of 16-inch high pressure gas main to connect new regulator station GR-711 to downgraded 24-inch transmission gas main at East 222nd St. and Bronxwood Ave, and also to existing 16-inch high pressure gas main at East 222nd St. and Paulding Ave.
- Install 25 feet of 16-inch high pressure gas main at Boston Rd. and East 222nd St. to tie downgraded 20-inch transmission gas main to existing 16-inch high pressure gas main.
- Install 1,500 feet of 16-inch high pressure gas main on Burke Ave. to connect the downgraded 24-inch transmission gas main on Bronxwood Ave. to the downgraded 20-inch transmission gas main on Boston Rd.
- Install 3,750 feet of 16-inch transmission gas main between the new 36-inch transmission gas main at Tilden St. and Bronxwood Ave. and the regulator station GR-110 at Webster Ave. and East Gunhill Rd. Install a ROV straddle at the intersection of Tilden St and Bronxwood Ave.
- Install 100 feet of 24-inch transmission gas main between the new 36-inch transmission gas main and the existing 24-inch transmission gas main at the intersection of Bronxwood Ave and Adee Ave. This tie will be removed when the Lower Loop is downgraded.
- Install 900 feet of HP PE gas main, 12-inch, to connect 8-inch HP PE gas main on Provost Ave N/O East 223 St in the Bronx and the 4-inch HP PE gas main on Dock St E/O South 3rd Ave in Westchester.
- Install 25 feet of 12-inch HP PE gas main on East 222nd St to tie existing 16-inch HP ST gas main to existing 12-inch TP ST gas main.
- Install 75 feet of 12-inch HP PE gas main to tie existing 12-inch HP PE gas main at East 234th Street and Bussing Ave and existing 24-inch TP ST gas main at Bronxwood Ave and Bussing Ave.
- Cut and cap the 24-inch transmission gas main north of Bronxwood Ave. and Adee Ave. This connection will be restored when the Lower Loop is downgraded.
- Cut and cap the 20-inch transmission gas main north of Boston Rd. and Adee Ave. This connection will be restored when the Lower Loop is downgraded.
- Cut and cap the existing 24-inch transmission gas main that ties transmission main section W-8 to section X-3 at West 5th St. and South 11th Ave. Perform a full cut-out of the 36-inch transmission main tee and replace with straight pipe.
- Cut and cap the existing 20-inch transmission gas main that ties transmission main section W-8 to section W-1 at South 7th Ave. and West 4th St. Perform a full cut-out of the 36-inch transmission main tee and replace with straight pipe.
- Cut and cap the existing 20-inch transmission gas main at West 5th St. and South 7th Ave. Abandon the 20-inch transmission gas main between West 5th St and West 4th St.

- Bypass L1 Stage of regulator station GR-149 with 160 feet of 12-inch high pressure
- Abandon L1 manhole of regulator station GR-703 and replace regulator piping with 12-inch high pressure gas main
- Bypass L1 Stage of regulator station GR-153 with 75 feet of 12-inch high pressure
- Bypass L1 Stage of regulator station GR-141 with 25 feet of 12-inch high pressure
- Bypass L1 Stage of regulator station GR-108 with 75 feet of 12-inch high pressure

Lower Downgrade

- Install 25 feet of 12-inch high pressure gas main to bypass regulator station GR-126
- Install 25 feet of 12-inch high pressure gas main to bypass regulator station GR-106
- Install 25 feet of 16-inch high pressure gas main to bypass regulator station GR-124
- Install 75 feet of 12-inch high pressure gas main to bypass regulator station GR-104
- Install 150 feet of 12-inch high pressure gas main to bypass regulator station GR-195
- Install 25 feet of 12-inch high pressure gas main to bypass regulator station GR-197
- Install 25 feet of 12-inch high pressure gas main to bypass regulator station GR-114
- Install 150 feet of 12-inch high pressure gas main to bypass regulator station GR-112
- Install 25 feet of 12-inch high pressure gas main to bypass regulator station GR-102, if regulator station GR-102 has been upgraded to high pressure
- Install 150 feet of 12-inch high pressure gas main to bypass regulator station GR-101, if regulator station GR-101 has been upgraded to high pressure
- Install new TP to HP regulator station GR-712 and ROV straddle at Mulner Ave and Bronxdale Ave. Install 1,250 feet of 16-inch HP gas main to connect new regulator station GR-712 to existing 24-inch TP gas main at Bronxdale Ave and Niell Ave.
- Install new TP to HP regulator station GR-713 and ROV straddle at Pierce Ave and Bronxdale Ave. Install 100 feet of 16-inch HP gas main to connect new regulator station GR-713 to existing 20-inch TP gas main at Pierce Ave and Bronxdale Ave.
- Install 500 feet of 12-inch HP gas main from the existing 12-inch HP PE gas main on Morris Park Ave and East 180th St to GR-185. Transfer GR-185 from existing 6-inch TP gas main to new 12-inch HP gas main.
- Install 600 feet of 12-inch TP gas main to transfer existing TP to HP regulator GR-709 from existing 24-inch TP gas main to new 36-inch TP gas main. Install 500 feet of TP gas main to transfer existing 6-inch TP gas main
- Re-connect previously cut and capped 24-inch TP gas main with a new 24-inch HP tie
- Re-connect previously cut and capped 20-inch TP gas main with a new 20-inch HP tie
- Install 25 feet of 12-inch HP gas main to bypass GR-109
- Install new 36-inch ROV East of the eastern Bronx River Tunnel head house
- Cut and cap temporary tie that connects new 36-inch TP gas main to existing 24-inch TP gas main
- Cut and cap existing 6-inch TP gas main to complete swing over to new 36-inch TP gas main
- Convert GR-199 to a transmission-to-high regulator station
- Bypass L1 Stage of GR-122 with 75 feet of 12-inch HP
- Bypass L1 Stage of GR-131 with 125 feet of 12-inch HP
- Bypass L1 Stage of GR-107 with 50 feet of 12-inch HP
- Bypass L1 Stage of GR-191 with 50 feet of 12-inch HP

- Bypass L1 Stage of GR-100 with 50 feet of 12-inch HP

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

**Justification Summary:**

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

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

This replacement will provide many significant enhancements:

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

### **Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

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

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

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

## **2. Supplemental Information**

### **Alternatives**

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

- Method 1 - Pressure test: The pressure test method also requires the verification of material property records. This method requires the section of main to be removed from service and regulator stations isolated so that a hydrostatic pressure test can be performed. If successful, the section then needs to be dewatered and reconnected to the system. All water removed from the gas main must be treated as hazardous waste contaminated with benzene. If the pressure test is unsuccessful, extensive investigation would need to be conducted to identify the source of the anomaly. Any liquid that is leaked into the environment will be required to be remediated. This entire process is time consuming and can only be conducted during warmer temperatures which would prevent the series of projects to be completed in the required timeframe. If the



anomaly cannot be identified and/or repaired, the section of main will need to be replaced.

- Method 2 – Pressure Reduction: This method requires derating the pipeline so that the new MAOP is less than the historical actual sustained operating pressure by using a pressure test safety factor of 0.67 times the sustained operating pressure. This method is not feasible due to the fact that Con Edison’s 350 psig transmission system supplies National Grid’s 350 psig transmission system. In addition, the decreased MAOP would be insufficient to maintain adequate gas pressure to safely supply natural gas to the firm gas customer.
- Method 3 – Engineering Critical Assessment: This method requires the use of a smart pig and an engineering critical assessment to establish a safety margin equivalent to that provided by a pressure test. It is an analytical process utilizing fracture mechanics principles to determine if a pipeline is structurally sound enough to meet the service requirements for a specific period of time. Con Edison’s transmission mains are not piggable and would need to be retrofitted to be able to accommodate a smart pig. In addition, the level of specific data and conservative assumptions required to perform a rigorous engineering assessment that assesses the criticality of the anomaly and adjusts the projected growth rates based on site specific parameters cannot be obtained.
- Method 4 – Pipe Replacement: Replacement of the transmission main which would require a new hydrostatic pressure test and all pertinent material and testing records. This method has been selected.
- Method 5 – Pressure reduction for pipeline segments with small potential impact radii. Con Edison’s gas transmission system does not have a potential impact radius of less than 150 feet and therefore this method cannot be used employed.
- Method 6 – Alternative Technology: An alternative technology that provides an equivalent or greater level of safety cannot be identified at this time.

**Risk of No Action**

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

**Non-Financial Benefits**

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

**Summary of Financial Benefits and Costs (attach backup)**

N/A

**Project Risks and Mitigation Plan**

N/A

**Technical Evaluation / Analysis**

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

**Project Relationships (if applicable)**

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

### 3. Funding Detail

#### Historical Spend

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
Capital	\$16,085	\$23,874	\$30,992	\$39,197		\$20,868
O&M						
Regulatory Asset						

#### Total Request (\$000):

#### Total Request by Year:

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital	\$24,470	\$37,602	\$34,142	\$33,200	\$36,985
O&M*					
Regulatory Asset					

#### Capital/Regulatory Asset Request by Elements of Expense:

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$1,356	\$2,083	\$1,885	\$1,839	\$2,049
M&S	\$3,007	\$4,621	\$4,196	\$4,080	\$4,545
Contract Services	\$15,905	\$24,441	\$22,192	\$21,580	\$24,040
Other	\$162	\$248	\$225	\$219	\$244
Overheads	\$4,040	\$6,208	\$5,637	\$5,481	\$6,106
<b>Total</b>	\$24,470	\$37,602	\$34,142	\$33,200	\$36,985

#### Total Gross Cost Savings / Avoidance by Year:

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

#### Total Ongoing Maintenance Expense by Year:

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M					

Capital					
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\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations  
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**1. Project / Program Summary**

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program		<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
<b>Work Plan Category:</b> <input checked="" type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic			
<b>Project/Program Title:</b> 36” Gas Main Installation – Noble Avenue under the Cross Bronx Expressway (as part of TG – Bronx River Tunnel to Bronx-Westchester Border)			
<b>Project/Program Manager:</b> Omar Nokaly		<b>Project/Program Number (Level 1):</b> 25489422	
<b>Status:</b> <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
<b>Estimated Start Date:</b> July 2022		<b>Estimated Date In Service:</b> December 2024	
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$30,000 O&M:		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:	
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:		<b>D. <u>Investment Payback Period:</u></b> <b><u>(Years/months) (If applicable)</u></b>	
<b>Work Description:</b> This is project to micro-tunnel and install approximately 500 feet of 36-inch gas distribution main operating above 125 pounds per square inch gauge (“psig”) and 54-inch casing pipe underneath the Cross Bronx Expressway at Noble Avenue. This project is part of a multi-year program to install approximately seven miles of 36-inch gas distribution main operating above 125 psig throughout Bronx County.  The overall multi-year program will replace the existing 1948, 24-inch, 245 psig transmission main from the Bronx River Tunnel to the Bronx Westchester Border (section X-3) with a new 36-inch main. The 36-inch main will connect to the already in progress Bronx Border to White Plains 36-inch, 350 psig main (section W-8) in the north and the planned replacement of the 24-inch main located in the Bronx River Tunnel in the south, thereby connecting directly to the Hunts Point 350 psig system. Additionally, the existing 24-inch and 20-inch gas transmission mains will be downgraded to distribution pressure. This project will utilize gas supplied from the new 36-inch main and integrate the downgraded 24-inch and 20-inch mains into the distribution system. This project at the Cross Bronx Expressway Crossing will allow for the continuation of this overall program.			
<b>Justification Summary:</b> This project segment allows for the continuous installation of the overall seven-mile total footage of 36-inch gas main for approximately 500 feet underneath an interstate highway.			

The installation of the 36-inch, 350 psig Maximum Allowable Operating Pressure (MAOP) pipe is required to comply with PHMSA's Pipeline Safety rule, effective January 1, 2021. PHMSA revised the Federal Pipeline Safety Regulations to improve the safety of onshore gas transmission pipelines. The rule requires an Operator to have traceable, verifiable, and complete records necessary to establish the MAOP, per 192.619(a) including records for a hydrostatic pressure test in accordance with 192.517(a). If records are not available to comply with the rule, PHMSA provided six (6) methods to reconfirm the MAOP of a main. Method 4, Pipe Replacement is the only feasible method that will provide for continual safe delivery of natural gas to the firm gas customers, of Con Edison. New York State recently incorporated these changes into the New York State Gas Safety Regulations, 16 NYCRR 255.

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

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

Con Edison recognizes that climate is changing. Con Edison's selection to micro-tunnel a shorter route under a major highway will minimize the construction footprint and time required for fabrication (instead of open cutting resulting in massive traffic delays with unfavorable permit stipulations extending the schedule considerably). The benefits will reduce the carbon footprint of mechanized equipment and motor vehicles while also reducing the need for additional natural and fabricated resources (i.e., steel pipe).

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

Extending the construction route by approximately 10,000 feet to avoid crossing underneath a major highway. This option is rejected since it adds significant construction costs, resources and carbon footprint to accommodate the longer pipe route. A longer pipe route also increases the risk that the pipe may be damaged via contractor or subsurface damages and requires additional corrosion control maintenance.

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

<p><b>Risk of No Action</b></p> <p><u>Risk 1</u></p> <p>The installation of the 36-inch, 350 psig Maximum Allowable Operating Pressure (MAOP) pipe is required to comply with PHMSA’s Pipeline Safety rule, effective January 1, 2021. PHMSA revised the Federal Pipeline Safety Regulations to improve the safety of onshore gas transmission pipelines. Risk of no action would cause the Company to be in non-compliance with PHMSA’s Pipeline Safety rule and put the public at substantial risk.</p> <p><u>Risk 2</u></p> <p><u>Risk 3</u></p>
<p><b>Non-Financial Benefits</b></p> <p>This program increases pipeline capacity throughout Con Edison’s system while complying with PHMSA’s Pipeline Safety rule. As an added benefit, operating and maintenance costs will be reduced since the pipe is constructed of higher grade materials and improved cathodic protection methods than the existing pipeline.</p>
<p><b>Summary of Financial Benefits and Costs (attach backup)</b></p> <p>Not Applicable</p>
<p><b>Project Risks and Mitigation Plan</b></p> <p>Not Applicable</p>
<p><b>Technical Evaluation / Analysis</b></p> <p>Synergi Gas software was utilized to perform hydraulic analysis to evaluate the feasibility of utilizing the other MAOP reconfirmation methods. The analysis concludes that continuous gas delivery can only be achieved by gas main replacement and subsequent downgrading of the existing main.</p>
<p><b>Project Relationships (if applicable)</b></p> <p>This project is necessary in conjunction with a series of projects that total approximately 35 miles. The series of projects must be completed in accordance with PHMSA’s schedule where 50% of the pipeline mileage is completed by January 3, 2028 and 100% of the pipeline mileage is completed by January 2, 2036 or as soon as practical.</p>

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
Capital						
O&M						
Regulatory Asset						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital	\$10,000	\$10,000	\$10,000		
O&M*					
Regulatory Asset					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$550	\$550	\$550		
M&S	\$1,229	\$1,229	\$1,229		
Contract Services	\$6,500	\$6,500	\$6,500		
Other	\$66	\$66	\$66		
Overheads	\$1,651	\$1,651	\$1,651		
<b>Total</b>	<b>\$10,000</b>	<b>\$10,000</b>	<b>\$10,000</b>		

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M					
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program



**Gas Operations  
2022**

# 1. Project / Program Summary

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input checked="" type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
<b>Project/Program Title:</b> 36" Gas Main Installation – 78 <sup>th</sup> Street under the Grand Central Parkway (as part of the Queens Transmission Upgrade Program)	
<b>Project/Program Manager:</b> Russel Grogan	<b>Project/Program Number (Level 1):</b> 25487897
<b>Status:</b> <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> July 2022	<b>Estimated Date In Service:</b> December 2024
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$30,000 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b> <p>This is a project to micro-tunnel and install approximately 300 feet of 36-inch gas distribution main operating above 125 pounds per square inch gauge (“psig”) and 54-inch casing pipe underneath the Grand Central Parkway at 78<sup>th</sup> Street. This project is part of a multi-year program to install approximately 12.2 miles of 36-inch, distribution main operating above 125 psig throughout Queens.</p> <p>The overall multi-year program will replace the existing 20-inch transmission main in Astoria, Elmhurst, Flushing and Bayside areas (segments Q-3 and Q-4) of Queens, with a new 36-inch main. In addition, this program encompasses the replacement of the transmission main that crosses the Grand Central Parkway (which this white paper covers), Grand Central Parkway at 114<sup>th</sup> St, Clearview Expressway, Cross Island Parkway and Alley Pond Creek. This project at the Grand Central Parkway Crossing will allow for the continuation of this overall program.</p>	
<b>Justification Summary:</b> <p>This project segment allows for the continuous installation of the overall 12.2 mile total footage of 36-inch gas main for approximately 300 feet underneath a heavily travelled Parkway.</p> <p>The installation of the 36-inch, 350 psig Maximum Allowable Operating Pressure (MAOP) pipe is required to comply with PHMSA’s Pipeline Safety rule, effective January 1, 2021. PHMSA revised the Federal Pipeline Safety Regulations to improve the safety of onshore gas</p>	

transmission pipelines. The rule requires an Operator to have traceable, verifiable, and complete records necessary to establish the MAOP, per 192.619(a) including records for a hydrostatic pressure test in accordance with 192.517(a). If records are not available to comply with the rule, PHMSA provided six (6) methods to reconfirm the MAOP of a main. Method 4, Pipe Replacement is the only feasible method that will provide for continual safe delivery of natural gas to the firm gas customers of Con Edison. Additionally, New York State recently incorporated these changes into the New York State Gas Safety Regulations, 16 NYCRR 255.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

Con Edison recognizes that climate is changing. Con Edison's selection to micro-tunnel a shorter route under a major Parkway will minimize the construction footprint and time required for fabrication (instead of open cutting resulting in massive traffic delays with unfavorable permit stipulations extending the schedule considerably). The benefits will reduce the carbon footprint of mechanized equipment and motor vehicles while also reducing the need for additional natural and fabricated resources (i.e. steel pipe).

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

Extending the construction route by several thousand feet to avoid crossing underneath a major Parkway, while manifolding the 36" main into five 16" mains to cross on the underside of at the nearest overpass. This option is rejected since it adds significant construction costs, resources and carbon footprint to accommodate the longer pipe route with the high uncertainty of not being able to fit all five 16" mains on the overpass. A longer pipe route also increases the risk that the pipe may be damaged via contractor or subsurface damages and requires additional corrosion control maintenance.

**Risk of No Action**

The installation of the 36-inch, 350 psig Maximum Allowable Operating Pressure (MAOP) pipe is required to comply with PHMSA's Pipeline Safety rule, effective January 1, 2021. PHMSA revised the Federal Pipeline Safety Regulations to improve the safety of onshore gas transmission pipelines. Risk of no action would cause the Company to be in non-compliance with PHMSA's Pipeline Safety rule and put the public at substantial risk.

**Non-Financial Benefits**

This program increases pipeline capacity throughout Con Edison's system while complying with PHMSA's Pipeline Safety rule. As an added benefit, operating and maintenance costs will be reduced since the pipe is constructed of higher-grade materials and improved cathodic protection methods than the existing pipeline.

**Summary of Financial Benefits and Costs (attach backup)**

Not Applicable
<b>Project Risks and Mitigation Plan</b>
Not Applicable
<b>Technical Evaluation / Analysis</b>
Synergi Gas software was utilized to perform hydraulic analysis to evaluate the feasibility of utilizing the other MAOP reconfirmation methods. The analysis concludes that continuous gas delivery can only be achieved by gas main replacement and subsequent downgrading of the existing main.
<b>Project Relationships (if applicable)</b>
This project is necessary in conjunction with a series of projects that total approximately 35 miles. The series of projects must be completed in accordance with PHMSA’s schedule where 50% of the pipeline mileage is completed by July 3, 2028 and 100% of the pipeline mileage is completed by January 2, 2035 or as soon as practical.

### 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 202-</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
Capital						
O&M						
Regulatory Asset						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital	\$10,000	\$10,000	\$10,000		
O&M*					
Regulatory Asset					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$550	\$550	\$550		
M&S	\$1,229	\$1,229	\$1,229		
Contract Services	\$6,500	\$6,500	\$6,500		
Other	\$66	\$66	\$66		
Overheads	\$1,651	\$1,651	\$1,651		
<b>Total</b>	\$10,000	\$10,000	\$10,000		

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M					
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations**  
**2022**

# 1. Project / Program Summary

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input checked="" type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
<b>Project/Program Title:</b> Queens Transmission Upgrade	
<b>Project/Program Manager:</b> John Powers	<b>Project/Program Number (Level 1):</b> 23864900
<b>Status:</b> <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> 2022	<b>Estimated Date In Service:</b> 2026
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$43,712 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <b><u>(Years/months) (If applicable)</u></b>
<b>Work Description:</b> The scope of work is the installation of approximately four miles of 36-inch distribution main operating above 125 pounds per square inch gauge (“psig”) that will replace the existing 24-inch, transmission main, in Astoria and Long Island City, Queens (section Q-2). The scope of work will require the installation of valves as required by the NYCRR Part 255. A number of the valves installed would be remotely operated valves (ROVs) as required to meet the Con Edison Design Criteria. The installation will also require the reconnection of supply to the existing National Grid interconnect at Newtown Creek in the first Ward of Queens (as per the New York Facilities agreement) and four existing regulators, which would utilize straddle connections.	
<b>Justification Summary:</b> The replacement of the 24-inch, 350 psig Maximum Allowable Operating Pressure (MAOP) transmission pipe is required to comply with Pipeline and Hazardous Materials Safety Administration’s (“PHMSA”) Pipeline Safety rule, effective July 1, 2020. PHMSA revised the Federal Pipeline Safety Regulations to improve the safety of onshore gas transmission pipelines. Recently, the NY State Public Service Commission (PSC) incorporated these requirements in to 16 NYCRR 255. The rules require an Operator to have traceable, verifiable and complete records necessary to establish the MAOP, per 192.619(a) including records for a hydrostatic pressure test in accordance with 192.517(a). If records are not available to comply with the rule, PHMSA provided six methods to reconfirm the MAOP of a main. Method 4, Pipe Replacement is the	

only feasible method for Con Edison that will provide for continual safe delivery of natural gas to the firm gas customers.

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

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

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

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

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

## 2. Supplemental Information

**Alternatives**

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

- Method 1 - Pressure test: The pressure test method also requires the verification of material property records. This method requires the section of main to be removed from service and regulator stations isolated so that a hydrostatic pressure test can be performed. If successful, the section then needs to be dewatered and reconnected to the system. All water removed from the gas main must be treated as hazardous waste contaminated with benzene. If the pressure test is unsuccessful, extensive investigation would need to be conducted to identify the source of the anomaly. Any liquid that is leaked into the environment will be required to be remediated. This entire process is

time consuming and can only be conducted during warmer temperatures which would prevent the series of projects to be completed in the required timeframe. If the anomaly cannot be identified and/or repaired, the section of main will need to be replaced.

- **Method 2 – Pressure Reduction:** This method requires derating the pipeline so that the new MAOP is less than the historical actual sustained operating pressure by using a pressure test safety factor of 0.67 times the sustained operating pressure. This method is not feasible due to the fact that Con Edison’s 350 psig transmission system supplies National Grid’s 350 psig transmission system. In addition, the decreased MAOP would be insufficient to maintain adequate gas pressure to safely supply natural gas to the firm gas customer.
- **Method 3 – Engineering Critical Assessment:** This method requires the use of a smart pig and an engineering critical assessment to establish a safety margin equivalent to that provided by a pressure test. It is an analytical process utilizing fracture mechanics principles to determine if a pipeline is structurally sound enough to meet the service requirements for a specific period of time. Con Edison’s transmission mains are not piggable and would need to be retrofitted to be able to accommodate a smart pig. In addition, the level of specific data and conservative assumptions required to perform a rigorous engineering assessment that assesses the criticality of the anomaly and adjusts the projected growth rates based on site specific parameters cannot be obtained.
- **Method 4 – Pipe Replacement:** Replacement of the transmission main which would require a new hydrostatic pressure test and all pertinent material and testing records. This method has been selected.
- **Method 5 – Pressure reduction for pipeline segments with small potential impact radii.** Con Edison’s gas transmission system does not have a potential impact radius of less than 150 feet and therefore this method cannot be used employed.
- **Method 6 – Alternative Technology:** An alternative technology that provides an equivalent or greater level of safety cannot be identified at this time.

**Risk of No Action**

No action will result in the Company not meeting the requirements of the PHMSA and NYS PSC rules.

**Non-Financial Benefits**

The gas main replacement project is required to meet the PHMSA and NYS PSC rules.

**Summary of Financial Benefits and Costs (attach backup)**

N/A

**Project Risks and Mitigation Plan**

N/A

**Technical Evaluation / Analysis**

Synergi Gas software was utilized to perform hydraulic analysis to evaluate the feasibility of utilizing the other MAOP reconfirmation methods. The analysis concludes that continuous gas

delivery can only be achieved by gas main replacement and subsequent downgrading of the existing main.

**Project Relationships (if applicable)**

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

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>						
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$1,425		\$13,957	\$13,957	\$14,375
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor			\$769	\$769	\$792
M&S			\$1,717	\$1,717	\$1,768
Contract Services	\$1,425		\$9,072	\$9,072	\$9,344
Other			\$93	\$93	\$96
Overheads			\$2,306	\$2,306	\$2,375
<b>Total</b>	<b>\$1,425</b>		<b>\$13,957</b>	<b>\$13,957</b>	<b>\$14,375</b>

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					



**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations  
2022**

## 1. Project / Program Summary

<b>Type:</b> <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
<b>Project/Program Title:</b> Remotely Operated Valves (ROVs)	
<b>Project/Program Manager:</b> John Powers	<b>Project/Program Number (Level 1):</b> 10039586
<b>Status:</b> <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> 2022	<b>Estimated Date In Service:</b> 2026
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$15,765 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  The Remotely Operated Valves (ROVs) program consists of converting existing transmission valves or installing new ROVs, to meet the future ROV design criteria as specified in G-8051. Once the program is complete, the closure of any two consecutive ROVs will not negatively impact supply mains or the distribution system on an average winter day (20°F).	
<b>Justification Summary:</b>  Remote Operated Valves (ROVs) are installed in order to: <ul style="list-style-type: none"> <li>• Rapidly isolate a compromised section of the transmission system to minimize affected areas</li> <li>• Rapidly isolate the transmission system at river and tunnel crossings and at the outlet of gate stations</li> <li>• Rapidly separate intersecting transmission or supply mains at tee or branch locations thereby minimizing affected areas</li> </ul> In addition, the Future Gas System Design Criteria requires that ROVs be installed for the following reasons: <ul style="list-style-type: none"> <li>• To limit the loss of regulator stations to no more than one high pressure and one low pressure regulator station</li> </ul>	

- Closure of any two ROVs will not negatively impact supply mains or the distribution system on an average winter day (20°F).

Additionally, in 2020, the Pipeline and Hazardous Materials Safety Administration (PHMSA) released a Notice of Proposed Rulemaking (RIN 2137-AF06) related to Valve Installation and Minimum Rupture Detection Standards, which would require the addition of Automatic Shut Valves/ Remote Controlled Valves (aka- ROVs) on gas transmission systems. The purpose of this rulemaking is to “shorten pipeline segment isolation times”. Although not yet a final rule, this proposed program aligns with PHMSA’s intention to “reduce the consequences of large-volume, uncontrolled releases of natural gas and hazardous liquid pipeline ruptures.” PHMSA, at the October 20<sup>th</sup> Gas and Liquid Pipeline Advisory Committees meeting, discussed that this final rule would likely be released in early 2022.

### **Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

As per Con Edison’s Long-Range Plan, in order to minimize potential impacts to the gas transmission and distribution systems, maintain supply to firm gas customers, and protect the public at large, ROVs are installed at strategic locations on the gas transmission system. The ROV Program involves installing new ROVs or converting existing transmission valves to operate as ROVs. ROVs are installed to achieve rapid isolation of:

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

ROV locations are designed so that:

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

This program also addresses the Enterprise Risk of a Transmission Event, while simultaneously reducing the risk of methane releases into the environment. In the event of a large-volume, uncontrolled release of natural gas or catastrophic event, the installation of such ROVs, will allow for rapid isolation of flowing gas to the incident location, lessening the effects of such an event and reducing emissions, that would otherwise be released to the environment.

## **2. Supplemental Information**

### **Alternatives**

An alternative to installing ROVs is to continue to use the existing manual valves. This alternative would prevent the rapid isolation of affected sections of the gas transmission system

and would increase the risk of a widespread customer outage due to a catastrophic event, as well as increase the amount of methane released into the environment.

**Risk of No Action**

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

**Non-Financial Benefits**

Enhanced employee and public safety and reliability. Stronger relationships with community and regulators. Compliance with future rulemakings.

**Summary of Financial Benefits and Costs (attach backup)**

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

**Project Risks and Mitigation Plan**

N/A

**Technical Evaluation / Analysis**

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

- Contractor price for the installation of a new valve, ROV components and associated piping or the price associated with retrofitting existing valves.
- Various locations have been clearly identified as not being able to be modified due to subsurface interference preventing the installation of a vault, communication, and telemetric equipment. These cases would require a new valve installation and offsetting transmission main.

**Project Relationships (if applicable)**

N/A

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2021</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
Capital						
O&M						
Regulatory Asset						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request</u>	<u>Request</u>	<u>Request</u>	<u>Request</u>	<u>Request</u>

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>Capital</b>	2,812	3,085	3,257	3,257	3,354
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	155	170	179	179	184
M&S	346	379	400	400	412
Contract Services	1,828	2,005	2,117	2,117	2,180
Other	19	20	21	21	22
Overheads	464	509	538	538	554
<b>Total</b>	<b>2,812</b>	<b>3,085</b>	<b>3,257</b>	<b>3,257</b>	<b>3,354</b>

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations  
2022**

**1. Project / Program Summary**

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program		<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic			
<b>Project/Program Title:</b> Newtown Creek Metering Station			
<b>Project/Program Manager:</b> Thomas Brunelle		<b>Project/Program Number (Level 1):</b> 21002826	
<b>Status:</b> <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
<b>Estimated Start Date:</b> 2024		<b>Estimated Date In Service:</b> 2025	
<b>A. <u>Total Funding Request (\$000)</u></b> <b>Capital:</b> \$30,000 <b>O&amp;M:</b>		<b>B.</b> <input type="checkbox"/> <b>5-Year Gross Cost Savings (\$000)</b> <input type="checkbox"/> <b>5-Year Gross Cost Avoidance (\$000)</b> <b>O&amp;M:</b> <b>Capital:</b>	
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> <b>O&amp;M:</b> <b>Capital:</b>		<b>D. <u>Investment Payback Period:</u></b> <b><u>(Years/months) (If applicable)</u></b>	
<b>Work Description:</b> <p>The Newtown Creek metering station is a bidirectional metering station that consists of multiple runs of orifice metering that is sequentially controlled based on the flow rate. This station is the metering station for the exchange point between Con Edison and National Grid as per the New York Facilities (NYF) agreement. This project will consist of major capital upgrades at the station including replacement of the orifice metering with ultrasonic metering and low flow metering along with the associated piping, valves and auxiliary equipment in the meter room, replacement of obsolete electrical, instrumentation, and communication systems, as well as facility updates for storm hardening, security, and other code compliance requirements. To support the metering, a remote terminal unit (RTU) with multiple paths of communication, generally a multiprotocol label switching (MPLS), and secure wireless are required. The infrastructure of the station will have to be modified for the installation, which includes removal of sections of the roof and reinstallation as well as any supporting infrastructure. A flow control valve or valves will also be installed to regulate station flow. To support the installation of the control valve, piping modifications and electrical and instrumentation modifications will be necessary. The control valve will require an independent RTU with supporting MPLS and secure wireless communication.</p>			
<b>Justification Summary:</b> <p>The facility was constructed in 1951 and the metering equipment in the station is obsolete and maintenance intensive. A single ultrasonic meter could be used to duplicate the range of the</p>			

orifice metering. The ultrasonic meter will require less maintenance and be inherently more reliable than the orifice metering. Orifice metering contains multiple fittings; valves and packing that may result in leaks. Due to the difference in infrastructure required for proper operation of the new ultrasonic meter, and concerns with the integrity of existing piping and equipment in the station due to age, most of the 12-inch and 24-inch piping, valves and associated equipment will be replaced. The addition of a control valve would allow Con Edison to control the flow rate to National Grid. The ability to control flow to National Grid would allow Con Edison to protect the Con Edison portion of the gas transmission system from poor pressure conditions and maintain flow to the maximums, as per the NYF agreement. In addition to the obsolete meters, critical electrical systems as well as associated instrumentation and communication infrastructure is also outdated. Due to the presence of natural gas in the station, the basement of the station, where both metering and electrical equipment is located, is now classified as a Class I, Division 2 hazardous location by the National Fire Protection Association (NFPA) Publication 70 and the National Electric Code (NEC). The existing electrical equipment is not properly rated for this environment and needs to be replaced. The station also falls within the flood risk area as defined by Con Edison's Design Flood Elevation (DFE) and flood design basis. To address this, new electrical, control and communication equipment will be installed in a new location on the roof of the station that is above the DFE.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

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

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

## 2. Supplemental Information

**Alternatives**

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

**Risk of No Action**

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

**Non-Financial Benefits**

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

**Summary of Financial Benefits and Costs (attach backup)**

N/A

**Project Risks and Mitigation Plan**

N/A

**Technical Evaluation / Analysis**

The Synergi Gas network model was used to evaluate the modification the flow control system would have on the Gas Transmission System.

**Project Relationships (if applicable)**

N/A

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
Capital						
O&M						
Regulatory Asset						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital			\$15,600	\$14,400	
O&M*					
Regulatory Asset					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor			\$23	\$22	
M&S			\$100	\$92	
Contract Services			\$5,304	\$4,896	
Other			\$9,586	\$8,849	
Overheads			\$587	\$541	
<b>Total</b>			<b>\$15,600</b>	<b>\$14,400</b>	

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					



<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

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**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations  
2022**

**1. Project / Program Summary**

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program		<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic			
<b>Project/Program Title:</b> Mount Vernon Renewable Natural Gas Interconnect			
<b>Project/Program Manager:</b> Thomas Brunelle		<b>Project/Program Number (Level 1):</b> 25550801	
<b>Status:</b> <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
<b>Estimated Start Date:</b> 01/01/2022		<b>Estimated Date In Service:</b> 12/31/2023	
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$3,000 O&M:		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:	
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:		<b>D. <u>Investment Payback Period: N/A (Years/months) (If applicable)</u></b>	
<p><b>Work Description:</b></p> <p>Biodev Company (BDC), a renewable natural gas (RNG) operator, will be building an interconnect between their RNG facility at 40 Canal Street, Mount Vernon, New York to the Con Edison Gas Distribution system. This will allow the Company to receive additional supply of gas into the distribution system, while measuring the volume and gas qualities being delivered.</p> <p>The scope of work includes:</p> <ul style="list-style-type: none"> <li>• An interconnect that will include metering, gas quality instrumentation, odorant analyzer, a remote operated valve, overpressure protection, and pressure and temperature transmitters.</li> <li>• A remote terminal unit that will carry the data from onsite equipment to the Con Edison supervisory control and data acquisition system.</li> <li>• High pressure (89 pounds per square inch maximum allowable operating pressure) outlet piping that will tie into an existing 20” high pressure main from the RNG facility.</li> </ul> <p>Procurement related to the interconnect will be acquired and interconnect skid will be constructed by BDC. The costs associated to the interconnect will be reimbursed by Con Edison. All other BDC charges will go through a different rate recovery mechanism. This division of responsibilities is in-line with our arrangement with other natural gas suppliers.</p>			

Currently, Con Edison is working on contract terms with BDC. The anticipated window of activities are as follows:

Design: 6 months

Construction (including civil work): 11 months

Commissioning/testing: 6 months

The preliminary total cost for the interconnect and outlet gas main is approximately one million dollars. A finalized estimate will be generated upon completion of signed contract with BDC.

**Justification Summary:**

As part of the 2017 Smart Solutions Proceeding (Case 17-G-0606), Con Edison announced that it would develop an innovation program for renewable alternatives. This was followed by the issuance of non-pipeline request for proposals to secure alternative solutions. BDC's proposed project was one of three that were selected.

In the 2019-2022 rate case, provisions allowed for the purchase of RNG and required Con Edison to create a standard interconnection agreement for operators and developers of RNG. This created standards for gas conditioning and delivery into the distribution system.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

The RNG station will contribute to a number of efforts in Con Edison's future plans.

This station will be the first RNG facility in Con Edison franchise territory. The emphasis on shifting away from traditional fossil fuels to renewable energy has been growing. The addition of this station to the system aligns Con Edison's direction towards that of New York State.

Con Edison's goal of ensuring adequate supply for current and future demand has been hindered by the disallowance of any new major pipelines. Completion of this RNG station will make it the prototype for future stations.

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

The result of no action would be not exploring options to traditional fuels.

**Risk of No Action**

Risk 1

No action of this project will hinder New York State's directive to minimize carbon footprint. This project is the first of its kind and allow the company to explore its foray into renewable natural gas.

Risk 2

N/A.

Risk 3

**Non-Financial Benefits**

- Adds cleaner energy to the gas portfolio that is more consistent with New York State's environmental goals.
- Apply interconnection agreements and utilize the project to finetune the process between Con Edison and RNG operators.
- Form better relationships with stakeholders by emphasizing the clean initiative set forth by this project.

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Total cost

The total program cost is \$3million (with \$1.5million allocated to RY1). Since this project would add RNG to Con Edison's supply portfolio and aligns with NY's climate change initiatives, the full project cost should be attributed to climate change adaption.

4. Basis for estimate

The preliminary estimate was generated utilizing unit pricing and historical costs. The outlet pipe was determined based on unit cost. The equipment at the interconnect was based on the cost of equipment at Con Edison's Worth Street Compressed Natural Gas Peaking Facility. While the station method of natural gas origination differs, the equipment is very similar.

5. Conclusion

The project will allow the Company to gain valuable experience related to renewable natural gas.

**Project Risks and Mitigation Plan**

**Risk 1** **Mitigation plan**  
The facility is located on an industrial site which may contain contaminated soil. Soil sampling will be performed to determine level of contamination. If warranted, the soil will be disposed properly by specialized vendors, which would increase the cost to the overall project.

**Risk 2** **Mitigation plan**  
N/A

**Technical Evaluation / Analysis**

Detailed engineering and architectural analysis have identified the least-cost and best fit design to meet the required Design Flood Elevation levels.

**Project Relationships (if applicable)**

N/A

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>						
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$1,500	\$1,500			
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$83	\$83			
M&S	\$184	\$184			
Contract Services	\$975	\$975			
Other	\$10	\$10			
Overheads	\$248	\$248			
<b>Total</b>	<b>\$1,500</b>	<b>\$1,500</b>			

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

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**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations**  
**2022**

# 1. Project / Program Summary

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
<b>Project/Program Title:</b> Cortlandt Gate Station Refurbishment	
<b>Project/Program Manager:</b> Thomas Brunelle	<b>Project/Program Number (Level 1):</b> 21554941
<b>Status:</b> <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input checked="" type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> 2017	<b>Estimated Date In Service:</b> 2023
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$24,264 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  <p>The Cortlandt Gate Station is located in a residential neighborhood and was constructed in 1955. The facility is in need of upgrades to replace regulating and metering equipment that is obsolete. This project during a contingency situation will support the loss of the Yorktown Gate Station.</p> <p>The current maximum capacity of the station is 232 Dekatherm (“dt/h”). Upgrades to this station will extend the maximum capacity of the station to 500 dt/hr. The following upgrades are required for station improvement:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Replacement and upsizing of regulators</li> <li><input type="checkbox"/> Upgrade to the metering</li> <li><input type="checkbox"/> Replacement of the heater with a high capacity heater</li> <li><input type="checkbox"/> Replacement of existing station outlet piping with larger diameter pipe</li> <li><input type="checkbox"/> A replacement station monitor valve on the increased diameter station outlet piping</li> <li><input type="checkbox"/> A new Remote Terminal Unit (RTU)</li> <li><input type="checkbox"/> New communication, MultiProtocol Label Switching (“MPLS”) and Secure Wireless</li> <li><input type="checkbox"/> New instrumentation to support metering</li> <li><input type="checkbox"/> Overpressure protection</li> </ul>	
<b>Justification Summary:</b>	

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

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

### **Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

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

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

#### Examples

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

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

## **2. Supplemental Information**

### **Alternatives**

#### Alternative 1 description and reason for rejection

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

#### Alternative 2 description and reason for rejection



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

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

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

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

Risk 2

Risk 3

**Non-Financial Benefits**

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

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

2. Major financial benefits

3. Total cost

The Cortlandt Gate station is located greater than 2500 feet from the 100 year and the 500 year flood plains. No additional measures are required to mitigate flood impact.

4. Basis for estimate

5. Conclusion

The project must be completed due to equipment obsolescence and operating at its current maximum capacity during the heat season.

**Project Risks and Mitigation Plan**

Risk 1	Mitigation plan
Risk 2	Mitigation plan

**Technical Evaluation / Analysis**

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

Analysis using Synergi Gas modeling software indicates that on a design basis day the demand on the Con Edison system exceeds our delivery rights. The Tennessee Compression Project and the Knollwood Gate station upgrade allow Con Edison to meet our design basis day requirements.

**Project Relationships (if applicable)**

As described prior this project is in support of the Tennessee Compression Project that will increase capacity to Con Edison’s service territory and potentially end the moratorium in parts of Westchester. It is being done in combination with the Tennessee work as well as the already completed White Plains Gate Upgrade.

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>	\$2,800		\$14			
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$10,450	\$11,000			
<b>O&amp;M*</b>					
<b>Regulatory</b>					

Asset					
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**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$15	\$15			
M&S	\$67	\$70			
Contract Services	\$3,553	\$3,740			
Other	\$6,422	\$6,759			
Overheads	\$393	\$414			
<b>Total</b>	<b>10,450</b>	<b>\$11,000</b>			

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

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**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations  
2022**

**1. Project / Program Summary**

Type: <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program		Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic			
Project/Program Title: Gate Station Outlet Piping/Overpressure Protection			
Project/Program Manager: Thomas Brunelle		Project/Program Number (Level 1): 24501614	
Status: <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
Estimated Start Date: 01/01/2023		Estimated Date In Service: 09/01/2024	
A. <u>Total Funding Request (\$000)</u> Capital: \$13,293 O&M:		B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:	
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:		D. <u>Investment Payback Period:</u> <u>(Years/months) (If applicable)</u>	
Work Description:  <b>Redacted</b> 			
Justification Summary:  <b>Redacted</b> 			

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

Redacted

## 2. Supplemental Information

### Alternatives

Alternative 1 description and reason for rejection

Redacted

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

### **Risk of No Action**

*Give the consequences, including enterprise risks that might arise by not doing the project/program. Quantify the risks, if applicable.*

Risk 1

Redacted

Risk 2

N/A.

Risk 3

### **Non-Financial Benefits**

Ensuring the safety of our employees and the public.

### **Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

2. Major financial benefits

3. Total cost (\$000)

The total cost of the project is \$13,293.

4. Basis for estimate

Total Costs based on Historical unit cost.

5. Conclusion

This project should be performed in order to comply with regulations, as well as to protect the Con Edison gas system, from an overpressure event.

**Project Risks and Mitigation Plan**

Risk 1 Mitigation plan

Risk 2 Mitigation plan

**Technical Evaluation / Analysis**

**Project Relationships (if applicable)**

The 134 Street OPP will be included in the NPRM main replacement program.

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>						
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>			\$6,562	\$6,731	
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor			\$190	\$195	
M&S			\$1,475	\$1,513	
Contract Services			\$1,241	\$1,273	
Other			\$2,448	\$2,511	
Overheads			\$1,208	\$1,239	
<b>Total</b>			\$6,562	\$6,731	

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations**  
**2022**

**1. Project / Program Summary**

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program		<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic			
<b>Project/Program Title:</b> Knollwood Gate Station Overpressure Protection			
<b>Project/Program Manager:</b> Thomas Brunelle		<b>Project/Program Number (Level 1):</b>	
<b>Status:</b> <input checked="" type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
<b>Estimated Start Date:</b> 2023		<b>Estimated Date In Service:</b> 2024	
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$4,135 O&M:		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:	
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:		<b>D. <u>Investment Payback Period:</u></b> <b><u>(Years/months) (If applicable)</u></b>	
<b>Work Description:</b>  The project is to install Con Edison owned over pressure protection (OPP) at the Tennessee Knollwood Gate Station located in Westchester. The Con Edison OPP will protect the gas transmission system in the event that Tennessee’s OPP device fails and the operating pressure of Tennessee’s pipeline cannot be controlled. This project will also include the installation of new piping from the delivery point up to the outlet of the Remote Operated Valve with piping for the same Maximum Allowable Operating Pressure (MAOP) as the Tennessee station inlet piping. This will ensure safe, reliable service to our firm gas customers			
<b>Justification Summary:</b>  Overpressure protection at this gate stations is provided by a single wide open monitor owned and operated by Tennessee Pipeline. Proposed supplemental overpressure protection consists of installation of piping from the delivery point up to the outlet of the Remote Operated Valve with piping for the same MAOP as the Tennessee station inlet piping. The equipment used to mitigate the overpressure condition consist of a single or multiple wide open monitor(s) capable of limiting the system pressure to that described in 16 NYCRR 255.201, upstream of the Remote Operated Valve.			



**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

The presence of OPP mitigates the potential of over pressurized gas to enter the Con Edison gas system, therefore addressing the transmission enterprise risk. Over pressurization of the system could potentially cause a catastrophic incident.

**2. Supplemental Information**

**Alternatives**

Alternative 1 description and reason for rejection

The alternative is to do nothing; however, this is not an acceptable course of action. Over pressurizing the Con Edison gas transmission system above the design pressure can cause equipment and/or pipe failure, with a high potential of causing property damage and harm to the public.

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

Over pressuring the CE gas transmission system above the design pressure causing equipment and or pipe failure, with a high potential of causing property damage and harm to the public.

Risk 2

N/A.

Risk 3

**Non-Financial Benefits**

Ensuring the safety of our employees and the public.

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

<p>2. Major financial benefits</p> <p>3. Total cost (\$000)</p> <p>The total cost of the project is \$4,135.</p> <p>4. Basis for estimate</p> <p>Total Costs based on Historical unit cost.</p> <p>5. Conclusion</p> <p>This project should be done, in order to comply with regulatory requirement and to prevent an over pressure event from occurring on Con Edison's system.</p>				
<p><b>Project Risks and Mitigation Plan</b></p> <table border="0"> <tr> <td>Risk 1</td> <td>Mitigation plan</td> </tr> <tr> <td>Risk 2</td> <td>Mitigation plan</td> </tr> </table>	Risk 1	Mitigation plan	Risk 2	Mitigation plan
Risk 1	Mitigation plan			
Risk 2	Mitigation plan			
<p><b>Technical Evaluation / Analysis</b></p>				
<p><b>Project Relationships (if applicable)</b></p>				

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
Capital						
O&M						
Regulatory Asset						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital		\$ 4,135			
O&M*					
Regulatory					

Asset					
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**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor		\$120			
M&S		\$930			
Contract Services		\$782			
Other		\$1,542			
Overheads		\$761			
<b>Total</b>		\$4,135			

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

PRESSURE CONTROL:

**Gas Operations  
2022**

**1. Project / Program Summary**

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
<b>Project/Program Title:</b> PC – Regulator Automation	
<b>Project/Program Manager:</b> Omar Nokaly	<b>Project/Program Number (Level 1):</b> PR.23317820
<b>Status:</b> <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> Ongoing	<b>Estimated Date In Service:</b> Ongoing
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$95,500 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <b><u>(Years/months) (If applicable)</u></b>
<b>Work Description:</b>  The purpose of this project is to install automated control equipment to include conduits, power and communication at 231 gas system regulator stations. This project will provide precise and instantaneous remote operation of the system pressure regulating stations while providing real time system telemetry for visibility and system disturbance response. This project will also include the installation of Over Pressure Protection (OPP) equipment on the gas system or the rehabilitation of existing system to prevent pressure exceedances over Maximum Allowable Operating Pressure (MAOP). The OPP portion of the project involves the installation of additional regulator station sensing lines and regulator pilots inside of the manhole vaults which provide redundancy to the existing control and monitor lines. It may include the replacement of regulator station piping that contains bypasses which connect different MAOP systems, and/or the replacement of distribution mains that connect to pressure division valves. Also included, where applicable, will be the relocation of regulator station sensing, control, and overpressure protection monitoring lines within the boundaries of regulator stations to improve station operation and overpressure protection to meet current standards.	

**Justification Summary:**

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

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

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

Bypass lines and pressure division valves were installed on the gas distribution system in the past to manually regulate pressure from a higher MAOP system to a lower one. Typically, this was done in emergency situations where the regulator stations are not able to adequately supply sufficient gas to maintain system pressures. These bypass lines and pressure division valves are no longer used because of the inherent risk of over pressurization that comes with manually regulating a higher pressure to a lower one. The valves associated with these bypass lines and pressure division valves have either already been paved over or locked closed to minimize accidental operation. However, since the connection still exists, the risk of over pressurization due to accidental operation or valve failure also still exists. Therefore, these bypasses should be removed.

Due to the location of sensing line locations many existing regulator station installations can experience operating issues. When the control line (station demand setting) is not located within the same proximity as the overpressure protection sensing line, the station can be susceptible to oscillating pressure excursions. These excursions can make the station output unstable creating a potential operating issue for the area gas system, and should be relocated to current standard designs. Therefore, where applicable, this program will also include the relocation of regulator station sensing, control, and overpressure protection monitoring lines, to within the boundaries of regulator stations.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

This program improves the safety and reliability of the gas system by ensuring that regulator stations operate properly. The ability to control and monitor the regulators will provide system visibility to have quick response to pressure fluctuations with automated responses. This program helps to ensure reliable service and reduce the potential for customer outages or an overpressure event that can affect many customers at once. Having a safe and reliable gas system is a major goal of both the ConEd Gas 5-Year and Long-Range Plans.

Additionally, these regulator station improvements also mitigate the Corporate ERM risk of a Gas Distribution Event. Reinforcement of the gas system is performed to ensure that over pressurization of the system, that can cause large scale customer outages and other incidents, are eliminated.

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

Continue manual station adjustments, which increase O&M charges and manpower demands, with no added system visibility, and no ability to act instantly to system demands or disturbances.

Continue to remove the bypass lines and pressure division valves as opportunistic work when other work is being done in the vicinity. This will delay the elimination of these ties.

Continue to operate regulator stations with less than ideal sensing points of control and overpressure protection monitor lines.

**Risk of No Action**

*Give the consequences, including enterprise risks that might arise by not doing the project/program. Quantify the risks, if applicable.*

Risk 1 Continue manual station adjustments, which will increase O&M charges and manpower demands without increasing system visibility or reaction time to system demands or

disturbances. With the current system configuration and operating model, there is a risk of over pressurization and not realizing pressure excursions in a timely manner thereby delaying a mitigating response.

**Non-Financial Benefits**

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

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

2. Major financial benefits

3. Total cost  
**\$95,500**

4. Basis for estimate

Cost per location will vary based on lengths of conduit installation for control, communication, and electrical service lines. Automated controls for low pressure applications will be approximately \$110,000 per location and for higher pressure applications will be approximately \$120,000 per location. Depending on scope of installation work, total installed costs is approximately \$550,000 per location

5. Conclusion

**Project Risks and Mitigation Plan**

Risk 1

Mitigation plan

**Technical Evaluation / Analysis**

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

Project Relationships (if applicable)
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### 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>	0	0	157	19924		16100
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	19100	19100	19100	19100	19100
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	2200	2200	2200	2200	2200
M&S	13100	13100	13100	13100	13100
Contract Services					
Other					
Overheads	3800	3800	3800	3800	3800
<b>Total</b>	<b>19100</b>	<b>19100</b>	<b>19100</b>	<b>19100</b>	<b>19100</b>

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					



**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations  
2022**

# 1. Project / Program Summary

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
<b>Project/Program Title:</b> PC – Regulator Station Improvements	
<b>Project/Program Manager:</b> Omar Nokaly	<b>Project/Program Number (Level 1):</b> PR.21477218, PR.21477211, PR.21477237, PR.21477231
<b>Status:</b> <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> Ongoing	<b>Estimated Date In Service:</b> Ongoing
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$5,300 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  This program addresses regulator related improvements as follows: <ul style="list-style-type: none"> <li>Complete replacement of piping, regulators, regulator components, strainers and valves at existing stations where the equipment is corroded beyond repair, where designs are obsolete, or equipment upsizing is required.</li> <li>Replacement of valves, regulators, and/or strainers of sizes 2 inch and larger at regulator stations. Work scopes are primarily associated with select component replacement mostly due to corrosion or if repair is deemed not to be cost effective</li> <li>Replacement of corroded steel buried piping outside of regulator vaults (within the bounds of the regulator station) when leaks are discovered, or severe corrosion is identified. This uncoated piping is the buried pipe located between two stages of a regulator station and located between two different manholes. This piping is often referred to as inter-stage piping.</li> <li>Replacement of corroded steel gauge lines between regulator vaults and gauge posts at regulator stations.</li> </ul>	

**Justification Summary:**

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

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

This program improves the safety and reliability of the gas system by ensuring that regulator stations operate properly. This program helps to ensure reliable service and reduce the potential for customer outages that can affect many customers at once. Having a safe and reliable gas system is a major goal of both the ConEd Gas 5-Year and Long Range Plans.

Additionally, these regulator station improvements also mitigates the Corporate ERM risk of a Gas Distribution Event. Reinforcement of the gas system is performed to ensure that single point failures that can cause large scale customer outages are eliminated. Both improve the resiliency of the gas system during a Gas Distribution Event and would mitigate customer outages from this risk.

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

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

This program is required, with no alternatives. Without replacement, regulator station operation, safety, reliability, and service to customers are at risk.

**Risk of No Action**

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

**Non-Financial Benefits**

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

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

2. Major financial benefits

3. Total cost

**\$5,300**

4. Basis for estimate

The estimates for this program are based on historical levels of work performed. Each year the specific regulator stations requiring replacement of unserviceable equipment are assessed and replaced as needed.

5. Conclusion

This is an ongoing annual capital program. Regulator stations that fall within this program are important links in the overall reliability of our gas distribution system and must be maintained to provide a safe and reliable operating system and to meet 16 NYCRR Sections 255.739 and 255.619 through 255.623.

**Project Risks and Mitigation Plan**

Risk 1

Mitigation plan

**Technical Evaluation / Analysis**

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

**Project Relationships (if applicable)**

None (If combining projects approved)

# 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>	843	783	479	736		1008
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	983	1024	1087	1087	1119
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	80	82	97	97	105
M&S	393	417	432	432	442
Contract Services	300	310	325	325	333
Other					
Overheads	210	215	230	230	239
<b>Total</b>	<b>983</b>	<b>1024</b>	<b>1087</b>	<b>1087</b>	<b>1119</b>

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations**  
**2022**

# 1. Project / Program Summary

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
<b>Project/Program Title:</b> PC – Station Gas Detector & Fire Detection/Alarm Systems	
<b>Project/Program Manager:</b> Omar Nokaly	<b>Project/Program Number (Level 1):</b> PR.23317895
<b>Status:</b> <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> 1/1/2022	<b>Estimated Date In Service:</b> 12/31/2023
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$325 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  The purpose of this project is to install new gas detectors, smoke detectors, and fire detection/alarm systems at <span style="background-color: gray; color: red;">Redacted</span> gate stations to enhance compliance with local and state standard fire detection/alarm system requirements. The project will also replace and upgrade the obsolete and unsupported equipment and fire detection/alarm systems at <span style="background-color: gray; color: red;">Redacted</span> to make them reliable and increase safety.	
<b>Justification Summary:</b>  This project will enhance and improve the fire detection and alarm systems associated with Con Edison’s gas gate stations. This project will also address system obsolescence, while updating and providing fire safety and protection for gate stations where the systems currently do not exist. The new systems will provide enhanced reliability and increased safety with automatic alarm dispatch to local fire departments. The equipment and fire detection/alarm systems at <span style="background-color: gray; color: red;">Redacted</span> gate stations are obsolete, unsupported and need to be replaced with new fire equipment. Additionally, there are currently no fire detection/alarm systems at <span style="background-color: gray; color: red;">Redacted</span> gate stations. The new equipment provides a high level of fire safety protocols in line with corporate, state, and local municipality safety requirements.	

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

This program improves the safety and reliability of the gas system by ensuring that these gate stations operate properly, and potentially prevent a catastrophic event from occurring. The ability to know when if a fire is present will allow for it have a quick response and prevent the situation from becoming larger scale. This program helps to ensure reliable service and reduce the potential for customer outages, or an even larger incident. Having a safe and reliable gas system is a major goal of both the Con Edison Gas 5-Year and Long-Range Plans. Additionally, these improvements also mitigate the Corporate ERM risk of a Gas Transmission Event.

Finally, if a fire was to break out currently at these stations, it could potentially burn for an extended period of time

## 2. Supplemental Information

### Alternatives

Alternative 1 description and reason for rejection

Continue to operate the gate stations without fire detection and alarm systems and maintain the obsolete equipment until unrepairable, rendering the fire equipment ineffective.

### Risk of No Action

Risk 1 Lack of fire protection can cause damage to the gate station, result in a gas release and/or delayed emergency response to fire or unacceptable atmospheric gas conditions within the gate stations.

### Non-Financial Benefits

Enhance and improve the fire detection and alarm systems associated with the life, safety, and operation of Con Edison's natural gas gate stations. The new systems will provide enhanced reliability and increased safety, with automatic alarm dispatch to local fire departments.

### Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)
2. Major financial benefits
3. Total cost
4. Basis for estimate



Estimate is based on similar improvements and installations performed at **Redacted**

5. Conclusion

**Project Risks and Mitigation Plan**

Risk 1 Mitigation plan

**Technical Evaluation / Analysis**

Current Con Edison standards, as well as state and local requirements, require gas detection, fire detection and alarm systems at gas gate stations.

**Project Relationships (if applicable)**

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
Capital	0	0	0	0		0
O&M						
Regulatory Asset						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital	175	150			
O&M*					
Regulatory Asset					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	6	11			
M&S	150	122			
Contract Services					
Other					
Overheads	19	17			
<b>Total</b>	<b>175</b>	<b>150</b>			

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

### **3. CUSTOMER CONNECTIONS**

Gas Operations  
2022

**1. Project / Program Summary**

Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program		Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset								
Work Plan Category: <input checked="" type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic										
Project/Program Title: Customer Connections										
Project/Program Manager: Thomas Riviello/ Alexia Reno		Project/Program Number (Level 1): 23320194/ 23320204/ 23320207/ 23320208								
Status: <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____										
Estimated Start Date: on-going		Estimated Date In Service: on-going								
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$374,046 O&M:		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: n/a Capital: n/a								
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:		<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>								
<b>Work Description:</b> This program is to fund the installation of mains and services required to provide adequate gas supply to customers that are adding new or additional gas loads to our system, per the obligations under Public Service Law and Con Edison's gas tariff. The Customer Connection program covers the installation of gas services and associated gas mains to support oil to gas conversions, new and additional gas demand requests. This program includes the following customers: new gas construction requests, increase in gas demand for additional gas customers, Distributed Generation, CNG, and oil-to-gas conversions. This program provides recovery of the costs associated with the gas main extensions and/or reinforcements needed to provide gas service under Public Service Law and Con Edison's gas tariff.										
Below are the total units under this budget for the years 2022-2026:										
	<b>2022</b>		<b>2023</b>		<b>2024</b>		<b>2025</b>		<b>2026</b>	
<b>Program</b>	<b>(\$000)</b>	<b>Units</b>	<b>(\$000)</b>	<b>Units</b>	<b>(\$000)</b>	<b>Units</b>	<b>(\$000)</b>	<b>Units</b>	<b>(\$000)</b>	<b>Units</b>
Services	48,600	1,500	50,780	1,470	51,795	1,440	53,245	1,412	54,843	1,383
Mains	22,029	21,000	22,358	20,580	22,805	20,168	23,444	19,765	24,147	19,370
Total	70,629		73,138		74,600		76,689		78,990	

**Justification Summary:**

There remains a demand for natural gas for new construction and for existing customers that request an increase in their gas demand during renovation work. Additionally, for oil-burning boilers that have reached the end of its useful life, customers continue to switch to gas for heating. While requests for oil to gas conversions have continued to decline since in 2017/2018, the decline is predominantly attributed to the following:

1. The successful completion of the Area Growth Program targeting the conversion from oil to gas heat since the inception of the Clean Heat Act in 2011. This program targeted the conversion of over 7,000 impacted large NYC buildings using #4 or #6 oil for heating.
2. The completion of the NYC Area Growth program in 2019 which was a geographical approach to converting #4 or #6 buildings to natural gas.
3. The Westchester moratorium which prevented new growth opportunities in most of Westchester.

Most of the gas service requests require a single service only. In some cases, the new request requires a short segment of main installation. In general, the main extensions and/or reinforcements depend on the customers' impact on the existing gas system. In poor pressure areas, more extensive reinforcement, as well as larger diameter mains, may be required. Under the existing gas tariff and depending on the type of customer (residential vs. non-residential) and purpose (heating vs. non-heating), new firm customers may be entitled to certain lengths of gas main and gas service at no charge. A revenue test is required to determine the customer vs Con Edison responsibility for costs above and beyond what the customers are entitled to at no charge. In many cases, the Company is obligated to provide gas service and associated gas main at no charge to the customer under the existing gas rate tariff and Public Service Law. This program supports the compliance to the gas rate tariff and Public Service Law.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

Con Edison supports the need for alternative energy choices and our commitment to the CLCPA. The Company still has an obligation to provide gas service to existing and potential future customers under the gas rate tariff and Public Service Law. In addition, absent modifications to regulations preventing new construction from requesting natural gas as a fuel choice coupled with the existing obligations under the gas rate tariff and Public Service Law, this program will continue to require funding to support existing and new customer requests. The program does not include any funding for proactive measures to market and promote the growth of natural gas connections. Additionally, Con Edison will continue to support and promote alternative energy choices as every opportunity arises, especially when a new gas service request is received.

## 2. Supplemental Information

**Alternatives**

Alternative 1:

Petition the Commission to modify Public Service Law and amend the existing gas rate tariff to exclude any new customer entitlements. Con Edison is responsible to furnish, place, construct up to a total of 100 feet of gas main extension and/or service line per metered dwelling unit for firm heating customer requests. Eliminating these entitlements will increase customer cost to connect new gas demand. This increased upfront customer cost could result in alternative

energy choices becoming more appealing economic options. This would require a modification to the existing Public Service Law and Con Edison's gas rate tariff.

Alternative 2:

Decrease the upfront and long-term costs for alternative energy options and enhance communication for a lower cost alternative than natural gas. Providing firm and clear cost savings for alternative fuel choices may help to reduce the requests for natural gas.

Alternative 3:

**Risk of No Action**

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

**Non-Financial Benefits**

Natural gas presents a cleaner burning fuel choice compared to oil. This program supports the customer's expectation to provide a safe, reliable, and low-cost fuel choice.

**Summary of Financial Benefits and Cost**

See revenue forecasting for any new gas growth revenue

**Project Risks and Mitigation Plan**

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

**Technical Evaluation / Analysis**

The projected service connections and main installations are based on the three-year historical average of actual service connections and take into consideration a continued expected reduction in the oil to gas conversion work and the continued impact of the moratorium in Westchester.

**Project Relationships (if applicable)**

N/A

## 3. Funding Detail

**Historical Spend**

	<u>Actual</u> <u>2017</u>	<u>Actual</u> <u>2018</u>	<u>Actual</u> <u>2019</u>	<u>Actual</u> <u>2020</u>	<u>Historic</u> <u>Year</u> (O&M only)	<u>Forecast</u> <u>2021</u>
<b>Capital</b>	115,020	101,174	89,155	82,432		77,500
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request</u> <u>2022</u>	<u>Request</u> <u>2023</u>	<u>Request</u> <u>2024</u>	<u>Request</u> <u>2025</u>	<u>Request</u> <u>2026</u>
Capital	70,629	73,138	74,600	76,689	78,990
O&M*					
Regulatory Asset					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor					
M&S					
Contract Services					
Other					
Overheads					
<b>Total</b>					

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M					
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program



## **4. TECHNICAL OPERATIONS**

LIQUIFIED NATURAL GAS (LNG):

**Gas Operations**  
**2022**

**1. Project / Program Summary**

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program		<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic			
<b>Project/Program Title:</b> LNG - Plant Boil-Off Compressor			
<b>Project/Program Manager:</b> Roy Young		<b>Project/Program Number (Level 1):</b> 21543283	
<b>Status:</b> <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
<b>Estimated Start Date:</b>		<b>Estimated Date In Service:</b>	
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$4,100 O&M:		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:	
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:		<b>D. <u>Investment Payback Period:</u></b> <b><u>(Years/months) (If applicable)</u></b>	
<b>Work Description:</b> The Liquefied Natural Gas (LNG) plant liquefies all gas stored on site. The liquefied natural gas is stored in a LNG tank with a capacity of 290,000 liquid barrels. The LNG tank naturally vaporizes in the tank which is known as boil-off. Per design, the LNG tank boils-off approximately 15% to 20% of tank volume per year. To remove the tank boil-off, the plant uses boil-off compressors and contingency equipment known as a ground combustor. Recapturing the boil-off utilizing the boil-off compressors provides credits to rate payers. The ground combustor equipment burns the boil-off so credits are not obtained because the boil-off is not recaptured. Currently, the plant operates two boil-off compressors to remove boil-off from the LNG tank to protect the LNG Plant from an over-pressurization situation. The LNG Plant has two boil-off compressors which are reciprocating compressors with a total discharge volume of approximately 50,000 Standard Cubic Feet Per Hour (MSCFH). This project will install two new boil-off compressors.  The work also includes meeting the Con Edison Climate Change Planning and Design Guidelines and this includes meeting the FEMA 2013 plus 5 feet, higher wind loads, higher temperature ratings and precipitation as well.			

**Justification Summary:**

The boil-off compressor equipment is obsolete, and the original equipment manufacturer is not available to provide parts and services. When a boil-off compressor fails, this lack of parts and service can result in the LNG Plant not having the boil-off compressor repairs turned around in a timely basis and the boil off being burned off in the ground combustor instead of being returned to the distribution system.

Increase down time of the boil-off compressors can result in the natural gas being burned through the ground combustor to maintain tank level. A credit will not be received to the customer for withdrawal to the distribution system. Lack of expertise to reverse engineer and the reduction of surplus parts may render the machines inoperable for a long period of time. This project will also explore the efficiency of new machines and increasing capacity of each machine.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

Safe operation of the LNG Plant is core to Con Edison's 5-year and long-range plans. The project will comply with Con Edison Climate Change Planning and Design Guidelines, and aligns with CLCPA strategies, by providing tank pressure protection without flaring to the environment.

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

The alternative is to continue to operate and maintain the existing boil-off Compressors and use parts not certified by the manufacturer and obtain parts through reverse engineering. This poses a risk that could lead to significant failure. This option is not recommended.

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

Inability to recapture tank boil-off product leading to the potential for over-pressurization.

Risk 2

N/A

Risk 3  
N/A

**Non-Financial Benefits**

This provides tank pressure protection without flaring to the environment. In addition, this project is directly tied to the benefits associated with Vulnerability Remediation Program white paper.

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

2. Major financial benefits

3. Total cost

4.

Total cost of this project is \$4,100,000.

4. Basis for estimate

Preliminary estimate and upon detailed engineering design the cost will be re-evaluated.

5. Conclusion

**Project Risks and Mitigation Plan**

Risk 1

Mitigation plan

Risk 2

Mitigation plan

**Technical Evaluation / Analysis**

R&D Boil off Compressor report.

**Project Relationships (if applicable)**

**3. Funding Detail**

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>	\$	\$	\$	<b>\$0</b>		<b>\$700</b>
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>2026</u>
<b>Capital</b>	\$1,000	\$2,000	\$400		
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$0	\$0	\$0	\$0	\$0
M&S	\$	\$	\$	\$	\$
Contract Services	\$ 788	\$ 1,575	\$ 315	\$	\$
Other	\$0	\$0	\$0	\$0	\$0
Overheads	\$ 213	\$ 425	\$85.05	\$	\$
<b>Total</b>	\$ 1,000	\$ 2,000	\$ 400	\$	\$

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or

for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

Gas Operations  
2022

**1. Project / Program Summary**

Type: <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
Project/Program Title: LNG - Plant Motor Control Center	
Project/Program Manager: Roy Young	Project/Program Number (Level 1): 24650670
Status: <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date:	Estimated Date In Service:
A. <u>Total Funding Request (\$000)</u> Capital: \$7,300 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:	D. <u>Investment Payback Period:</u> <u>(Years/months) (If applicable)</u>
<p><b>Work Description:</b></p> <p>The LNG Plant has three feeders that supply power to a high-tension vault substation, which powers the LNG Plant except the Saltwater Pump house. The high-tension vault transformers step down the electric supply from 27kV to 480V, and then after the switch gear distributes to the motor control centers. The LNG Plant has three motor control centers which are original to the plant. The motor control centers is the primary distribution and isolation to each motor and electrical equipment at the plant.</p> <p>The project is to engineer, procure and install a new modular motor control center parallel to the existing motor control center. Once the new modular modern motor control center is energized the existing motor control center will be de-energize and removed. The replacement motor control center will have adequate ventilations and be free of potential mediums that can result in severe failures or injuries. The new motor control centers will be installed a distance from the water deluge systems and natural gas which have the potential to short or create an explosion to the live electrical equipment.</p> <p>The work also includes meeting the Con Edison Climate Change Planning and Design Guidelines and this includes meeting the FEMA 2013 plus 5 feet, higher wind loads, higher temperature ratings and precipitation as well.</p>	

**Justification Summary:**

In the past, the motor control centers have resulted in significant failures. Two isolated incidents for two separate and distinct motor control center cubicles had failed catastrophically and resulted in other cubicles and associated equipment not being available for operation. The equipment is obsolete and replacement components are no longer available so third party retrofit work is done to ensure reliability and availability. A failure of this equipment has the potential to release significant energy that could result in a serious injury to control center employees if they were in the vicinity when a failure occurred. In addition, the motor control center room has a saltwater deluge system supply that can result in severe water release and short the electrical equipment. The motor control centers will be located a distance away from the deluge system and the natural gas currently found in the same room, and the new motor control centers will be in their own separate motor control center modular structure which is installed on supports. This concept is similar to other installations found at other LNG Plants in the regional area. The motor control centers are original pieces of equipment. Currently, the motor control centers are installed in the control building in an environment with high risk to have water intrusion or gas leak which can result in significant failure if either medium is released within the room rendering a high hazard safety situation which could lead to the plant being inoperable for an extended time duration.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

Safe operation of the LNG Plant is core to Con Edison's 5-year and long-range plans. The project will comply with Con Edison Climate Change Planning and Design Guidelines.

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

Continue to operate the LNG Plant without completing this project. This option is not recommended.

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

Severe failure of the motor control center can result in damage to property and injury to people. In addition, a failure could lead to an extended outage of the LNG plant.



Risk 2  
N/A

Risk 3  
N/A

**Non-Financial Benefits**

Increased safety, reliability, efficiency, and customer satisfaction.  
This project also addresses improvement opportunities identified in the recent LNG Vulnerability Study.

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)
2. Major financial benefits  
LNG is used to meet peak winter loads. The plant's availability as a supply asset to meet peak winter loads displaces approximately \$100 million annually of interstate pipeline capacity
3. Total cost  
Total cost of this project is \$7,300,000.
4. Basis for estimate  
  
This project is in the early concept design stage. Upon further detailed engineering, it may be re-estimated with the final engineering drawings.
5. Conclusion

**Project Risks and Mitigation Plan**

Risk 1

Mitigation plan

Risk 2

Mitigation plan

**Technical Evaluation / Analysis**

**Project Relationships (if applicable)**

# 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>	\$	\$	\$	\$0		\$900
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$3,100	\$2,800	\$500	\$0	
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$0	\$0	\$0	\$0	\$0
M&S	\$	\$	\$	\$	\$
Contract Services	\$ 2,441	\$ 2,205	\$ 394	\$	\$
Other	\$0	\$0	\$0	\$0	\$0
Overheads	\$ 659	\$ 595	106.38	\$	\$
<b>Total</b>	\$ 3,100	\$ 2,800	\$ 500	\$	\$

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations**  
**2022**

# 1. Project / Program Summary

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
<b>Project/Program Title:</b> LNG- Electrical Distribution System Upgrade Project	
<b>Project/Program Manager:</b> Roy Young	<b>Project/Program Number (Level 1):</b> 24647432
<b>Status:</b> <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b>	<b>Estimated Date In Service:</b>
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: 5,700 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  <p>This project is to relocate and install a new modern substation further away from the gas transmission main found inside the LNG Plant. The existing gas transmission main, supplying the LNG Plant, is located approximately 15 feet away from the electrical high tension vault substation on the LNG plant premises. Electrical power to the LNG plant is supplied from three independent Con Edison 27 KV feeders <span style="background-color: gray; color: red;">Redacted</span>. Each feeder has an associated 2500 KVA step-down transformer and 480/277 VAC bus at the plant. The secondary side of the transformers feed a single walk-in type switchgear assembly with three 3000 A, 480 VAC distribution busses in a Main-Tie-Main-Tie-Main configuration. Loads are distributed such that upon loss of one or two busses, vaporization can still take place at a reduced capacity. All three busses are required to provide the capability of liquefaction. The switchgear, breakers, and motor control centers (MCC's) that supply power to the facilities various loads are obsolete and require replacement.</p> <p>In addition, although the electrical distribution system is designed to provide the capability of automatic transfer of power in the event of a loss of a bus, due to the unreliability of the equipment the normal practice followed by operating personnel is to leave the tie breakers racked out. If a bus is lost and power must be redirected, operating personnel are required to rack breakers in/out. If a bus is to be energized using the emergency diesel generator, mechanical Kirk Key interlocks are used to prevent inadvertent energization of a bus from a live feeder and</p>	

the emergency generator simultaneously. In order to maintain the availability of electrical power to the plant, personnel have managed the obsolescence of the equipment by maintaining a limited number of spare circuit breakers on-site. The spare breakers are periodically used to replace the installed breakers, which are sent out to a third-party for refurbishment upon removal. In order to reduce the risk of injury or death to personnel and increase the reliability of the plant, an upgrade of the facilities 480 VAC electrical distribution system is required. An Arc Flash Risk Assessment shall be performed in order to meet regulatory requirements.

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

**Justification Summary:**

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

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

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

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

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

Continue to operate the LNG plant electrical distribution system as-is. This option is not recommended.

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

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

Risk 2

N/A

Risk 3

N/A

**Non-Financial Benefits**

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

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

2. Major financial benefits

3. Total cost

Total cost of this project is \$5,700,000.

4. Basis for estimate

This is a preliminary order of magnitude estimate.

5. Conclusion

Failure of the existing electrical equipment may cause an interruption in the LNG plants capability to liquefy and/or vaporize LNG. The LNG plants availability as a supply asset to meet peak winter loads has an estimated avoided demand cost of approximately \$100 Million annually depending on interstate pipeline capacity. If the liquefaction system cannot be operated, additional interstate pipeline capacity contracts would be required to replace the plant's capability.

<b>Project Risks and Mitigation Plan</b>
Risk 1 Mitigation plan
Risk 2 Mitigation plan
<b>Technical Evaluation / Analysis</b>
Not applicable.
<b>Project Relationships (if applicable)</b>
Due to operational requirements and the limited space within the existing MCC room, a pre-manufactured Power Control Enclosure (PCE), including main service switchgear and MCC's, will be pre-manufactured and installed. Completion of this project along with the Plant Motor Control Center project will modernize the electrical supply infrastructure of the LNG plant.

### 3. Funding Detail

**Historical Spend**

	<u>Actual</u> <u>2017</u>	<u>Actual</u> <u>2018</u>	<u>Actual</u> <u>2019</u>	<u>Actual</u> <u>2020</u>	<u>Historic</u> <u>Year</u> (O&M only)	<u>Forecast</u> <u>2021</u>
<b>Capital</b>	\$	\$	<b>\$9</b>	<b>\$0</b>		<b>\$820</b>
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request</u> <u>2022</u>	<u>Request</u> <u>2023</u>	<u>Request</u> <u>2024</u>	<u>Request</u> <u>2025</u>	<u>Request</u> <u>2026</u>
<b>Capital</b>	\$3,000	\$1,900		\$	\$
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$	\$50	\$	\$0	\$0
M&S	\$	\$	\$	\$	\$
Contract Services	\$2237	\$1445	\$	\$	\$
Other	\$150	\$50	\$0	\$0	\$0
Overheads	\$613	\$396	\$	\$	\$
<b>Total</b>	\$3,000	\$1900	\$	\$	\$

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M					
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program



Gas Operations  
2022

**1. Project / Program Summary**

Type: <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
Project/Program Title: LNG- Nitrogen Refrigeration Cycle Replacement	
Project/Program Manager: Roy Young	Project/Program Number (Level 1): 23317802
Status: <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input checked="" type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date:	Estimated Date In Service:
A. <u>Total Funding Request (\$000)</u> Capital: 34,200 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:	D. <u>Investment Payback Period:</u> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  Replace the Nitrogen Refrigeration Cycle located at the Astoria LNG Plant. The Nitrogen Refrigeration cycle includes the following equipment: turbine-compressor main driver, cold box (main heat exchanger), compressor-expanders, interconnecting piping and wiring, nitrogen storage system, air compressor system, control systems, and any auxiliary equipment required to control or operate the Nitrogen refrigeration cycle. The concept replacement plan is to build the new system in parallel while operating the existing system to minimize the outage window and ensure meeting winter preparedness. The Nitrogen Refrigeration Cycle equipment will be supplied from a qualified LNG process and cryogenic company through a competitive bid process.	
<b>Justification Summary:</b>  The Astoria LNG Plant is designed to fill LNG product at 6 million standard cubic feet a day. This project is to restore the LNG Plant to its design basis to fill the LNG tank in 6 months. The existing 1973 Nitrogen Refrigeration Cycle that is original to the plant does not have sufficient refrigeration to cool natural gas to ensure an LNG fill rate of 6-million standard cubic feet a day. This Nitrogen Refrigeration Cycle is obsolete and the original equipment manufacturers are no longer available resulting in unavailable parts. This directly impacts the availability and reliability of filling the LNG tank. It currently takes almost twice as long to fill the LNG tank as	

it was originally designed. New equipment will allow for more efficient filling of the tank. This new equipment will provide environmental benefits and cost savings. The work also includes meeting the Con Edison Climate Change Planning and Design Guidelines and this includes meeting the FEMA 2013 plus 5 feet, higher wind loads, higher temperature ratings and precipitation as well.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

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

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

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

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

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

Risk 2

N/A

Risk 3

N/A

<p><b>Non-Financial Benefits</b></p> <p>Increased safety, reliability, efficiency, and customer satisfaction. The LNG tank as contingency mitigates shortfall in gas supply, interstate pipeline issues (as well as other system risks), and allows the LNG tank to be used in the event there is price volatility. Another benefit is that the new equipment will meet newer emissions standards than the existing equipment. This project also addresses an improvement opportunity identified in the recent LNG Vulnerability study.</p>
<p><b>Summary of Financial Benefits and Costs (attach backup)</b></p> <p>1. Cost-benefit analysis (if required)</p> <p>The Astoria LNG Plant used for peaking may provide an estimated avoidance cost of approximately \$100 million per year.</p> <p>2. Major financial benefits</p> <p>3. Total cost</p> <p>Total project cost is \$34,200,000.</p> <p>4. Basis for estimate</p> <p>Third party life assessment study with preliminary order of magnitude costs. Cost are not NYC costs. These costs are based on other projects outside NYC.</p> <p>5. Conclusion</p> <p>This project should be done, in order to continue the safe and reliable operation of the LNG Plant.</p>
<p><b>Project Risks and Mitigation Plan</b></p> <p>Risk 1</p> <p>Mitigation plan</p> <p>Risk 2</p> <p>Mitigation plan</p>
<p><b>Technical Evaluation / Analysis</b></p> <p>Not applicable</p>
<p><b>Project Relationships (if applicable)</b></p> <p>Not applicable</p>

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
<b>Capital</b>	\$	\$	\$14.9	\$87.5		\$6,661
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$10,200	\$10,000	\$10,000	\$	
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$0	\$0	\$0	\$0	\$0
M&S	\$	\$	\$	\$	\$
Contract Services	\$ 8,032	\$ 7,874	\$ 7,874	\$	\$
Other	\$0	\$0	\$0	\$0	\$0
Overheads	\$ 2,169	\$ 2,126	2125.98	\$	\$
<b>Total</b>	\$ 10,201	\$ 10,000	\$ 10,000	\$	\$

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)


**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

Gas Operations  
2022

**1. Project / Program Summary**

Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program		Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic			
Project/Program Title: LNG Plant Controls Instrumentation Upgrade Program			
Project/Program Manager: Roy Young		Project/Program Number (Level 1): 10040224	
Status: <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
Estimated Start Date:		Estimated Date In Service:	
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$20,000 O&M:		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:	
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:		<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>	
Work Description:			
<p>Redacted</p> 			

Redacted

**Justification Summary:**

Redacted

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

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

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

Redacted

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

Redacted

Risk 2

N/A

Risk 3

N/A

**Non-Financial Benefits**

Redacted

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

2. Major financial benefits

3. Total cost

\$20,000,000

4. Basis for estimate



This project is the concept design stage. Upon further detailed engineering, it may be re-estimated based on the final engineering drawings.

5. Conclusion

Redacted

**Project Risks and Mitigation Plan**

Risk 1

Mitigation plan

Risk 2

Mitigation plan

**Technical Evaluation / Analysis**

**Project Relationships (if applicable)**

## 3. Funding Detail

**Historical Spend**

	<u>Actual</u> <u>2017</u>	<u>Actual</u> <u>2018</u>	<u>Actual</u> <u>2019</u>	<u>Actual</u> <u>2020</u>	<u>Historic</u> <u>Year</u> (O&M only)	<u>Forecast</u> <u>2021</u>
<b>Capital</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>O&amp;M</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request</u> <u>2022</u>	<u>Request</u> <u>2023</u>	<u>Request</u> <u>2024</u>	<u>Request</u> <u>2025</u>	<u>Request</u> <u>2026</u>
<b>Capital</b>	\$4,000	\$12,000	\$2,000	\$	
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$1,000	\$1,000	\$100	\$0	
M&S	\$ 302	\$302	\$53	\$0	
Contract Services	\$1,800	\$8,100	\$1,415	\$0	
Other	\$0	\$0	\$0	\$0	
Overheads	\$0	\$0	\$0	\$0	
<b>Total</b>	\$4,000	\$12,000	\$2,000	\$0	

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

Gas Operations  
2022

# 1. Project / Program Summary

Type: <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
Project/Program Title: Astoria LNG Meter Station Replacement	
Project/Program Manager: Roy Young	Project/Program Number (Level 1): 25554550
Status: <input checked="" type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: 2023	Estimated Date In Service: 2024
A. <u>Total Funding Request (\$000)</u> Capital: \$7,000 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital: \$7,000	D. <u>Investment Payback Period: (Years/months) (If applicable)</u>
Work Description:  <div style="background-color: #cccccc; height: 150px; width: 100%; margin-top: 10px; display: flex; align-items: flex-start; justify-content: space-between; padding: 5px;"> <span style="color: red; font-weight: bold; margin-left: 5px;">Redacted</span> </div>	

# Redacted

**Justification Summary:**

Redacted

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

Redacted

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

Redacted

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

Redacted

Risk 2

N/A

Risk 3

N/A

**Non-Financial Benefits**

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

<p><b>Summary of Financial Benefits and Costs (attach backup)</b></p> <p>1. Cost-benefit analysis (if required)</p> <p>2. Major financial benefits</p> <p>3. Total cost</p> <p>\$7,000,000</p> <p>4. Basis for estimate</p> <p>In-house scope of work and estimate was developed based on scope of work document</p> <p>5. Conclusion</p> <p>This project should be performed to ensure the safe and reliable operation of the PNG Plant.</p>
<p><b>Project Risks and Mitigation Plan</b></p> <p>Risk 1</p> <p>Mitigation plan</p> <p>Risk 2</p> <p>Mitigation plan</p>
<p><b>Technical Evaluation / Analysis</b></p> <p>Redacted</p>
<p><b>Project Relationships (if applicable)</b></p>

### 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
<b>Capital</b>	\$	\$	\$	\$		\$0
<b>O&amp;M</b>						
<b>Regulatory</b>						

Asset						
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**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital	\$0	\$3,500	\$3,500	\$0	\$0
O&M*					
Regulatory Asset					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$0	\$0	\$0	\$0	\$0
M&S	\$0	\$0	\$0	\$	\$
Contract Services	\$	\$ 2,756	\$ 2,756	\$	\$
Other	\$0	\$0	\$0	\$0	\$0
Overheads	\$	\$ 744	\$ 744	\$	\$
<b>Total</b>	\$	\$ 3,500	\$ 3,500	\$	\$

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M					
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program



Gas Operations  
2022

**1. Project / Program Summary**

Type: <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
Project/Program Title: Installation of an independent LNG Flare Gas Supply. It involves the installation of 3800ft of 4" transmission Main from 20 <sup>th</sup> Ave to the LNG Facility. 24651333	
Project/Program Manager: None	Project/Program Number (Level 1):
Status: <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: January 2018	Estimated Date In Service: December 2026
A. <u>Total Funding Request (\$000)</u> Capital: \$3,788 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:	D. <u>Investment Payback Period:</u> <u>(Years/months) (If applicable)</u>
Work Description:  <b>Redacted</b>	
justification:  <b>Redacted</b>	
Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)  Con Edison recognizes the risk to the environment by the unwanted release of natural gas to the atmosphere. To mitigate this risk and any operational risk to the LNG Facility this project will be added to the 5 year plan.	

## 2. Supplemental Information

<b>Alternatives</b>
<b>Risk of No Action</b> <span style="color: red;">Redacted</span> <div style="background-color: gray; height: 100px; width: 100%;"></div>
<b>Non-Financial Benefits</b> This project provides system reliability
<b>Summary of Financial Benefits and Costs (attach backup)</b> Not Applicable
<b>Project Risks and Mitigation Plan</b> Not Applicable
<b>Technical Evaluation / Analysis</b> Not applicable
<b>Project Relationships (if applicable)</b> Not applicable

## 3. Funding Detail

**Historical Spend**

	<u>Actual</u> <u>2017</u>	<u>Actual</u> <u>2018</u>	<u>Actual</u> <u>2019</u>	<u>Actual</u> <u>2020</u>	<u>Historic</u> <u>Year</u> (O&M only)	<u>Forecast</u> <u>2021</u>
<b>Capital</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>O&amp;M</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Regulatory Asset</b>	\$0	\$0	\$0	\$0	\$0	\$0

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request</u> <u>2022</u>	<u>Request</u> <u>2023</u>	<u>Request</u> <u>2024</u>	<u>Request</u> <u>2025</u>	<u>Request</u> <u>2026</u>
<b>Capital</b>			\$1,250	\$1,250	\$1,288
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor			\$500	\$500	\$520

M&S			\$150	\$150	\$155
Contract Services			\$311	\$311	\$314
Other					
Overheads			\$289	\$289	\$298
<b>Total</b>			\$1,250	\$1,250	\$1,288

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

Gas Operations  
2022

**1. Project / Program Summary**

Type: <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input checked="" type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
Project/Program Title: LNG Security Program	
Project/Program Manager: Roy Young	Project/Program Number (Level 1): 23317804
Status: <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: 2022	Estimated Date In Service: 2023
A. <u>Total Funding Request (\$000)</u> Capital: \$5,740 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:	D. <u>Investment Payback Period: (Years/months) (If applicable)</u>
Work Description:  Redacted  Redacted  Redacted	
Justification Summary:  Redacted	

Redacted

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

Redacted

## 2. Supplemental Information

### Alternatives

Alternative 1 description and reason for rejection

Redacted

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

### Risk of No Action

Risk 1

Redacted

Risk 2

N/A

Risk 3

N/A

### Non-Financial Benefits

Non-financial benefits of upgrades to the LNG facility security include increased reliability of the LNG facility and increased personnel safety.

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

2. Major financial benefits

Redacted

3. Total cost

Total cost of this project is \$5,740,000.

4. Basis for estimate

Redacted

5. Conclusion

This project should be done, in order to ensure safe and reliable operation of the LNG Plant.

**Project Risks and Mitigation Plan**

Risk 1

Not applicable

Mitigation plan

Risk 2

Mitigation plan

**Technical Evaluation / Analysis**

Not applicable.

**Project Relationships (if applicable)**

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
Capital	\$	\$	\$	\$		<b>\$273</b>
O&M						
Regulatory Asset						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital	\$2,870	\$2,870	\$	\$	\$
O&M*					
Regulatory Asset					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$0	\$0	\$0	\$0	\$0
M&S	\$	\$	\$	\$	\$
Contract Services	\$ 2,260	\$ 2,260	\$	\$	\$
Other	\$0	\$0	\$0	\$0	\$0
Overheads	\$ 610	\$ 610	\$	\$	\$
<b>Total</b>	<b>\$ 2,870</b>	<b>\$ 2,870</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M					
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program



Gas Operations  
2022

**1. Project / Program Summary**

Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program		Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic			
Project/Program Title: Reliability Remediation Program			
Project/Program Manager: Roy Young		Project/Program Number (Level 1): 25554551	
Status: <input checked="" type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
Estimated Start Date: 3/1/2022		Estimated Date In Service: 11/1/2028	
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$10,500 O&M:		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:	
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:		<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>	
<b>Work Description:</b>  <div style="background-color: #cccccc; height: 100px; padding: 5px;">Redacted</div> <div style="background-color: #cccccc; height: 100px; padding: 5px;"></div> <div style="background-color: #cccccc; height: 100px; padding: 5px;"></div>			

Redacted

Redacted

**Justification Summary:**

Redacted

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

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

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

Redacted

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

Redacted

Risk 2

N/A

Risk 3

N/A

**Non-Financial Benefits**

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

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)
2. Major financial benefits

Redacted

3. Total cost

The initial budgetary estimate total cost of this program is \$10,500,000.

4. Basis for estimate

This is a budgetary estimate \$3.5 million per year for the program. The company requires to complete scope of work and engineering to further develop estimates for this program.

5. Conclusion

**Project Risks and Mitigation Plan**

*Not applicable. Preliminary.*

Risk 1

Mitigation plan

Risk 2

Mitigation plan

**Technical Evaluation / Analysis**

Redacted

**Project Relationships (if applicable)**

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>	\$0	\$0	\$0	\$0		\$0
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request</u> <u>2022</u>	<u>Request</u> <u>2023</u>	<u>Request</u> <u>2024</u>	<u>Request</u> <u>2025</u>	<u>Request</u> <u>2026</u>
<b>Capital</b>	\$0	\$3,500	\$3,500	\$3,500	\$0
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$	\$	\$	\$	\$
M&S	\$	\$	\$	\$	\$
Contract Services	\$	\$ 2,756	\$ 2,756	\$ 2,756	\$
Other	\$	\$	\$	\$	\$
Overheads	\$	\$ 744	744	744	\$
<b>Total</b>	\$	\$ 3,500	\$ 3,500	\$ 3,500	\$

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

TUNNELS:

**Gas Operations  
2022**

**1. Project / Program Summary**

<b>Type:</b> <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
<b>Project/Program Title:</b> Concrete Restoration	
<b>Project/Program Manager:</b> Roy Young	<b>Project/Program Number (Level 1):</b> 23317900
<b>Status:</b> <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> 2022	<b>Estimated Date In Service:</b> 2023
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$550 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <b><u>(Years/months) (If applicable)</u></b>
<b>Work Description:</b>  This is a two-year program to replace structural concrete in the Astoria and Ravenswood tunnels. The structural concrete is essential to the existing design and integrity of these tunnels.	
<b>Justification Summary:</b>  There is a significant amount of spalling concrete in both the Astoria and Ravenswood tunnels. These locations also have rusted rebar, delamination, and fragmenting of the concrete. Both tunnels are more than 100 years old and water infiltration and atmospheric corrosion have taken its toll on the concrete. The tunnels house critical infrastructure such as electric feeders, gas transmission, and steam mains. This program will enhance asset and employee safety.	
<b>Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)</b>	

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

## 2. Supplemental Information

### Alternatives

#### Alternative 1 description and reason for rejection

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

#### Alternative 2 description and reason for rejection

#### Alternative 3 description and reason for rejection

### Risk of No Action

#### Risk 1

If no repairs are completed it will lead to a significant safety and structural issue within the tunnels.

#### Risk 2

N/A

#### Risk 3

N/A

### Non-Financial Benefits

- 

Increased safety, reliability and efficiency.

### Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)
2. Major financial benefits



3. Total cost

Climate change mitigation and/or adaptation is not anticipated to impact project cost.

4. Basis for estimate

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

5. Conclusion

As built drawings indicate that the reinforced concrete was added as structural support.

**Project Risks and Mitigation Plan**

Risk 1

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

Mitigation plan

Order the materials upon award of contract.

Risk 2

Mitigation plan

**Technical Evaluation / Analysis**

Detailed engineering design will be completed by an engineering consultant.

**Project Relationships (if applicable)**

None.

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>	\$0	\$0	\$0	\$0		\$0

O&M					\$0	
Regulatory Asset	\$0	\$0	\$0	\$0	\$0	\$0

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2025</u>
Capital	\$225	\$225	\$0	\$0	\$0
O&M*	\$0	\$0	\$0	\$0	\$0
Regulatory Asset	\$0	\$0	\$0	\$0	\$0

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$44	\$44	\$0	\$0	\$0
M&S	\$35	\$35	\$0	\$0	\$0
Contract Services	\$83	\$83	\$0	\$0	\$0
Other	\$11	\$11	\$0	\$0	\$0
Overheads	\$52	\$52	\$0	\$0	\$0
<b>Total</b>	\$225	\$225	\$0	\$0	\$0

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M					
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term

fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations**  
**2022**

# 1. Project / Program Summary

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
<b>Project/Program Title:</b> Astoria Elevator Modernization	
<b>Project/Program Manager:</b> Roy Young	<b>Project/Program Number (Level 1):</b> 23317898
<b>Status:</b> <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> 1/1/2022	<b>Estimated Date In Service:</b> 9/30/2023
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$3,000 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  This project will install a new code compliant elevator in the Queens shaft of the Astoria tunnel. It will remove and replace the existing deteriorated, non-compliant elevator within the tunnel shaft.	
<b>Justification Summary:</b>  The elevator in the 262 feet deep Queens shaft contains key components that have been in service since 1976 and the control system has been obsoleted by the manufacturer.  An elevator consultant has recommended a complete modernization of the elevator’s operational and motion control systems and all hoist way and door components within the next three years. The elevator is currently out of service due to structural concerns and is beyond economical repair. In addition, key components are well past their useful life and need to be replaced. The elevator consultant has estimated that the remaining life of key components, including the Operational Controls, Motion Controls, Governor and Driving Machine is 0-4 years.  The modernization should also include, relocating the control system to be in the same room as the driving machine. The scope includes replacing the steel support structure.	

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

Con Edison recognizes that climate is changing and considers that the floodplain will extend over time due to sea-level rise, and that temperature and rainfall amounts will also rise. As such, six vulnerable tunnel facilities have already been storm hardened to FEMA +5 to prevent flooding. A new code compliant elevator will facilitate weekly, monthly, and biennial tunnel inspections in compliance with G-11832 - GENERAL INSPECTION PROCEDURE FOR TUNNELS AND INSTALLED FACILITIES.

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

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

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

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

Risk 2

N/A

Risk 3

N/A

**Non-Financial Benefits**

Increased reliability, employee and asset safety.

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)
2. Major financial benefits
3. Total cost

Climate change mitigation and/or adaptation is not anticipated to impact project cost.

4. Basis for estimate

The estimate is based on experience with similar projects. The estimate will be refined based on the detailed engineering design.

5. Conclusion

The elevator modernization will provide safe access for inspection, maintenance, and other capital projects necessary to extend the useful life of the critical facilities housed in the tunnel.

**Project Risks and Mitigation Plan**

Risk 1

Not being able to obtain the materials and supplies required for the scope such as the steel members.

Mitigation plan

Order the materials including the steel upon award of contract.

Risk 2

Mitigation plan

**Technical Evaluation / Analysis**

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

**Project Relationships (if applicable)**

None.

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>	\$0	\$0	\$0	\$0		\$0
<b>O&amp;M</b>	\$0	\$0	\$0	\$0	\$0	\$0

Regulatory Asset	\$0	\$0	\$0	\$0		\$0
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**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital	\$2,400	\$600	\$0	\$0	\$0
O&M*	\$0	\$0	\$0	\$0	\$0
Regulatory Asset	\$0	\$0	\$0	\$0	\$0

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$488	\$122	\$0	\$0	\$0
M&S	\$888	\$222	\$0	\$0	\$0
Contract Services	\$648	\$162	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0
Overheads	\$376	\$94	\$0	\$0	\$0
<b>Total</b>	<b>\$2,400</b>	<b>\$600</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**Total Gross Cost Savings / Avoidance by Year:**

	2022	2023	2024	2025	2026
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	2022	2023	2024	2025	2026
O&M					
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program



Gas Operations  
2022

**1. Project / Program Summary**

Type: <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
Project/Program Title: Ravenswood Tunnel - NYF Gas Main Rollers	
Project/Program Manager: Roy Young	Project/Program Number (Level 1): 22379327
Status: <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: 2020	Estimated Date In Service: 2024
A. <u>Total Funding Request (\$000)</u> Capital: \$4,060 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:	D. <u>Investment Payback Period: (Years/months) (If applicable)</u>
<p><b>Work Description:</b></p> <p>This is a five-year program to replace the current 30-inch gas transmission main rollers which have varying degrees of corrosion from moderate to severe. The gas main is supported by 101 roller assemblies from one end of the tunnel to the other end. The existing obsolete roller assemblies will be replaced with a new corrosion resistant polymer roller with stainless steel hardware.</p>	
<p><b>Justification Summary:</b></p> <p>The gas main rollers are exposed to heavy salt and water infiltration that is inherent in the Ravenswood tunnel. The tunnel was built in 1895 and is cut through bedrock. The majority of the tunnel was not constructed with a concrete liner to minimize the water and salt infiltration. The tunnel is also very narrow and congested with other facilities including a steam main and fuel oil line making for difficult maintenance and repair activities. These rollers have varying degrees of corrosion ranging from moderate to severe and will be replaced as part of a capital program over five years.</p>	
<p><b>Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)</b></p> <p>This project will extend the useful life of the 30” gas transmission main. It will increase safety, reliability, and efficiency. It will also ensure the safe delivery of gas to our customers.-</p>	

## 2. Supplemental Information

### Alternatives

#### Alternative 1 description and reason for rejection

Continue to lubricate the moderately to severely corroded rollers. This alternative is not recommended as this will likely lead to severe wall loss of the gas main where the roller contacts the pipe.

#### Alternative 2 description and reason for rejection

#### Alternative 3 description and reason for rejection

### Risk of No Action

#### Risk 1

If the gas main rollers are not replaced there is an increased risk of a catastrophic failure jeopardizing all of the facilities in the tunnel.

#### Risk 2

N/A

#### Risk 3

N/A

### Non-Financial Benefits

- 

Increased safety, reliability, efficiency, and customer satisfaction.

### Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

2. Major financial benefits

Replacement of the existing gas main rollers will result in a cost avoidance should a future catastrophic failure occur.

3. Total cost

Climate change mitigation and/or adaptation is not anticipated to impact project cost.

4. Basis for estimate

The estimate is based on recently completed gas roller replacement work. The estimate has been refined based on the detailed engineering design.

5. Conclusion

The analysis supports the necessity to replace all the 1958 vintage gas main rollers.

**Project Risks and Mitigation Plan**

Risk 1

The COVID-19 pandemic is a very fluid situation and delays due to work stoppages may be encountered as a result.

Mitigation plan

A mitigation plan will be prepared that includes all the current CDC guidelines including social distancing, mask wearing and hand washing.

Risk 2

Some aspects of the work including retirement of the existing supports requires permission from Gas Control to proceed. These timeframes are generally short ranging from one to two weeks.

Mitigation plan

The plan is to install the new supports adjacent to the existing supports as this work does not require any permissions. Retirement of the existing supports can be done at a later date when permission is granted.

**Technical Evaluation / Analysis**

Detailed engineering design has been completed by an engineering consultant.

**Project Relationships (if applicable)**

None.

## 3. Funding Detail

**Historical Spend**

	<u>Actual</u> <u>2017</u>	<u>Actual</u> <u>2018</u>	<u>Actual</u> <u>2019</u>	<u>Actual</u> <u>2020</u>	<u>Historic</u> <u>Year</u> (O&M only)	<u>Forecast</u> <u>2021</u>
<b>Capital</b>	\$0	\$0	\$0	\$32		\$755
<b>O&amp;M</b>					<b>\$0</b>	
<b>Regulatory Asset</b>	\$0	\$0	\$0	\$0	\$0	\$0

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request</u> <u>2022</u>	<u>Request</u> <u>2023</u>	<u>Request</u> <u>2024</u>	<u>Request</u> <u>2025</u>	<u>Request</u> <u>2026</u>
<b>Capital</b>	\$1,537	\$1,732	\$1,839	\$0	\$0
<b>O&amp;M*</b>	\$0	\$0	\$0	\$0	\$0
<b>Regulatory Asset</b>	\$0	\$0	\$0	\$0	\$0

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$312	\$351	\$373	\$0	\$0
M&S	\$568	\$641	\$680	\$0	\$0
Contract Services	\$415	\$468	\$497	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0
Overheads	\$242	\$272	\$289	\$0	\$0
<b>Total</b>	\$1,537	\$1,732	\$1,839	\$0	\$0

**Total Gross Cost Savings / Avoidance by Year:**

	2022	2023	2024	2025	2026
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

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**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

Gas Operations  
2022

**1. Project / Program Summary**

Type: <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
Project/Program Title: Conduit Bulkhead Replacement	
Project/Program Manager: Roy Young	Project/Program Number (Level 1): 25558170
Status: <input checked="" type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: 2022	Estimated Date In Service: 2023
A. <u>Total Funding Request (\$000)</u> Capital: \$1,100 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:	D. <u>Investment Payback Period: (Years/months) (If applicable)</u>
<p><b>Work Description:</b></p> <p>The <b>Redacted</b> Conduit houses three-345 kV dielectric fluid insulated cables. The tunnel runs from <b>Redacted</b> <b>Redacted</b>. During a March 14, 2019, NYS DEC SPDES compliance inspection the regulator commented on the poor condition of the bulkhead as an area of concern, citing the broken concrete slab, collapsed bulkhead and eroded bank.</p>	
<p><b>Justification Summary:</b></p> <p>The existing bulkhead is collapsing into the Newtown Creek. Not addressing the problem will lead to continued degradation, erosion, regulatory fines and negative Company perception.</p>	
<p><b>Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)</b></p> <p>Con Edison recognizes that climate is changing and considers that the floodplain will extend over time due to sea-level rise, and that temperature and rainfall amounts will also rise. As such, facilities will be designed in accordance with standards for climate adaptation. Engineering will design systems in accordance with Climate Change Planning and Design Guideline Document</p>	

& Corporate Instruction CI-610-4. The specific project will determine which climate change pathways (“the Pathways”) and design elements to incorporate into the project for increased precipitation, temperature rise, and sea level rise; the design work scope will apply the “Pathway” for the decadal time horizon associated the specific project. Note that each project and application will need to be reviewed and analyzed.

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

## 2. Supplemental Information

### Alternatives

#### Alternative 1 description and reason for rejection

Take no action and continue to monitor the condition. This alternative is not recommended. The existing bulkhead is collapsing into the Newtown Creek. While the current condition does not appear to be an immediate threat to the navigable waterway the bulk head is in disrepair. An engineering inspection identified missing timbers and whalers, soil erosion, sinkholes, and an unsupported concrete slab.

#### Alternative 2 description and reason for rejection

#### Alternative 3 description and reason for rejection

### Risk of No Action

#### Risk 1

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

#### Risk 2

N/A.

#### Risk 3

### Non-Financial Benefits

Reliability of the facilities within this conduit.

### Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

2. Major financial benefits

3. Total cost

The order of magnitude estimate is \$1,100,000

4. Basis for estimate

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

5. Conclusion

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

**Project Risks and Mitigation Plan**

Risk 1

The COVID-19 pandemic is a very fluid situation and delays due to work stoppages may be encountered as a result.

Mitigation plan

A mitigation plan will be prepared that includes all the current CDC guidelines including social distancing, mask wearing and hand washing.

Risk 2

Mitigation plan

**Technical Evaluation / Analysis**

Engineering performed a walkdown of the waterfront area in the vicinity of the **Redacted**                      Conduit. Although the area shows signs of deterioration and erosion there does not appear to be an immediate threat of damage to the infrastructure on the property.



However, it has been recommended in the interim to verify from the waterway that there is no debris that is loose, or can easily become loose, that may enter the waterway and become a navigable hazard.

Although a waterfront and bulkhead engineering inspection is not required by policy or procedure, it is recommended. The results of the inspections will dictate the corrective actions to be taken.

**Project Relationships (if applicable)**

N/A

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>	<b>\$0</b>	\$0	\$0	\$0	\$0	\$0
<b>O&amp;M</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Regulatory Asset</b>	\$0	\$0	\$0	\$0	\$0	\$0

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$100	\$1,000	\$0	\$0	\$0
<b>O&amp;M*</b>	\$0	\$0	\$0	\$0	\$0
<b>Regulatory Asset</b>	\$0	\$0	\$0	\$0	\$0

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$0	\$118	\$0	\$0	\$0
M&S	\$0	\$339	\$0	\$0	\$0
Contract Services	\$100	\$409	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0
Overheads	\$0	\$134	\$0	\$0	\$0
<b>Total</b>	\$100	\$1,000	\$0	\$0	\$0

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M					
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

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**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

Gas Operations  
2022

**1. Project / Program Summary**

Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
Project/Program Title: Steel Replacement Program	
Project/Program Manager: Roy Young	Project/Program Number (Level 1): 10106038
Status: <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: 2022	Estimated Date In Service: 2026
A. <u>Total Funding Request (\$000)</u> Capital: \$4,591 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:	D. <u>Investment Payback Period: (Years/months) (If applicable)</u>
<b>Work Description:</b>  This is the continuation of an existing program to rehabilitate/replace deteriorated structural steel members throughout the eight tunnels Con Edison owns and operates. The steel structures throughout the tunnels are utilized as support for critical infrastructure such as gas mains, electric feeders, and steam mains. Visual inspections are completed to monitor the structures and replacements are prioritized and regularly completed based on severity of corrosion.	
<b>Justification Summary:</b>  Structural steel is continually exposed to salt and water infiltration causing corrosion. Based on regular inspections, it has been determined that there are approximately 1,000 pieces of structural steel members that require total replacement. These members were identified for replacement due to deteriorating webs and flanges. Existing carbon steel members are prioritized and will be replaced with new corrosion resistant steel.	
<b>Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)</b>  This project will increase safety and reliability. It will also ensure the safe delivery of gas, electric and steam to our customers.-	

## 2. Supplemental Information

### Alternatives

#### Alternative 1 description and reason for rejection

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

#### Alternative 2 description and reason for rejection

#### Alternative 3 description and reason for rejection

### Risk of No Action

#### Risk 1

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

#### Risk 2

N/A

#### Risk 3

N/A

### Non-Financial Benefits

- 

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

### Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

2. Major financial benefits

Continued deferral of this project will result in increased O&M expenditures.

3. Total cost

Climate change mitigation and/or adaptation is not anticipated to impact project cost.

4. Basis for estimate

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

5. Conclusion

Inspections have identified corroded steel members as a risk.

**Project Risks and Mitigation Plan**

Risk 1

The COVID-19 pandemic is a very fluid situation and delays due to work stoppages may be encountered as a result.

Mitigation plan

A mitigation plan will be prepared that includes all the current CDC guidelines including social distancing, mask wearing and hand washing.

Risk 2

Mitigation plan

**Technical Evaluation / Analysis**

When corrosion compromises integrity, the steel members are replaced. An engineering vendor will prepare a detailed engineering design.

**Project Relationships (if applicable)**

None.

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
<b>Capital</b>	\$260	\$1,101	\$1,051	\$3		\$100
<b>O&amp;M</b>						
<b>Regulatory</b>						

Asset						
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**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$842	\$877	\$930	\$957	\$985
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$170	\$177	\$189	\$195	\$200
M&S	\$312	\$324	\$344	\$354	\$364
Contract Services	\$227	\$237	\$251	\$258	\$266
Other	\$0	\$0	\$0	\$0	\$0
Overheads	\$133	\$137	\$146	\$150	\$155
<b>Total</b>	\$842	\$877	\$930	\$957	\$985

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations  
2022**

**1. Project / Program Summary**

<b>Type:</b> <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program		<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic			
<b>Project/Program Title:</b> Various Tunnel Properties - Annual Sump Pumps			
<b>Project/Program Manager:</b> Roy Young		<b>Project/Program Number (Level 1):</b> 21477247	
<b>Status:</b> <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
<b>Estimated Start Date:</b>		<b>Estimated Date In Service:</b>	
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$500 O&M:		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:	
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:		<b>D. <u>Investment Payback Period:</u></b> <b><u>(Years/months) (If applicable)</u></b>	
<b>Work Description:</b>  Sump pumps are utilized to control water infiltration and protect the facilities and ancillary equipment contained within the tunnels. This is an annual program to purchase new sump pumps each year to replace those that have reached the end of their useful life.			
<b>Justification Summary:</b>  There are 18 sump pumps that service our eight critical utility tunnels. Dewatering the tunnels to safeguard the structural integrity of the tunnel as well as the utility infrastructure inside the tunnels is critical to the safety of personnel and reliability of the steam, electric and gas transmission and distribution systems. Stancor and Flygt brand submersible pumps are utilized for dewatering the tunnels. A reliable supply of replacement pumps for both scheduled and emergency replacement is essential to properly maintain the pumping capabilities of each tunnel. The sump pumps are essential for several reasons, including keeping water away from our steam mains in Ravenswood, Hudson Avenue and First Avenue to prevent a catastrophic water hammer from occurring. Having spare sump pumps on hand allows us to change out pumps as needed before the infiltrating water can negatively impact any tunnel.			
<b>Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)</b>			



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

## 2. Supplemental Information

### Alternatives

#### Alternative 1 description and reason for rejection

Ongoing maintenance - The pumps are maintained by our maintenance vendor on a regular frequency. **This option is not recommended.**

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

#### Alternative 2 description and reason for rejection

#### Alternative 3 description and reason for rejection

### Risk of No Action

#### Risk 1

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

#### Risk 2

N/A

#### Risk 3

N/A

### Non-Financial Benefits

Increased safety, reliability, efficiency, and customer satisfaction.
<p><b>Summary of Financial Benefits and Costs (attach backup)</b></p> <p>1. Cost-benefit analysis (if required)</p> <p>2. Major financial benefits</p> <p>3. Total cost</p> <p>Climate change mitigation and/or adaptation is not anticipated to impact project cost.</p> <p>4. Basis for estimate</p> <p>Quotes are requested and estimates vary by pump type.</p> <p>5. Conclusion</p> <p>Pumps must be kept on hand for prompt response to failures to maintain system integrity.</p>
<p><b>Project Risks and Mitigation Plan</b></p> <p>Risk 1 These specialty pumps can be a long lead item.</p> <p>Mitigation plan Always maintain a minimum of two pumps per tunnel.</p> <p>Risk 2 <span style="float: right;">Mitigation plan</span></p>
<p><b>Technical Evaluation / Analysis</b></p> <p>Tunnel Maintenance submitted Engineering Service Request, ESR-2018-18790 requesting a recommendation on the most cost-efficient way to manage our submersible pumps. This identified that running the pumps to failure in seven of eight tunnels is the most cost-effective solution. The exception, the Astoria Tunnel where it is recommended that the sump pumps remain on an annual maintenance program.</p>
<p><b>Project Relationships (if applicable)</b></p> <p>None.</p>

## 3. Funding Detail

### Historical Spend

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>	\$115	\$9	\$65	\$180		\$200
<b>O&amp;M</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Regulatory</b>	\$0	\$0	\$0	\$0	\$0	\$0

Asset						
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**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital	\$100	\$100	\$100	\$100	\$100
O&M*	\$0	\$0	\$0	\$0	\$0
Regulatory Asset	\$0	\$0	\$0	\$0	\$0

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$0	\$0	\$0	\$0	\$0
M&S	\$89	\$89	\$89	\$89	\$89
Contract Services	\$8	\$8	\$8	\$8	\$8
Other	\$0	\$0	\$0	\$0	\$0
Overheads	\$3	\$3	\$3	\$3	\$3
<b>Total</b>	\$100	\$100	\$100	\$100	\$100

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
O&M					
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

Gas Operations  
2022

**1. Project / Program Summary**

Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
Project/Program Title: Tunnels Carbon Fiber Wrap	
Project/Program Manager: Roy Young	Project/Program Number (Level 1): 23317899
Status: <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: 1/1/2023	Estimated Date In Service: 12/31/2025
A. <u>Total Funding Request (\$000)</u> Capital: \$3,748 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:	D. <u>Investment Payback Period:</u> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  This is an annual program to wrap the dielectric fluid filled electric feeder sweeps with carbon fiber in eight tunnels. The carbon fiber is wrapped over the existing wax tape to prevent corrosion on the steel feeder pipes and create a new pressure boundary.	
<b>Justification Summary:</b>  The area where the dielectric fluid filled feeder cables transition from the shaft into the horizontal portion of the tunnel (also referred to as the feeder sweeps), are typically located at elevation and difficult to inspect. Due to the harsh environmental conditions present in the tunnels this transition zone typically sees increased corrosion. Due to the elevation, the sweeps are only accessible through construction of scaffolding.	
<b>Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)</b>  Wrapping the sweeps in carbon fiber will greatly reduce the likelihood of future leaks, increase reliability, create a new pressure boundary for the feeder extending its useful life and reduce the impact to O&M.	

-

## 2. Supplemental Information

### Alternatives

#### Alternative 1 description and reason for rejection

Build stainless steel platforms at each shaft opening from the bottom up to access the sweeps. This alternative is not preferred as permanent repairs will impact the O&M budget.

#### Alternative 2 description and reason for rejection

#### Alternative 3 description and reason for rejection

### Risk of No Action

#### Risk 1

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

#### Risk 2

N/A

#### Risk 3

N/A

### Non-Financial Benefits

- 

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

### Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)
2. Major financial benefits
3. Total cost

Climate change mitigation and/or adaptation is not anticipated to impact project cost.

4. Basis for estimate

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

5. Conclusion

Wrapping the sweeps in carbon fiber will greatly reduce the likelihood of future leaks, and reduce the impact to O&M.

**Project Risks and Mitigation Plan**

Risk 1

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

Mitigation plan

Order the materials upon award of contract.

Risk 2

Mitigation plan

**Technical Evaluation / Analysis**

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

**Project Relationships (if applicable)**

None.

## 3. Funding Detail

**Historical Spend**

	<u>Actual</u> <b>2017</b>	<u>Actual</u> <b>2018</b>	<u>Actual</u> <b>2019</b>	<u>Actual</u> <b>2020</b>	<u>Historic</u> <u>Year</u> (O&M only)	<u>Forecast</u> <b>2021</b>
<b>Capital</b>	\$248	\$389	\$239	\$363		\$0
<b>O&amp;M</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Regulatory Asset</b>	\$0	\$0	\$0	\$0		\$0

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$750	\$701	\$744	\$765	\$788
<b>O&amp;M*</b>	\$0	\$0	\$0	\$0	\$0
<b>Regulatory Asset</b>	\$0	\$0	\$0	\$0	\$0

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$116	\$104	\$113	\$120	\$129
M&S	\$135	\$125	\$132	\$134	\$136
Contract Services	\$314	\$294	\$310	\$314	\$317
Other	\$36	\$33	\$35	\$36	\$38
Overheads	\$149	\$145	\$154	\$161	\$168
<b>Total</b>	\$750	\$701	\$744	\$765	\$788

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

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**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:



- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

Gas Operations  
2022

**1. Project / Program Summary**

Type: <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
Project/Program Title: Astoria Tunnel Cast Steel Liner Replacement	
Project/Program Manager: Roy Young	Project/Program Number (Level 1): 25558171
Status: <input checked="" type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: 2022	Estimated Date In Service: 2023
A. <u>Total Funding Request (\$000)</u> Capital: \$1,100 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:	D. <u>Investment Payback Period:</u> <u>(Years/months) (If applicable)</u>
<p><b>Work Description:</b></p> <p>The Astoria Tunnel was completed in 1915. This tunnel travels <b>Redacted</b> <span style="background-color: #cccccc; display: inline-block; width: 150px; height: 1em;"></span> The tunnel currently houses critical infrastructure including two-345kV feeders, seven-138 kV feeders, and a 36-inch gas transmission main.</p> <p>The presence of decomposed rock extending on the direct line of the tunnel for approximately 450 feet has been identified as a challenge. Decomposed rock is rock that has weathered to the point that it readily fractures into smaller pieces of weak rock. Further weathering produces rock that easily crumbles into mixtures of gravel-sized particles, sand, and silt-sized particles with some clay. The engineering solution at the time of construction was to line the decomposed rock sections with a cast-steel liner and pump high pressure grout behind the liner. The cast-steel liner currently shows signs of heavy corrosion including rusting and spalling which includes the bolts at the flanges. The heavily corroded areas are located coincident to the locations in the tunnel that experienced excessive water infiltration during its original construction.</p> <p>An Engineering Evaluation suggests that the steel lined sections of the tunnel may be structurally compromised based on the severe corrosion of the liner ribs, radial bolts, and circumferential bolts.</p>	

**Justification Summary:**

The first phase of this project requires additional investigation and detailed engineering design. The integrity of the cast-steel liner within these areas requires further investigation and analysis to determine its current structural capability based on identified minimum wall thicknesses and associated fastener material condition. A sample of the cast-steel liner should be taken from a non-critical (non-structural) section and used for destructive materials testing to determine/verify the cast steel mechanical properties.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

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

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

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

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

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

Risk 2

N/A

Risk 3

N/A

**Non-Financial Benefits**

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

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

2. Major financial benefits

Continued deferral of this project may result in increased O&M expenditures.

3. Total cost

Climate change mitigation and/or adaptation is not anticipated to impact project cost.

4. Basis for estimate

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

5. Conclusion

Inspections have identified corroded cast-steel liner sections. To extend the useful life of the tunnel additional investigation to determine the extent of cast-steel liner replacement will be necessary.

**Project Risks and Mitigation Plan**

*Evaluate and describe any risks that might extend the project timeline, prevent completion, or lead to cost overruns. Explain plan to minimize these risks.*

Risk 1

The COVID-19 pandemic is a very fluid situation and delays due to work stoppages may be encountered as a result.

Mitigation plan

A mitigation plan will be prepared that includes all the current CDC guidelines including social distancing, mask wearing and hand washing.

Risk 2

Mitigation plan

**Technical Evaluation / Analysis**

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

**Project Relationships (if applicable)**

None.

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>	\$0	\$0	\$0	\$0		\$0
<b>O&amp;M</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Regulatory Asset</b>	\$0	\$0	\$0	\$0		\$0

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$100	\$1,000	\$0	\$0	\$0
<b>O&amp;M*</b>	\$0	\$0	\$0	\$0	\$0
<b>Regulatory Asset</b>	\$0	\$0	\$0	\$0	\$0

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$0	\$118	\$0	\$0	\$0
M&S	\$0	\$339	\$0	\$0	\$0
Contract Services	\$100	\$409	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0
Overheads	\$0	\$134	\$0	\$0	\$0
<b>Total</b>	\$100	\$1,000	\$0	\$0	\$0

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations  
2022**

# 1. Project / Program Summary

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
<b>Project/Program Title:</b> Hudson – Replace Feeder Rollers	
<b>Project/Program Manager:</b> Roy Young	<b>Project/Program Number (Level 1):</b> 25558227
<b>Status:</b> <input checked="" type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> 2024	<b>Estimated Date In Service:</b> 2024
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$1,700 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  <p>This is project will replace the current feeder rollers which have varying degrees of deterioration from moderate to severe. The 7-345kV electric transmission feeders are supported by over 500 roller assemblies from one end of the tunnel to the other end. The existing obsolete roller assemblies will be replaced with new corrosion resistant non-conductive polyurethane rollers with stainless steel hardware.</p>	
<b>Justification Summary:</b>  <p>The existing 7-345 kV electric transmission feeder rollers are exposed to extremely high temperatures, heavy salt and water infiltration that is inherent in the Hudson Avenue tunnel. The high temperatures are caused by the ambient heat radiating from two 24-inch steam transmission mains. The existing rollers are constructed of a carbon steel roller coated with rubber and carbon steel hardware. The rubber coating has become disbonded from the roller and is putting the feeders at risk for fretting due to the potential for metal-to-metal contact.</p>	
<b>Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)</b>	

This project will extend the useful life of the 7-345kV electric transmission feeders. It will increase safety, reliability, and efficiency. It will also ensure the safe delivery of electricity to our customers.-

## 2. Supplemental Information

### Alternatives

#### Alternative 1 description and reason for rejection

Continue to monitor the condition of the rollers and replace them as needed. This alternative is not recommended as this may lead to severe wall loss where the roller contacts the pipe.

#### Alternative 2 description and reason for rejection

#### Alternative 3 description and reason for rejection

### Risk of No Action

#### Risk 1

If the feeder rollers are not replaced there is an increased risk of damage to the exterior of the pipe resulting in costly O&M repairs and environmental impacts to the tunnel as the feeders are cooled with dielectric fluid.

#### Risk 2

N/A

#### Risk 3

N/A

### Non-Financial Benefits

- 

Increased safety, reliability, efficiency, and customer satisfaction.

### Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)
2. Major financial benefits

Replacement of the existing feeder rollers will avoid potential feeder pipe damage including fretting that could result in costly O&M repairs and extend the net-useful life of the feeders.



3. Total cost

Climate change mitigation and/or adaptation is not anticipated to impact project cost.

4. Basis for estimate

This order of magnitude estimate is based on similar roller replacement work. The estimate will be refined based on the detailed engineering design.

5. Conclusion

The analysis supports the necessity to replace all the 1964 vintage feeder rollers.

**Project Risks and Mitigation Plan**

Risk 1

The COVID-19 pandemic is a very fluid situation and delays due to work stoppages may be encountered as a result.

Mitigation plan

A mitigation plan will be prepared that includes all the current CDC guidelines including social distancing, mask wearing and hand washing.

Risk 2

Some aspects of the work may necessitate obtaining permission from the Energy Control Center to work. Permission is based on system conditions.

Mitigation plan

The plan is to order the rollers ahead of mobilizing to the location as they are a long lead item. Since high temperatures may put a strain the electric system, we will plan the work to avoid the hottest seasons.

**Technical Evaluation / Analysis**

Detailed engineering design will be completed by an engineering consultant.

**Project Relationships (if applicable)**

None.

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
<b>Capital</b>	\$0	\$0	\$0	\$0		\$0
<b>O&amp;M</b>					\$0	
<b>Regulatory Asset</b>	\$0	\$0	\$0	\$0	\$0	\$0

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$0	\$0	\$1,700	\$0	\$0
<b>O&amp;M*</b>	\$0	\$0	\$0	\$0	\$0
<b>Regulatory Asset</b>	\$0	\$0	\$0	\$0	\$0

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$0	\$0	\$345	\$0	\$0
M&S	\$0	\$0	\$629	\$0	\$0
Contract Services	\$0	\$0	\$459	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0
Overheads	\$0	\$0	\$267	\$0	\$0
<b>Total</b>	\$0	\$0	\$1,700	\$0	\$0

**Total Gross Cost Savings / Avoidance by Year:**

	2022	2023	2024	2025	2026
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

Gas Operations  
2022

**1. Project / Program Summary**

Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
Project/Program Title: Lighting Improvement Program	
Project/Program Manager: Roy Young	Project/Program Number (Level 1): 23317902
Status: <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: 2020	Estimated Date In Service: 2026
A. <u>Total Funding Request (\$000)</u> Capital: \$6,000 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:	D. <u>Investment Payback Period:</u> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  This is the continuation of a five-year program that will replace lighting and electrical outlets in five tunnels, including shafts and head houses. These projects involve the upgrade of the existing lighting systems with high energy efficient lighting fixtures complete with new wiring and conduit and code compliant electrical outlets. This will include the removal of the obsolete equipment.	
<b>Justification Summary:</b>  The existing lighting systems and electrical outlets are obsolete, inefficient and need to be replaced. The new lights will be replaced with highly efficient LED lighting fixtures which use significantly less power with a longer life span. The new electrical outlets will be code compliant. This effort will reduce O&M expenses as these fixtures are expected to last longer reducing maintenance.	
<b>Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)</b>  This project will increase safety and reliability. It will also ensure the safe delivery of gas, electric and steam to our customers.-	

## 2. Supplemental Information

### Alternatives

#### Alternative 1 description and reason for rejection

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

#### Alternative 2 description and reason for rejection

#### Alternative 3 description and reason for rejection

### Risk of No Action

#### Risk 1

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

#### Risk 2

N/A

#### Risk 3

N/A

### Non-Financial Benefits

Increased safety, reliability, efficiency, and customer satisfaction.

### Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

2. Major financial benefits

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

3. Total cost

Climate change mitigation and/or adaptation is not anticipated to impact project cost.

4. Basis for estimate

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

5. Conclusion

Adequate lighting is necessary to support work in the tunnels.

**Project Risks and Mitigation Plan**

Risk 1

The COVID-19 pandemic is a very fluid situation and delays due to work stoppages may be encountered as a result.

Mitigation plan

A mitigation plan will be prepared that includes all the current CDC guidelines including social distancing, mask wearing and hand washing.

Risk 2

Mitigation plan

**Technical Evaluation / Analysis**

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

**Project Relationships (if applicable)**

None.

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
<b>Capital</b>	\$59	\$548	\$2,776	\$221		\$124
<b>O&amp;M</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Regulatory Asset</b>	\$0	\$0	\$0	\$0		\$0

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$2,000	\$1,000	\$1,000	\$1,000	\$1,000
<b>O&amp;M*</b>	\$0	\$0	\$0	\$0	\$0
<b>Regulatory Asset</b>	\$0	\$0	\$0	\$0	\$0

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$150	\$150	\$150	\$150	\$150
M&S	-	-	-	-	-
Contract Services	\$2,000	\$1,000	\$1,000	\$1,000	\$1,000
Other	\$150	\$52	\$52	\$52	\$52
Overheads	\$556	\$208	\$208	\$208	\$208
<b>Total</b>	\$2,000	\$1,000	\$1,000	\$1,000	\$1,000

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>	\$53	\$106	\$159	\$212	\$265
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program



Gas Operations  
2022

**1. Project / Program Summary**

Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
Project/Program Title: Various Fire & Gas Monitoring Replacement Program	
Project/Program Manager: Roy Young	Project/Program Number (Level 1): 25558228
Status: <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: 2022	Estimated Date In Service: 2024
A. <u>Total Funding Request (\$000)</u> Capital: \$3,050 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:	D. <u>Investment Payback Period: (Years/months) (If applicable)</u>
<p><b>Work Description:</b></p> <p>This program will replace the obsolete fire and gas monitoring systems in various tunnels. These upgrades will provide modern, reliable, and effective fire and gas detection systems that meet nationally recognized fire safety standards.</p>	
<p><b>Justification Summary:</b></p> <p>The existing fire and gas monitoring systems are obsolete and need to be replaced. Replacement parts for the existing systems are no longer manufactured and are becoming increasingly more difficult to find. The new monitoring systems are expected to have better reliability and improved functionality.</p>	
<p><b>Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)</b></p> <p>This project will increase safety and reliability. It will also ensure the safe delivery of natural gas and electric and to our customers.</p>	

**2. Supplemental Information**

Alternatives
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Alternative 1 description and reason for rejection

Leave the existing obsolete fire and gas monitoring system in place and eventually become unable to service and maintain the equipment. This alternative is not recommended as new fire and gas monitoring technology is available and is expected to require little maintenance.

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

The existing fire and gas monitoring systems are obsolete. This is a safety concern that could put employees and contractors at risk for injury.

Risk 2

N/A

Risk 3

N/A

**Non-Financial Benefits**

- 

Increased safety

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

2. Major financial benefits

3. Total cost

Climate change mitigation and/or adaptation is not anticipated to impact project cost.

4. Basis for estimate

The order of magnitude estimate is based on purchase and installation of new equipment necessary to provide modern, reliable, and effective fire and gas detection systems that meet nationally recognized fire safety standards.

5. Conclusion

For safety and reliability, a fire and gas detection system that will generate an alarm in the event of a fire or gas release in the tunnels is necessary.

**Project Risks and Mitigation Plan**

**Risk 1**

The COVID-19 pandemic is a very fluid situation and delays due to work stoppages may be encountered as a result.

**Mitigation plan**

A mitigation plan will be prepared that includes all the current CDC guidelines including social distancing, mask wearing and hand washing.

**Risk 2**

**Mitigation plan**

**Technical Evaluation / Analysis**

Award a contract through the Supply Chain competitive bidding process to an engineering and design vendor that specializes in fire and gas detection systems to provide construction packages for fire and gas detection systems that meet current nationally recognized fire safety standards. Once construction packages are developed, they can be put to bid for procurement and construction.

**Project Relationships (if applicable)**

None.

**3. Funding Detail**

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
<b>Capital</b>	\$0	\$0	\$0	\$0		\$0
<b>O&amp;M</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Regulatory Asset</b>	\$0	\$0	\$0	\$0		\$0

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$50	\$1,500	\$1,500	\$0	\$0
<b>O&amp;M*</b>	\$0	\$0	\$0	\$0	\$0
<b>Regulatory Asset</b>	\$0	\$0	\$0	\$0	\$0

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	\$0	\$150	\$150	\$0	\$0
M&S	\$0	-	-	\$0	\$0
Contract Services	\$50	\$986	\$986	\$0	\$0
Other	\$0	\$72	\$72	\$0	\$0
Overheads	\$0	\$292	\$292	\$0	\$0
<b>Total</b>	\$50	\$1,500	\$1,500	\$0	\$0

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

METERS:

**Gas Operations  
2022**

**1. Project / Program Summary**

Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input checked="" type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
Project/Program Title: Meter Purchases – Customer Connections and Meter Replacement Programs	
Project/Program Manager: Greg Ludwig	Project/Program Number (Level 1): 21477251/ 1GD1200
Status: <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: Ongoing	Estimated Date In Service: Ongoing
A. <u>Total Funding Request (\$000)</u> Capital: \$60,025 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:	D. <u>Investment Payback Period:</u> <u>(Years/months) (If applicable)</u>
<p><b>Work Description:</b></p> <p>This capital program is for the purchase of gas meters, related devices for mandated programs and advanced metering infrastructure (AMI) devices. Related devices include pressure regulators and instrumentation such as volume correctors and interruptible monitors. These mandated programs include program replacements and meter purchases for customer connections. This is mandatory work in accordance with NYS PSC standards set forth in Title 16, Part 226, and the Gas Tariff.</p>	
<p><b>Justification Summary:</b></p> <p>Gas meters are used for customer connections, meter programs, and replacements. Approximately 87% of the meter inventory is maintained through new meter purchases and the remainder from refurbished meters.</p> <p><b>CUSTOMER CONNECTIONS METER PURCHASES:</b> Meters need to be purchased for customer connections to meet NYS PSC requirements in Title 16 and Gas Tariff.</p>	

This program includes the purchase of the following:

Large Commercial and Industrial Metering Equipment (above 1,000 cfh)

Meters required to fulfill gas customer connection meter installations:

- rotary meters
- turbine meters
- volume correctors
- interruptible monitors
- large commercial/industrial regulator sets
- Gas Measurement field labor

Diaphragm Meters (1000cfh and below)

Meters required to fulfill traditional new installations:

- Class 250 residential diaphragm meters
- Class 500 residential/commercial diaphragm meters
- Class 1,000 commercial diaphragm meters

Pressure Regulation Devices

Pressure regulating equipment for clean heat & new connection meter installations:

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

Gas Measurement Support

Metering products and services used to improve operating efficiency including electronic correctors, outsource vendor meter refurbishment, and capitalized labor.

- volume correctors
- outsource vendor meter refurbishment
- Gas Measurement Shop capital labor
- in-directs

**PROGRAM REPLACEMENT METER PURCHASES:**

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

This program replacement meter purchases include the following:

- Meter Programs
  - Replacement meters for sampling programs and remediation/retirement programs:
    - Cat. A/C/O AIP sampling programs
    - Cat. A/C/O remediation/retirement programs
    - Overdue Cat A/C/O remediation programs
- Large Commercial and Industrial Metering Equipment (1,000 cfh and above)

Large meters required for trouble removals and removals/replacements:

- rotary meters
- turbine meters

- Diaphragm Meters (1,000 cfh and below)

Diaphragm meters required for trouble removals and replacements:

- class 250 meters
- class 500 meters
- class 1000 meters

- Pressure Regulation Devices

Pressure regulating equipment required for troubles removals and replacements:

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

- Measurement Support

For metering products and services including:

- volume correctors required for trouble removals and replacements
- outsource vendor meter refurbishment
- Meter Shop capital labor
- in-directs

**AMI:**

Purchase of AMIs for:

- Subsequent Itron AMI replacements after initial installation during Itron AMI deployment. AMI is picking up the cost for the initial deployment for all Itron AMIs for all gas meters installed during the deployment excluding subsequent Itron AMI replacements.
- Gas meters for customer connections with Itron AMIs installed in areas that were previously saturated with Itron AMIs.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

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

## 2. Supplemental Information

**Alternatives**

Alternative 1 description and reason for rejection

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

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

Risk 1

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

Risk 2

Risk 3

**Non-Financial Benefits**

Not Applicable

**Summary of Financial Benefits and Costs (attach backup)**

For customer connections that require a new meter, these customers will add additional revenue.

**Project Risks and Mitigation Plan**

Not Applicable

**Technical Evaluation / Analysis**

Includes purchase of customer meters (diaphragm, rotary, turbine), service regulators (residential/commercial/industrial), and metering products/services (interruptible monitors, volume correctors, outsourced meter shop services) for customer connections.

**Project Relationships (if applicable)**

Not Applicable



## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
<b>Capital</b>	9,304	10,464	9,587	13,135		11,121
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	11,573	12,023	12,023	12,023	12,383
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	689	716	717	716	737
M&S	9900	10286	10286	10286	10594
Contract Services	124	129	130	129	133
Other	11	115	115	114	118
Overheads	749	777	776	778	800
<b>Total</b>	11,573	12,023	12,023	12,023	12,383

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>

O&M					
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

Gas Operations  
2022

**1. Project / Program Summary**

Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input checked="" type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
Project/Program Title: Meter Installations – Customer Connections and Meter Replacement Programs	
Project/Program Manager: Greg Ludwig	Project/Program Number (Level 1): 1GD9611/ 1GD9671/ 1GD9911/ 7GD9601/ 7GD9661/ 7GD9901/ 7GD9961/ 10039518/ 10039519/ 10039604/ 10039605
Status: <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: Ongoing	Estimated Date In Service: Ongoing
A. <u>Total Funding Request (\$000)</u> Capital: \$101,596 O&M:	B. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
C. <u>5-Year Ongoing Maintenance Expense (\$000)</u> O&M: Capital:	D. <u>Investment Payback Period:</u> <u>(Years/months) (If applicable)</u>
<p><b>Work Description:</b></p> <p>This program is for the installation of gas meters for mandated meter programs, meter/regulator/instrumentation for troubles and replacements, and meter installations for customer connections. This is mandatory work in accordance with NYS PSC standards set forth in Title 16, Part 226 and the Con Edison Gas Tariff.</p> <p>Gas meters and related devices shall conform to the accuracy standards set forth in NYS PSC Title 16, Part 226. Meters that fail to meet these standards are removed and either retired or refurbished.</p> <p>Meter installations for program replacements under regulatory mandated programs include the following:</p> <ul style="list-style-type: none"> <li>• Meter Programs <ul style="list-style-type: none"> <li>Replacement meters for sampling programs and remediation/retirement programs: <ul style="list-style-type: none"> <li>- Cat. A/C/O AIP sampling programs</li> <li>- Cat. A/C/O remediation/retirement programs</li> <li>- Overdue Cat A/C/O remediation programs</li> </ul> </li> </ul> </li> </ul>	

- Large Commercial and Industrial Metering Equipment (1,000 cfh and above)  
Large meters required for trouble removals and removals/replacements:
  - rotary meters
  - turbine meters
  
- Diaphragm Meters (1,000 cfh and below)  
Diaphragm meters required for trouble removals and replacements:
  - class 250 meters
  - class 500 meters
  - class 1000 meters
  
- Pressure Regulation Devices  
Pressure regulating equipment required for troubles removals and replacements:
  - residential 1in X 1in regulators
  - commercial 1in X 1.25in regulators
  - commercial 2in X 2in regulators
  - industrial regulators
  
- Measurement Support  
Volume correctors required for trouble removals and replacements

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

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

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

## 2. Supplemental Information

<p><b>Alternatives</b></p> <p><u>Alternative 1 description and reason for rejection</u></p> <p>There are no alternatives. Con Edison is responsible for providing gas meters and associated equipment/devices for programs and replacements in accordance with NYS PSC Title 16, and Part 226. Gas meters must be installed when customer's request service in accordance with the Gas Tariff. Meters must be installed to bill the customer.</p> <p><u>Alternative 2 description and reason for rejection</u></p> <p><u>Alternative 3 description and reason for rejection</u></p>
<p><b>Risk of No Action</b></p> <p><u>Risk 1</u></p> <p>Con Edison will be in violation of the gas tariffs and will be losing potential revenue. If meter program and replacement gas meters were not installed, then we could only bill the customer on estimated instead of actual gas usage.</p> <p><u>Risk 2</u></p> <p><u>Risk 3</u></p>
<p><b>Non-Financial Benefits</b></p> <p>Not Applicable</p>
<p><b>Summary of Financial Benefits and Costs (attach backup)</b></p> <p>For customer connections that require a new meter, these customers will add additional revenue.</p>
<p><b>Project Risks and Mitigation Plan</b></p> <p>Not Applicable</p>
<p><b>Technical Evaluation / Analysis</b></p> <p>Includes installation of customer meters (diaphragm, rotary, turbine), service regulators (residential/commercial/industrial), and metering products (interruptible monitors, volume correctors) for programs and replacements. Includes installation/turn-on of meters (diaphragm, rotary, turbine), and service regulators (residential/commercial/industrial) for customer connections.</p>
<p><b>Project Relationships (if applicable)</b></p>

Not Applicable

### 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
Capital	18,534	18,566	19,549	10,739		13,208
O&M						
Regulatory Asset						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital	18,996	19,376	20,866	20,866	21,492
O&M*					
Regulatory Asset					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	7617	7769	8366	8367	8617
M&S	1750	1785	1922	1922	8617
Contract Services	4472	4562	4912	4912	1980
Other	-148	-150	-162	-161	-166
Overheads	5305	5410	5829	5826	6002
<b>Total</b>	18,996	19,376	20,866	20,866	21,492

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M					

Capital					
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\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations**  
**2022**

# 1. Project / Program Summary

<b>Type:</b> <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
<b>Project/Program Title:</b> AMI Gas Detector	
<b>Project/Program Manager:</b> Greg Ludwig	<b>Project/Program Number (Level 1):</b> 23320180
<b>Status:</b> <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> Ongoing	<b>Estimated Date In Service:</b> Ongoing
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$147,035 O&M:	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  <p>These natural gas detectors (NGDs) are safety devices that will be installed in gas customers' indoor gas meter rooms near the head of service and are intended to provide continuous monitoring of the area for methane that results in an alarm at a preset level. When a NGD alarms, the alarm information is transmitted through the advanced metering infrastructure (AMI) network to the Gas Emergency Response Center (GERC). The GERC will dispatch mechanics from Gas Distribution Services (GDS) to respond to the potential gas leak using normal leak response protocols.</p> <p>The accumulation of natural gas in a building can occur from a leak on the buried gas distribution infrastructure located on the outside of the building. Gas can migrate through the soil or through a utility service point of entry (POE) and into the building. Buildings are typically constructed where the majority of utility POEs (water service, sewer pipe, and buried electric service) are in close proximity to the gas POE. Therefore, locating a NGD near the head of service provides detection capability for this type of occurrence.</p> <p>The development of methane sensor technology in combination with the roll out of the Company's AMI communication network presents a first-of-a-kind and unique opportunity to pair remote methane detection with the AMI communication infrastructure. This will enable a direct alarm to the Company's GERC that could prevent incidents in the future, thus improving public and employee safety.</p>	



**Justification Summary:**

Utilizing NGD technology will improve public and employee safety by identifying potential leaks much earlier than current methods. This will allow the GDS crews more time to identify the potential gas leak, make the location safe and evacuate the public if necessary. Con Edison has an extensive Enterprise Risk Management (ERM) program. From an ERM perspective, events on the gas distribution system stemming from damage or leaks present a significant risk to Con Edison customers. The use of the NGD technology will significantly reduce this risk.

To minimize the number of visits we to enter a Customers premise, we are attempting, where feasible to complete service line inspections while installing and replacing AMI enabled Natural Gas Detectors (NGDs). Refer to White Paper for Service Line Program for the codependence of both programs.

The projected number of NGD installations per year along with NGD device and installation costs are listed below:

	2023	2024	2025	Total
Installations	65,700	73,300	67,800	206,800
Device Costs	\$309	\$309	\$309	
Installation Costs	\$198	\$204	\$210	
Total	\$29,974	\$34,127	\$33,002	\$97,104

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

Con Edison recognizes the significant costs associated with complying with the mandated gas safety inspection program. We are taking every opportunity when we are in a customer’s premise and have access to perform the inspection. This can help increase compliance, reduce repeat visits and minimize the costs associated with this program. In addition, and most importantly, we are bundling the NGD installations with a service line inspection. In this manner, we can align the inspection cycles with the NGD install/replacement schedules. As the NGD device battery life and technology progresses towards a 10 year battery life, we would seek to increase the service line inspection cycles from a 5-year plan to a 10-year cycle plan to minimize the on-going O&M associated with such inspections.

**2. Supplemental Information**

**Alternatives**

Alternative 1 description and reason for rejection

Not to install remote methane sensors.

<p><b>Risk of No Action</b></p> <p><u>Risk 1</u></p> <p>Would result in missing a unique opportunity to significantly improve public safety and materially reduce the risk of an incident involving natural gas. This alternative is not recommended.</p>
<p><b>Non-Financial Benefits</b></p> <p>The deployment of remote methane detectors would put the Company at the forefront of detecting leaks and improving employee and public safety</p>
<p><b>Summary of Financial Benefits and Costs (attach backup)</b></p> <p>Not Applicable</p>
<p><b>Project Risks and Mitigation Plan</b></p> <p>Not Applicable</p>
<p>Technical Evaluation / Analysis</p> <p>The proposed NGD must be capable of meeting or exceeding the following technical requirements for communication with the company:</p> <ul style="list-style-type: none"><li>○ The NGD must generate a communication to alert when the sensor has joined the network for the first time. This must include the date and time of the sensor turn-on.</li><li>○ The NGD must generate a daily “heart beat” communication to alert if the sensor has failed or cannot communicate with the network. The daily heart beat communication must include an identifier for the integrated sensor, an identifier for the firmware version, and other information necessary to track and monitor the sensor.</li><li>○ The NGD must generate a low battery alarm and continue to send the alarm at least daily as part of the communications heartbeat. The low battery alarm must ensure that the AMI Methane Sensor will continue to operate for at least 90 days after the initial alarm.</li><li>○ The NGD must send an alarm if the sensor detects a fault and should continue to send the alarm at least daily as part of the communications heartbeat.</li><li>○ The NGD must generate a positive alarm as soon as possible, but not later than 30-45 seconds of identifying the presence of methane gas as per required alarm levels. This alarm must be sent continuously until the device is physically reset or methane levels return to acceptable levels.</li></ul>
<p><b>Project Relationships (if applicable)</b></p>

Methane detectors maintenance upon gas leak alarm detection and the investigation and resolution of any faults.  
The Service Line Inspection Program will be bundled where applicable with NGD installations/replacements.

### 3. Funding Detail

#### Historical Spend

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>				10,915		
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

#### Total Request (\$000):

#### Total Request by Year:

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	24,269	29,975	34,127	33,003	25,662
<b>O&amp;M*</b>					
<b>Regulatory Asset</b>					

#### Capital/Regulatory Asset Request by Elements of Expense:

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor	7239	13009	13001	12994	12921
M&S	9337	14114	16862	16862	11357
Contract Services	7662	2798	4210	3093	1330
Other	29	52	52	52	52
Overheads					
<b>Total</b>	24,269	29,975	34,127	33,003	25,662

#### Total Gross Cost Savings / Avoidance by Year:

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

#### Total Ongoing Maintenance Expense by Year:

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>

O&M					
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

## **5. GAS INFORMATION TECHNOLOGY**

**Gas Operations  
2022**

# 1. Project / Program Summary

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
<b>Project/Program Title:</b> Gas Control Operator Training System (OTS) Simulator	
<b>Project/Program Manager:</b> Nariman Nasser	<b>Project/Program Number (Level 1):</b>
<b>Status:</b> <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> 2023	<b>Estimated Date In Service:</b> 2024
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$1,500 O&M: \$180	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$913,000)</u></b> O&M: \$913,000 Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  <p>This project is for the design, configuration, internal testing, site installation and verification, and documentation and deployment of an Operator Trainer System (OTS) simulator of the Con Edison Gas Transmission System for Gas Control Gas System Operator Training and continued resource support to maintain simulator model (Simulator Engineer).</p> <p>Configuration of the model and logic includes approximately 40 gas regulator stations, 90 deliveries, 50 Remote Operated Valve (ROV) sites, seven City Gates, two Interconnects, and a compressor station. Logic to be developed/included for regulator function, compressor start-up and shutdown, valve control, and gate station action.</p> <p>Solution to include scenario development in line with Control Room Management and Team Training requirements on normal operations, single and cascading Abnormal Operating Condition situations, and ability for scoring/recordkeeping for Control Room Management Compliance Purposes.</p> <p>Human-Machine Interface/Displays to be developed consistent with the existing Gas Operations Supervisory System (GOSS) application for true-to-life system replication.</p>	

All necessary software/licenses/hardware for solution as well as technical assistance to be included as part of project.

Hardware Purchase, System Staging and Software Installation, and Model/Logic configuration are projected for 2023, with Supervisory Control And Data Acquisition Interface/Integration, Scenario Development, Site Installation and User Acceptance Testing projected for 2024, with total project length anticipated at 16 months.

**Justification Summary:**

With the implementation of Team Training as part of Control Room Management, additional emphasis continues to be placed by PHMSA on an Operator’s training program for their system controllers for both normal operations as well as correct reactions under abnormal operating conditions. Quick, effective response to an abnormal operating condition can be the difference between public safety and tragedy. The Gas System OTS software suite and support personnel would provide the Company’s Gas System Operators a real-life, mistake tolerant environment to develop initial skills for new personnel, test existing personnel on speed of response on a variety of tailorable operating scenarios, and allow for system experience ahead of proposed significant piping changes on the Gas Transmission System.

Additionally, training requirements and efficiency will continue to be a priority, as existing personnel retain a significant amount of operating experience. The current training program utilizes extensive on-the-job shadowing of existing controllers for knowledge transfer, and is opportunistic in exposing new controllers to the wide variety of situations faced on a day to day basis; additionally, differences in seasonal operations may result in operators being exposed to real life operations for the first time even after qualification.

Implementation of an OTS solution would better prepare new controllers utilizing similar and past event scenarios in a sandbox environment, mitigate potential distractions to existing controllers during the On-the-job shadowing process due to additional distractions and responsibilities by minimizing required shadowing time, better track and train existing operators on situations they may be unfamiliar with, and expose controllers to new system configurations and equipment prior to turn-on in the field.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

Implementation of this OTS Solution reduces risk associated with Gas Control Operations by providing an error-tolerant space for training purposes. Gas Transmission construction projects addressing climate adaptation activity and mitigation can be integrated into this solution prior to asset turn-on, increasing reliability and abnormal operating condition training on new systems.

**2. Supplemental Information**

**Alternatives**

Alternative 1 description and reason for rejection

Continued usage of existing Control Room Management training program. Due to evolving training requirements, higher regulatory expectations, and need for continuous improvement in operator training, lack of an OTS simulator will continue to stunt training program growth and expose additional risk to Gas Control Operations.

**Risk of No Action**

Risk 1

Inexperience/unfamiliarity of normal operations/abnormal operating conditions leading to Controller Error resulting in potential damage to life and property and degradation of corporate image/brand.

Risk 2

Increased cost and training time required for new controllers to be able to perform the functions of Associate Gas System Operator, Gas System Operator, or Senior Gas System Operator, increasing workload on existing qualified team until new team member can be qualified, increasing hours worked, fatigue, and distractions during the training process. This risk will continue to increase as additional controllers retire/leave with significant operating experience in the Gas Control Center.

Risk 3

Compliance risks as Control Room Management training requirements evolve, as additional resources/systems will be required to track Gas Control specific training and skill validation.

**Non-Financial Benefits**

Increased performance and reduction in potential operating errors as the Gas Transmission System continues to evolve. Additional opportunities across the Gas Engineering to validate/test new system configurations to ensure consistent operations across the organization. Increased safety/reliability (including incorporation of Gas Transmission climate adaptation projects) by real-time training on normal and abnormal operating conditions prior to asset energization and in-service status.

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)
  
2. Major financial benefits
  
3. Total cost



The total capital cost is \$1,500,000. Climate change mitigation and/or adaptation is not anticipated to impact project cost.

4. Basis for estimate

The funding for this project was determined based on software and license budgetary estimate/quote, anticipated hardware requirements, and continued resource support.

5. Conclusion

OTS Simulation software leverages technology as a necessary evolution in Gas Controller training and in-line with accepted industry practices across the energy sector. By exposing Gas Controllers to normal and abnormal operations in a sandbox environment, learning is done in a risk free space to the public, environment, and company.

**Project Risks and Mitigation Plan**

Risk 1

Datacenter readiness for equipment installation.

Mitigation plan

Identify temporary location for equipment installation and to implement without hardware redundancy.

**Technical Evaluation / Analysis**

**Project Relationships (if applicable)**

**3. Funding Detail**

**Historical Spend**

	<u>Actual</u> <u>2017</u>	<u>Actual</u> <u>2018</u>	<u>Actual</u> <u>2019</u>	<u>Actual</u> <u>2020</u>	<u>Historic</u> <u>Year</u> (O&M only)	<u>Forecast</u> <u>2021</u>
<b>Capital</b>						

O&M						
Regulatory Asset						

**Total Request (\$2,706,000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital		\$1,100	\$400		
O&M*			\$60	\$60	\$60
Regulatory Asset					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor					
M&S		\$1,100	\$400		
Contract Services					
Other					
Overheads					
<b>Total</b>					

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M			\$60	\$60	\$60
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations**  
**2022**

# 1. Project / Program Summary

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
<b>Project/Program Title:</b> Gas Control Center End of Life (EOL) Equipment Replacement	
<b>Project/Program Manager:</b> Nariman Nasser	<b>Project/Program Number (Level 1):</b> 25406497
<b>Status:</b> <input checked="" type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
<b>Estimated Start Date:</b> 2023	<b>Estimated Date In Service:</b> on going
<b>A. <u>Total Funding Request (\$442,000)</u></b> Capital: \$442,000 O&M: \$0	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: Capital:	<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>
<b>Work Description:</b>  <p>This program is for the continued replacement of obsolete components for the Gas Control High Value Network and Information Technology systems used by the Gas Control Center and continued investment in cyber hardening initiatives, including investment in OT Centralized Management.</p> <p>This program develops a recurring replacement cycle of three years for Gas Control Center information devices, including SCADA workstations, monitors, and display devices.</p> <p>Additionally, this program includes continued funding for Gas Operations investment in the Company’s Operational Technology (OT) Centralized Management program, which allows for continuous monitoring by Shared Services groups of the Gas High Value Network, and integration of system management across Gas, Steam, and Electric control centers.</p> <p>This project funds Operational Technology (OT) Network Centralized Management annually, SCADA Workstation replacement in 2024 and 2027, and OT Display equipment annually on a rotating basis.</p>	

**Justification Summary:**

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

Investment in the Company's Operational Technology (OT) Centralized Management program provides 24/7/365 monitoring of the Gas High Value Network, allowing for proactive monitoring and faster response to cyber-related events in an ever-changing cybersecurity regulatory and threat environment.

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

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

Both a Control Center preventative maintenance program that includes replacement of components not managed by Gas Technology ensures hardware/software is replaced prior to end-of-life and supports modern cybersecurity requirements as well as active monitoring of the High Value Network support Gas Operations endeavors for Cybersecurity ERM. This project is not expected to be impacted by or address any specific climate adaptation activity; climate mitigation impact will be realized via purchase of modern equipment.

**2. Supplemental Information**

**Alternatives**

Alternative 1 description and reason for rejection

Continued usage of existing equipment until failure. This option is rejected as equipment failures are dealt with on an ad hoc basis, EOL equipment is hard or unavailable to procure, and timing is unknown, all contributing to an environment of increased risk to the business.

**Risk of No Action**

Risk 1

Equipment fails during critical operations, reducing situational awareness and increasing risk to continued Operations.

Risk 2

Equipment failure happens off-hours/weekends/holidays or equipment is obsolete, increasing cost for replacement due to increased hourly rates or part availability. If parts are unavailable, increased cost for replacement, which may increase at significant rate if entire systems need to be modernized simultaneously for operational reasons.

Risk 3

Network Equipment failure/cyber intrusion occurs and response is delayed while logs are investigated, potentially increasing scale of failure or intrusion, increasing impact to operation and cost to the Company, both monetary and to public image.

**Non-Financial Benefits**

- 

Modernization of hardware and software platforms will take advantage of recent industry evolutions, improving reliability and security for the system and network as a whole. Upgraded systems will provide more in depth detail and compatibility for anticipated cyber security requirements, as well as include integrated tools to manage Control Room Management and Sarbanes-Oxley requirements to ensure regulatory compliance.

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

2. Major financial benefits

3. Total cost

The total capital cost is \$567,000. Climate change mitigation and/or adaptation is not anticipated to impact project cost.

4. Basis for estimate

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

5. Conclusion

Preventive equipment replacement prior to End-of-Life and active monitoring significantly reduce risk to Gas Control operations by replacing equipment prior to failure and obsolescence while active, centralized OT Management reduces risk of propagating failure or compromise of network.

<p><b>Project Risks and Mitigation Plan</b></p> <p>Risk 1</p> <p>Some equipment may require vendor support for replacement due to system integration.</p> <p>Mitigation plan</p> <p>Certain integrated systems/equipment to be dealt with separately outside of this program.</p>
<p><b>Technical Evaluation / Analysis</b></p>
<p><b>Project Relationships (if applicable)</b></p>

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
Capital			\$10	\$12		\$186
O&M						
Regulatory Asset						

**Total Request (\$442,000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital	\$66	\$65	\$175	\$67	\$69
O&M*					
Regulatory Asset					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor					
M&S	\$66	\$65	\$175	\$67	\$69
Contract					

Services					
Other					
Overheads					
<b>Total</b>	<b>\$66</b>	<b>\$65</b>	<b>\$175</b>	<b>\$67</b>	<b>\$69</b>

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>					
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)


Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program



**Gas Operations  
2022**

**1. Project / Program Summary**

Type: <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program		Category: <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input checked="" type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic			
Project/Program Title: Gas Control Center Improvements			
Project/Program Manager: Victor Dadario		Project/Program Number (Level 1):	
Status: <input checked="" type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input checked="" type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
Estimated Start Date: 2022		Estimated Date In Service: 2026	
<b>A. <u>Total Funding Request (\$14,580,000)</u></b> Capital: \$13,430,000 O&M: \$400,000		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:	
<b>C. <u>5-Year Ongoing Maintenance Expense (\$1,150,000)</u></b> O&M: \$1,150,000 Capital:		<b>D. <u>Investment Payback Period:</u></b> <u>(Years/months) (If applicable)</u>	
Work Description:  Redacted 			

Redacted

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Redacted

**Justification Summary:**

1. Redacted

Redacted

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

Redacted

Climate Adaptation/mitigation for the site will be addressed as part of the new Gas Control Center redevelopment.

**2. Supplemental Information**

**Alternatives**

Alternative Item 1 description and reason for rejection

Redacted

Alternative Item 2 description and reason for rejection

Redacted

Alternative Item 3 description and reason for rejection

Redacted

**Risk of No Action**

Risk 1

Redacted

Risk 2

Redacted

Risk 4

Redacted

Risk 5

Redacted

Redacted

Risk 6

Redacted

**Non-Financial Benefits**

- 

Redacted

Redacted

Redacted

Redacted

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)
2. Major financial benefits
3. Total cost

The total capital cost is \$13,430,000 and O&M of \$1,150,000 over the project duration. Climate change mitigation and/or adaptation is not anticipated to impact project cost.

4. Basis for estimate

The funding for this project was determined based on expected equipment costs, peer benchmarking, past discussions around modernization, and previous projects with projects to current corporate infrastructure requirements. O&M funding was determined based upon projected maintenance and license fees.

5. Conclusion

Redacted

Redacted

Redacted

Redacted

**Project Risks and Mitigation Plan**

Risk Item 1

Redacted

Mitigation plan

Redacted

Risk Item 2

Redacted

<p><u>Mitigation plan</u></p> <p><b>Redacted</b></p> <p><u>Risk Item 3</u></p> <p><b>Redacted</b></p> <p><u>Mitigation plan</u></p> <p><b>Redacted</b></p>
<p><b>Technical Evaluation / Analysis</b></p>
<p><b>Project Relationships (if applicable)</b></p> <p>Item 3 – New Gas Control Center Master Plan</p>

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>						
<b>O&amp;M</b>						
<b>Regulatory Asset</b>						

**Total Request (\$13,430,000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	\$2,500	\$2,700	\$3,000	\$3,950	\$1,280
<b>O&amp;M*</b>			\$50	\$50	\$300
<b>Regulatory Asset</b>					



**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor			\$400	\$400	\$280
M&S	\$2,500	\$2,700	\$2,600	\$3,550	\$1,000
Contract Services					
Other					
Overheads					
<b>Total</b>	<b>\$2,500</b>	<b>\$2,700</b>	<b>\$3,000</b>	<b>\$3,950</b>	<b>\$1,280</b>

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>				
<b>O&amp;M Avoidance</b>				
<b>Capital Savings</b>				
<b>Capital Avoidance</b>				

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>			\$50	\$50	\$300
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**Gas Operations  
2022**

**1. Project / Program Summary**

<b>Type:</b> <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program		<b>Category:</b> <input checked="" type="checkbox"/> Capital <input type="checkbox"/> O&M	
<b>Work Plan Category:</b> <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic			
<b>Project/Program Title:</b> Gas Outage Management System (OMS)			
<b>Project/Program Manager:</b> Oscar Leon		<b>Project/Program Number (Level 1):</b> 25776254	
<b>Status:</b> <input checked="" type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
<b>Estimated Start Date:</b> 2023		<b>Estimated Date In Service:</b> 2024	
<b>A. <u>Total Funding Request (\$000)</u></b> Capital: \$17,835 O&M:		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: \$ Capital:	
<b>C. <u>5-Year Ongoing Maintenance Expense (\$000)</u></b> O&M: \$1,400 Capital:		<b>D. <u>Investment Payback Period:</u></b> <b><u>(Years/months) (If applicable)</u></b>	
<b>Work Description:</b>  A Gas Outage Management System (“OMS”) will provide an electronic solution to manage customer outage information in the event of a large-scale outage in order to better manage resources, decrease restoration time, and communicate in a timely manner to our customers and other stakeholders.  The key elements the system should have:  <ul style="list-style-type: none"> <li>• <b>Outage Detection:</b> The system would be able to identify incoming “No gas” calls across a widespread area to readily (visually) determine the impacted area and initiate quicker remedial actions.</li> <li>• <b>Outage Management:</b> After an area has been identified and the customers impacted have been determined, the system will control management of restoration information (e.g., turn-offs, turn-ons, inactive meters, etc.) of each customer, zone or region. Field information will need to be recorded electronically in the field (hand-held device) by Company and Mutual Aid crews, which will be uploaded and managed accordingly to provide timely and accurate outage progress and reporting.</li> <li>• <b>Geographic Information System integration:</b> A Gas OMS system should integrate outage information with the Company’s new Esri based mapping system.</li> </ul>			

- Intergrate: The Gas OMS system should be able to use Advanced Metering Infrastructure (“AMI”) data to identify and verify customer status. Along with integrating with additional legacy systems such as Gas Central and Customer Information System (“CIS”).

Additionally, The Gas Emergency Response Center (“GERC”) is responsible for the management and dispatching of field crews to suspected gas leaks (“Odor Calls”) within the Con Edison service territory. Odor Calls can be made from the public, as well as Con Edison field crews and contractors working for the Company. By driving insights through the use of data and analytics, the goal of this use case is to maintain and/or improve response time with current staffing levels or fewer. To achieve this, the project plans on delivering various data products including: a Gas Inspection System based historical dashboard and a forecasting model. The GIS based dashboard will provide a historical view of past leak call activity where users will be able to understand and analyze call volumes by region, compare similar days as well as see trends at a more granular geographic level. By utilizing historical data, a forecasting model will generate additional foresight that will allow the GERC to anticipate changes in call volumes to ensure adequate and appropriate staffing.

**Justification Summary:**

Large Scale Gas Customer Outage risk was added to the Con Edison Inc. risk profile in the fourth quarter of 2019. A future mitigation control noted within the risk profile is to pursue a review the installation of a Gas OMS system. This risk outlook is currently identified as increasing due to:

The Planning function in the gas Incident Command Structure (“ICS”) requires estimated time to restoration (“ETR”) in the event of an outage. Having a Gas OMS system that can electronically record and transmit outage information will provide accurate information to manage the outage and provide timely information to all stakeholders, ultimately reducing restoration time which can be critical if the outage were to occur in below freezing temperatures where customers are displaced. In addition, it would remove the manual time-consuming process which provides far less accurate information.

In recent years there have been two major industry events which resulted in large scale gas customer outages (the 2018 Columbia Gas Event in Massachusetts, and the 2019 National Grid Aquidneck Island Outage in Rhode Island), where over 7,000 gas customers lost service in each event. In the Rhode Island event, the Public Utilities Commission (“PUC”) recommended that the utility “create an outage mapping and tracking process” to better identify and track gas outages mainly due to the paper-based process used during the event. National Grid staffed

personnel 24/7 for seven days to process outage/restoration cards to perform outage reporting and analysis for ~7,500 customers.

A Gas OMS would also serve beneficial in handling major events with greater control and emergency mitigation. It will visualize the shutoff, repair, and restoration process to leverage both internal and external stakeholder communication. A Gas OMS has the potential of increasing both internal management of an incident as well as enhance customer outage communication.

Additionally, gas made safe time/leak response time are a critical performance metrics for Employee and Public Safety for Gas Operations, both internally as well as externally, from goals set with DPS Staff. GERC's management of intake and dispatch of incoming odor calls is key in meeting these performance metrics.

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

Large Scale Gas Customer Outage risk was added to the Con Edison Inc. risk profile in the fourth quarter of 2019. A future mitigation control was identified for this risk, which included this Gas OMS.

**2. Supplemental Information**

**Alternatives**

*Alternative 1 description and reason for rejection*

The Company could keep the current manual process. This was rejected based on the current regulatory environment and customer expectations to be restored in the shortest amount of time.

*Alternative 2 description and reason for rejection*

*Alternative 3 description and reason for rejection*

**Risk of No Action**

Risk 1

Health and Safety – catastrophic/significant impact to employee and public safety. Performing restoration manually could extend restoration outage time which would be exacerbated if the outage occurred in the winter with sub-freezing temperatures jeopardizing employee and public safety.

Risk 2

Financial & Operational - catastrophic/significant damage to customer property, inter-utility damage and outages, loss of franchise, fines, penalties, lawsuits, lost revenue, and extensive restoration and restitution fees

Risk 3

Reputational – impacts to brand and public perception, loss of investor and regulator confidence

**Non-Financial Benefits**

- Improved safety and reliability
- Improved operational effectiveness
- Improved workflows and communications (within the Company and with regulators, customers, and first responders)

**Summary of Financial Benefits and Costs (attach backup)**

1. Cost-benefit analysis (if required)

n/a

2. Major financial benefits

n/a

3. Total cost

The total cost estimate is \$17,835,000. Climate risk adaptation measures have added an estimated \$2,000,000 included to the proposed project costs.

4. Basis for estimate

Estimates are based on prices from current contracts for similar systems. Gas OMS is a new technology category and so estimate is based on other similar types of projects.

5. Conclusion

**Project Risks and Mitigation Plan**

Risk 1

Mitigation plan

Gas OMS is a new technology category therefore it is not commonly used in the industry. Mitigation will be multi-stepped.

- Leverage the Company's knowledge from its electric outage management system, and gas mobile dispatch system used over the last 15 years

- Seek a solution compatible with the Company’s current Electric OMS system.
- Benchmark industry groups such as Northeast Gas Association (NGA) and other utilities to understand and participate in the scope of needs in this space.
- Use performance-based contracting where possible.

**Risk 2**

**Mitigation plan**

Large outages are not common so unfamiliarity with system could be an issue for users initially and over time if the system is not used often. This risk can be mitigated by using the system during normal business (smaller outages) and conducting regular and outline mandated training/drills in the Gas Emergency Response Plan.

**Technical Evaluation / Analysis**

N/A

**Project Relationships (if applicable)**

Collection of field data electronically via Gas Central Mobile and upload to a Gas OMS system would be required. (e.g., Gas Mobile Phone/tablet app to record meter number and status (e.g., off and locked, or turned on, currently locked/inactive))

Using AMI gas meter data to assist in determining field status could be beneficial.

ESRI Mapping System

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
<b>Capital</b>	0	0	0	0	0	0
<b>O&amp;M</b>	0	0	0	0	0	0

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
<b>Capital</b>	0	\$9,036	\$8,799	\$	0
<b>O&amp;M*</b>	0	0	0	0	0

**Capital Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor		\$2,494	\$2,667		
M&S		\$420			
Contract Services					
Other		\$4,666	\$4,616		
Overheads		\$1,456	\$1,516		
<b>Total</b>		\$9,036	\$8,799		

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M Savings</b>					
<b>O&amp;M Avoidance</b>					
<b>Capital Savings</b>					
<b>Capital Avoidance</b>					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
<b>O&amp;M</b>				\$140	\$140
<b>Capital</b>					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program

**CONSOLIDATED EDISON  
COMPANY OF NEW YORK, INC.  
2023-2025 OPERATIONS AND  
MAINTENANCE (O&M)**

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GAS OPERATIONS - O&M CHANGES BY CATEGORY	Total Dollars (\$000)*		
	RY1	RY2	RY3
Service Line Definition	\$ 39,190	\$ (871)	\$ (1,248)
High Emissions Survey	\$ 499	\$ -	\$ -
Additional Bridge Inspection Work	\$ 368	\$ -	\$ -
Capital Projects Software Changes**	\$ -	\$ 60	\$ 140
<b>Grand Total</b>	<b>\$ 40,057</b>	<b>\$ (811)</b>	<b>\$ (1,108)</b>

\*dollars represented as incremental over historic year

\*\*details associated with this increase can be found in the Outage Management System and GCC Operator Training System Simulator capital white papers

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- **High Emissions Survey** ..... 8
- **Inspection and Maintenance of Aboveground Gas Mains at Bridges** ..... 12

<input type="checkbox"/>	Capital
<input checked="" type="checkbox"/>	O&M

**Gas Operations  
2022**

**1. Project / Program Summary**

Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program		Category: <input type="checkbox"/> Capital <input checked="" type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset	
Work Plan Category: <input checked="" type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic			
Project/Program Title: <b>Service Line Inspection Program</b>			
Project/Program Manager: Thomas Riviello/ Alexia Reno		Project/Program Number (Level 1): NA	
Status: <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: _____			
Estimated Start Date: on-going		Estimated Date In Service: on-going	
<b>A. Total Funding Request (\$000)</b> Capital: O&M: \$197.2 Mil		<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: n/a Capital: n/a	
<b>C. 5-Year Ongoing Maintenance Expense (\$000)</b> O&M: Capital:		<b>D. Investment Payback Period: (Years/months) (If applicable)</b>	
<b>Work Description:</b> <p>This program is to fund leak surveys and corrosion inspections of the inside gas piping from the point of entry (POE) of the building to the outlet of every gas meter. There are ~1 million gas meters on over 300,000 gas services located inside the customer’s premise. This program supports the revision of the “service line” definition. This request includes the inspection of the gas piping on a five-year cycle. The inspection cycle is based on the extension of inspection cycles to five years for all inside service inspections, from a prior cycle of once a year annually for business district and once every three years for non-business district.</p> <p>This program includes the funding for 2023-2025 inspection costs associated with inspector labor to support the physical inspection as well as the back-office labor to support customer communication and education, scheduling, routing and other efforts to coordinate work streams between natural gas detector (NGD) installation and service line inspections. During this period, the funding request also includes costs associated for repairs, emergency response, surveillance, and the need to raise customer awareness of this program. This also includes the mandated number of minimum attempts required before escalating communication, fee warning, fine assessment, termination notification and the associated inspection requests that may result from the multiple attempts made to complete the inspections.</p>			
<b>Justification Summary:</b> <p>On April 20, 2017 the Commission issued an Order in Case 15-G-0244 that immediately implemented the expanded leak survey and corrosion inspection requirements. In accordance with this Order, Con Edison was required to complete baseline natural gas leakage surveys. The Commission issued several Orders modifying the completion date due to COVID and New York State local gas distribution companies (LDCs) all experiencing access issues. On December 31, 2020 Con Edison filed a Petition to Establish an Additional Compliance Method for Gas Service Line Leakage Surveys/Corrosion Inspections for Premises with Access Issues in Case 15-G-0244. In the Petition, Con Edison provided</p>			

it's compliance plan and committed to the completion of the baseline program, which required the inspections to be completed or the gas meter was placed into a termination eligible status by September 15, 2021. This target was achieved.

The Company has approximately 1.1 million inside meter sets, with over 900K inside building sets, located in more readily accessible building areas (e.g., basements), and about 200K inside building sets in apartments ("room sets") or other remote locations. The expenditure level assumes an inside leak survey and corrosion inspection program for the inside piping associated with the 900,000 inside meters that are readily accessible, and the 200,000 room sets, as well as any necessary repairs.

We estimated the cost based on the assumption that a portion of these inspections will be completed during the normal course of business. (responding to leaks or performing other inspections). However, the majority of these inspections must be completed during dedicated visits. Furthermore, some locations will require multiple attempts due to inability to access the building. The most challenging locations generally are the buildings that have apartment meters, which requires individual apartment customers to provide access within a building.

We initiate communication to the customer to inform them that the inspection is required and providing several ways to make a scheduled appointment. If the customer elects not to schedule an appointment, we proactively make a minimum of two cold call attempts to gain access. If the attempts are not successful, we send additional communication that informs the customer of a fee that will be assessed for failing to get their inspection done and with information on how to make an appointment. If that also goes unanswered, the customer will be assessed a fine and then a termination notification process will be initiated. Prior to termination of service, the customer may elect to make a scheduled appointment to comply and avoid termination. Therefore, for each individual gas meter, we may make as many as 3-4 attempts prior to completion. In addition, when in a building with apartment meters, we may pre-emptively make additional cold calls to customer as our goal is to ensure safety, compliance and avoid service termination.

To minimize the number of appointments, we are attempting, where feasible, to complete inspections while installing and replacing AMI enables NGDs. In addition, when other inside compliance work is being performed, we are proactively completing an opportunistic service line inspection. In some cases, this may result in inspections being completed more than the minimum required per a 5-year cycle. The significant challenge remains the apartment meter inspections which can't generally be bundled with other opportunistic visits.

The projected number of service line completions per year are listed below:

	2022	2023	2024	2025	2026
Inspections	121,130	107,630	114,470	104,023	100,447

Based on the results of the baseline, we anticipate finding (in the next inspection cycle):  
~ 8.25% of the completed inspections result in a leak being discovered, which requires an emergency response and associated leak repair. The majority of which are anticipated to be associated with minor leaks on fittings, and not due to corrosion.  
~ 1% of the completed inspections result in a corrosion repair being required

In order to reduce the percentage of no access we also included programmatic funding to raise customer awareness of and education on these inspections.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

Con Edison recognizes the significant costs associated with complying with the mandated gas safety inspection program. We are taking every opportunity when in a customer's premise and have access, to perform the inspection. This can help increase compliance, reduce repeat visits and minimize the

costs associated with this program, thus enhancing the customers’ experience. Most importantly, we are bundling the NGD installations with a service line inspection. In this manner, we can align the inspection cycles with the NGD install/replacement schedules. As the NGD device battery life and technology progresses towards a 10-year battery life, we would seek to increase the service line inspection cycles from a 5-year plan to a 10-year cycle plan to minimize the on-going O&M associated with such inspections.

## 2. Supplemental Information

**Alternatives**

Alternative 1:

Alternative 2:

Alternative 3:

**Risk of No Action**

The Company will be in violation of the state and federal gas safety codes.

**Non-Financial Benefits**

Company will be in compliance with the state and federal gas safety codes and as a result improve public and employee safety.

**Summary of Financial Benefits and Cost**

This program does not yield any financial benefit.

**Project Risks and Mitigation Plan**

N/A

**Technical Evaluation / Analysis**

	2022	2023	2024	2025	2026
SLI Leak Repairs Type 1 Leaks	398	354	376	342	330
SLI Emergency Response	9,994	8,880	9,444	8,582	8,287
Corroded Sleeves Repairs	1,211	861	572	520	502

**Project Relationships (if applicable)**

## 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
Capital						
O&M				5,842	552	297
Regulatory Asset	4,077	15,753	22,139	29,259		69,719

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital					
O&M*		\$ 39,742	\$ 38,871	\$ 37,623	
Regulatory Asset					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor					
M&S					
Contract Services					
Other					
Overheads					
<b>Total</b>					

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M					
Capital					

<input type="checkbox"/>	Capital
<input checked="" type="checkbox"/>	O&M

**Gas Operations  
2022**

**1. Project / Program Summary**

Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	Category: <input type="checkbox"/> Capital <input checked="" type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
Project/Program Title: High Emissions Survey	
Project/Program Manager: Lindsey Fitzgerald	Project/Program Number (Level 1): NA
Status: <input type="checkbox"/> Initiation <input checked="" type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: 1/1/2023	Estimated Date In Service: on-going
C. Total Funding Request (\$000) Capital: O&M: \$2,493	D. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: n/a Capital: n/a
E. 5-Year Ongoing Maintenance Expense (\$000) O&M: \$2,493 Capital:	F. Investment Payback Period: (Years/months) (If applicable)
<p><b>Work Description:</b></p> <p>This program is designed to reduce methane emissions by identifying the highest emitting natural gas leaks and prioritizing them for repair. This is designed to be complimentary to our current leak survey programs by utilizing advanced leak detection technology to survey areas of the distribution system not covered by the walking compliance survey in a given year. Resulting data is then gathered and analyzed for indications. All high emitting indications are then investigated utilizing approved leak detection technology in a timely manner. The survey is designed to cover areas of the system not covered by other existing programs, with the entire system covered by advanced leak detection within a three year period.</p> <p>The use of advanced mobile leak survey provides additional tools to quantify emissions and prioritize locations for repair not available through other existing leak survey programs. This includes being able to drive an area and quantify the size of a methane indication. Doing so will provide another layer of emissions data to prioritize emissions reduction. To conduct the survey, the technology is attached to a passenger vehicle and a dedicated driver must drive at night. The driving protocol requires multiple passes over the course of two to three nights. Once all passes are completed, the data is downloaded and analyzed. Based on field trial data, we can expect 69% of the indications found to result in a natural gas leak with other indications being false positive or non-natural gas methane indications (such as sewer gas). The costs under this program include the annual cost for the advanced leak detection equipment, labor, supervision, and leak investigations.</p>	
<b>Justification Summary:</b>	
Natural gas contains methane, a potent greenhouse gas, that once emitted into the air is 80 times more	

potent than carbon dioxide. To identify methane emissions in gas leaks and reduce emissions, Con Edison currently has several leak survey programs which meet or exceed code requirements, including a monthly mobile survey of all distribution main, multiple transmission leak surveys, walking leak surveys of business and non-business district services, and various special surveys. Once identified, leaks are repaired on average within a few weeks and far ahead of code requirements. Con Edison has also been the first to deploy Natural Gas Detectors (NGDs) across the territory to immediately notify the Gas Emergency Response Center (GERC) of natural gas leaks inside buildings. This comprehensive approach to leak identification and repair allows the Company to reduce fugitive methane emissions across the territory. The High Emissions Leak Survey Program will supplement these programs, target the highest emitting gas leaks, and further reduce emissions. Overall, this new program is designed to complement the other programs and add an additional layer of emissions reduction.

In addition to the environmental and operational benefits to this program, the U.S. Congress passed the Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2020 (PIPES Act) which directed the Pipeline and Hazardous Materials Safety Administration (PHMSA) to promulgate rules for the use of advanced leak detection technologies on new and existing gas distribution pipeline facilities. This program will support the PIPES Act, and associated future regulations, through periodic surveys with advanced leak detection equipment mounted on a mobile vehicle.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

This program also supports Con Edison’s Clean Energy Commitment and New York State’s Climate Leadership and Community Protection Act to achieve a reduction in greenhouse gas emissions.

## 2. Supplemental Information

**Alternatives**

Alternative 1: Maintain emissions reduction through existing programs.

Alternative 2: Increase the frequency of current mobile leak detection, which would come at a much higher cost.

**Risk of No Action**

No action would result in less emissions data and reduction

**Non-Financial Benefits**

The benefits for this program primarily come from the benefits to the environment. By limiting the volume of greenhouse gasses emitting into the atmosphere we slow climate change. Non-Financial benefits include emissions reduction and quantification through widespread use of advanced leak detection. Targeting the highest emitting leaks will make the fastest impact on emissions reduction. This program also identifies leaks potentially faster than if such a survey was not conducted; therefore, enhancing pipeline and public safety as well.

**Summary of Financial Benefits and Cost**

Costs	O&M	Description
Advanced Mobile Leak Detection	\$237,800	Cost for technology, software payments go to clearing
Supervision	\$66,231	\$60 per hour, 168 days to complete the survey, management Employees go to clearing
Driver	\$173,914	\$129 per hour, 168 days to complete survey, weekly employees charge direct to O&M
Leak Investigations	\$20,691	Investigate 100% of the LISAs, ~1 per 100 miles driven



\$498,636

**Project Risks and Mitigation Plan**

Risk - The advanced mobile leak detection technology may not function properly.

Mitigation Plan - Proper maintenance and ongoing discussions with the manufacturer will mitigate any downtime for both the vehicle or data that must be downloaded from the cloud.

Risk - Adverse weather could limit driving.

Mitigation Plan - The technology cannot be used during periods of heavy precipitation. Planning ahead to anticipate poor weather will ensure driving time is maximized.

**Technical Evaluation / Analysis**

During the course of 2021, Leak Survey completed a field trial of this program. A vehicle equipped with advanced mobile leak detection drove over 1,700 miles. During that time, 16 high emitting indications were flagged by the software. All indications were investigated by qualified personnel with approved instrumentation; 11 of the indications (69%) were natural gas, the remaining indications were non-natural gas atmospheric readings with traces of methane such as sewer gas. On average, each indication had an emissions rating of 19 scfh. All indications were repaired in a timeframe ranging from 5 to 22 days, eliminating any additional methane from emitting into the air.

The 11 indications confirmed to be natural gas included the following leak types:

Type 1's	2
Type 2's	3
Type 3's	6
Total	11

**Project Relationships (if applicable)**

## 3. Funding Detail

### Historical Spend

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
Capital	\$0	\$0	\$0	\$0	\$0	\$0
O&M	\$0	\$0	\$0	\$0	\$0	\$0
Regulatory Asset	\$0	\$0	\$0	\$0	\$0	\$0

**Total Request (\$000): \$1,497,000**

### Total Request by Year:

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital					
O&M*		\$499	\$499	\$499	\$499
Regulatory Asset					

### Capital/Regulatory Asset Request by Elements of Expense:

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor					
M&S					
Contract Services					
Other					
Overheads					
<b>Total</b>					

### Total Gross Cost Savings / Avoidance by Year:

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

### Total Ongoing Maintenance Expense by Year:

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M					
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

<input type="checkbox"/>	Capital
<input checked="" type="checkbox"/>	O&M

**Gas Operations  
2022**

**1. Project / Program Summary**

Type: <input type="checkbox"/> Project <input checked="" type="checkbox"/> Program	Category: <input type="checkbox"/> Capital <input checked="" type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input checked="" type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input type="checkbox"/> Strategic	
Project/Program Title: Inspection and Maintenance of Aboveground Gas Mains at Bridges	
Project/Program Manager: M. Cifelli	Project/Program Number (Level 1): n/a
Status: <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input checked="" type="checkbox"/> On-going <input type="checkbox"/> Other: Submit Rate Case	
Estimated Start Date: On-Going	Estimated Date In Service: not applicable
E. Total Funding Request (\$000) Capital: O&M: \$2,338	F. <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
G. 5-Year Ongoing Maintenance Expense (\$000) O&M: \$2,338 Capital:	H. Investment Payback Period: (Years/months) (If applicable)
<p><b>Work Description:</b></p> <p>This existing, annual bridge inspection program entails inspection and maintenance of natural gas piping at expansion joints, bridges, and stations as per Con Edison Specification G-11815 and State regulations covering aboveground gas pipelines throughout the CECONY service territory, pursuant to 16NYCRR Part 255, Sections 161, 317, 323, 479, 481, and 487. Pipeline inspections at submarine (waterway) crossings and expansion joints are also regulated mandates under this Program. On average, aboveground gas mains at 85 bridges are visually inspected each year with approximately 13 of these locations receiving detailed inspection and repair. Looking ahead to 2026, we see a large increase in the number of bridge inspections coming due on a cyclical basis. In fact, 137 inspections (62% above the norm) are scheduled to be inspected in 2026. This future, sharp increase in workload threatens to overrun the O&amp;M budget and strain manpower resources. To avoid a sudden drain on Program resources, Con Edison proposes to preemptively move 30 inspections due in 2026 to be distributed over rate case years 2023, 2024, and 2025.</p> <p>Redistributing these periodic inspections from 2026 will require reallocation of O&amp;M funding into upcoming rate case years 2023 through 2025. This funding request of \$1,104,750 represents the additional, reallocated funds necessary to complete 30 detailed bridge inspections earlier than 2026. The reallocated funds will supplement regular, ongoing O&amp;M spending on this Bridge Inspection and Maintenance Program.</p> <p>This request for reallocation of O&amp;M funding is not made in response to a PSC audit.</p>	
<p><b>Justification Summary:</b></p> <p>Each gas pipeline that is exposed to the atmosphere, including those on bridges, is inspected at least once every three calendar years with intervals not exceeding 39 months as per Code of Federal Regulations CFR Title 49 192.481. Every 21 years, in addition to the regular 3-year visual inspections, Con Edison performs a detailed inspection and maintenance regimen for each bridge asset. Of the 137</p>	

total inspections coming due in 2026, 42 are detailed inspections (due on a 21-year inspection frequency) that may also involve routine maintenance work like coating and hanger repairs. The cost of inspecting and maintaining gas mains on bridges is escalating, especially for inspections at the 21-year mark due in large part to extrinsic factors beyond our control. High traffic control costs and limitations to working hours on highly congested roadways contribute to the rising costs. Aging facilities and bridge structures, together with the growing impact of climate change, have also placed an added financial burden on caring for gas mains at bridge crossings. The additional, reallocated O&M funding (described in this request) will ultimately serve to offset future O&M expenses while avoiding some of the higher cost of future main replacement.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

Normally exposed gas mains, especially on heavily traveled bridges above major highways and at railroad crossings, are among the most inaccessible and vulnerable facilities that require extra levels of care and attention. Loss of a gas supply main, due to inadequate inspection/ maintenance, at a bridge crossing will likely cause major service interruptions along with the potential for having a harmful impact on public safety. Long range budget planning (at least 5-year) is necessary to ensure adequate funding and manpower is available to meet the scheduled workload. With an unusually large number of inspections coming due in 2026, reallocation of O&M funds for 2023 through 2025 is strongly advised to lower the risks of scheduling too much inspection work in a single year. Higher O&M spending in rate case years 2023, 2024, and 2025, made possible with reallocated funding above historical levels, is necessary as a countermeasure to these corporate risks.

## 2. Supplemental Information

**Alternatives**

*Briefly describe reasonable alternatives and reason for rejection (e.g., costs, timing, etc.). At least one is required.*

Alternative 1 description and reason for rejection

Inspection and maintenance of aboveground piping at bridges and stations is currently managed as a stand-alone, regulatory mandated program. If O&M funding continues over the next five years within historical spending limits, some inspections would have to be postponed or money/staffing diverted from other equally important programs to pay for a heavy inspection workload. Therefore, continuing forward on the current fiscal path challenges our ability to comply with mandatory inspection commitments, especially for 2026. For these reasons, keeping funding at existing levels was not selected.

Alternative 2 description and reason for rejection

Alternative 3 description and reason for rejection

**Risk of No Action**

*Give the consequences, including enterprise risks that might arise by not doing the project/ program. Quantify the risks, if applicable.*

Risk 1

If Con Edison's bridge inspection schedule is not adjusted to provide a more even distribution of the future workload and funds are not accordingly reallocated, pipeline safety could be compromised because available funding and manpower for inspection and maintenance of bridge piping in 2026 will not cover all 137 inspections. No action may lead to major delays in addressing maintenance issues.

Risk 2

No action could mean O&M funding for 2026 is diverted from other sources, forcing other programs to lower standards.

Risk 3

The Bridge Program remains underfunded and at-risk ultimately leading to a significant increase in future maintenance or main replacement costs.

**Non-Financial Benefits**

- Enhancing pipeline safety benefits a reputation of reliability and resilience.
- Ensuring 100% regulatory compliance is a solid corporate commitment.

**Summary of Financial Benefits and Costs**

1. Cost-benefit analysis (if required)

2. Major financial benefits

3. Total cost

Over the next 5 years, O&M spending on the Bridge Inspection & Maintenance Program is projected to rise \$2,406,203 above the \$2,337,767 spent during the previous 5-year period. Based on the number of periodic inspections coming due, the 5-year O&M cost (2022-2026) for the Program is estimated to be \$4,744,000. Reallocation of \$368,250 per year for 2023, 2024, and 2025 is requested. The total reallocation is \$1,104,750.

4. Basis for estimate

Cost estimates for projected O&M spending are based on priced items for inspection and maintenance from the existing bridge inspection & maintenance contract for NYC and Westchester County. Other variables used in cost calculations include the number of linear feet to be inspected as well as the number and type of bridge inspections coming due in each year, as determined from the 3-year and 21-year inspection schedules.

5. Conclusion

Since this Program is mandated by Federal and State regulations, continued funding is necessary. Additional O&M funding above historical levels is strongly advised, primarily because an overload of costly 21-year inspections coming due in 2026. A portion of these inspections can be done earlier. Reallocation of O&M funds is the prudent approach to lowering future cost pressures.

**Project Risks and Mitigation Plan**

Risk 1

Mitigation plan

The plan to prevent O&M cost overruns (above the 5-year spending plan contained herein) is to issue a new inspection and maintenance contract by March 31, 2022, with unit costs for inspection and maintenance maintained at or below present levels.

Risk 2

Mitigation plan

Work locations are widely dispersed across different operating areas. Starting in 2022, the Bridge Inspection and Maintenance Program will be managed by a central authority- Corrosion Control will ensure completion of all Program work throughout NY City and Westchester.

**Technical Evaluation / Analysis**

Detailed inspection reports and analysis for bridge assets, archived for the past 15 years, are documented in our Gas Information System GIS. These reports give a clear picture of the condition of bridge assets and inspection deadlines, as required for directing resources on a priority basis.

### 3. Funding Detail

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year</u> (O&M only)	<u>Forecast 2021</u>
Capital	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		<u>0</u>
O&M	<u>\$19,793</u>	<u>\$213,852</u>	<u>\$704,875</u>	<u>\$699,247</u>	<u>NA</u>	<u>\$700,000</u>
Regulatory Asset						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital					
O&M*		<u>\$368 K</u>	<u>\$368 K</u>	<u>\$368 K</u>	<u>\$368 K</u>
Regulatory Asset					

**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
Labor					
M&S					
Contract Services					
Other					
Overheads					
<b>Total</b>					

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
O&M	<u>\$700K</u>	<u>\$700K</u>	<u>\$1,127K</u>	<u>\$907K</u>	<u>\$1,288K</u>
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

CECONY  
GIOSP Panel Testimony  
Index of Schedules

- Schedule 1 - Gas Supply Contracts (Confidential)\*
- Schedule 2 - Pipeline Transportation Contracts (Confidential)\*
- Schedule 3 - Storage Contracts
- Schedule 4 - Peak Shaving Facilities (Confidential)\*
- Schedule 5 - Forecasted Requirements - Peak Day (Confidential)\*
- Schedule 6 - Non-Traditional Revenues (Confidential)\*
- Schedule 7 - FERC Dockets in which CECONY filed comments
- Schedule 8 - Summer Season Supply/Demand Balance (Confidential)\*
- Schedule 9 - Winter Season Supply/Demand Balance (Confidential)\*
- Schedule 10 - Design Day Supply/Demand Balance (Confidential)\*
- Schedule 11 - Natural Gas Monthly Marginal Commodity Cost (Confidential)\*
- Schedule 12 - Natural Gas Marginal Commodity Cost (Confidential)\*







**Storage Contracts**  
**Combined Con Edison and Orange & Rockland**

<u>Market Area Storage</u>	<u>Max Daily Withdrawal</u>	<u>Max Storage Capacity</u>	<u>Expiration Date (*)</u>
Transco SS2	19,355 Dt/d	2,129 Mdt	3/31/2028
Transco GSS	10,040 Dt/d	515 Mdt	3/31/2023
Dominion/GSS	23,115 Dt/d	2,409 Mdt	3/31/2023
Tetco SS1	69,150 Dt/d	4,169 Mdt	4/30/2026
Tetco FSS1	507 Dt/d	30 Mdt	4/30/2026
Tetco SS1	1,140 Dt/d	100 Mdt	4/30/2026
Tenn FSMA	90,477 Dt/d	6,663 Mdt	10/31/2023
Honeoye	10,220 Dt/d	1,200 Mdt	3/31/2022
Stagecoach FSS	170,877 Dt/d	7,201 Mdt	3/31/2023
National Fuel	7,871 Dt/d	598 Mdt	3/21/2023
Columbia SST FSS	20,000 Dt/d	1,432 Mdt	3/31/2025
Steckman Ridge	20,000 Dt/d	1,800 Mdt	7/31/2021
National Grid - LNG	<u>20,000 Dt/d</u>	<u>500 Mdt</u>	10/31/2022
	462,752 Dt/d	28,746 Mdt	
<u>Production Area Storage</u>			
Transco ESS	41,872 Dth/d	353 Mdt	3/31/2022
Transco ESS	71,924 Dth/d	661 Mdt	3/23/2022
Transco WSS	<u>129,884 Dth/d</u>	<u>12,339 Mdt</u>	4/30/2022
	243,680 Dth/d	13,353 Mdt	

\* - Expiration dates denote storage contracts only (FT associated with storage might expire earlier)

**Peaking Shaving Facilities**  
**Combined Con Edison and Orange & Rockland**

	<u>Contract Expiration</u>	<u>Con Edison Peaking Supply (Dt/d)</u>	<u>O&amp;R Peaking Supply (Dt/d)</u>	<u>Total (Dt/d)</u>
Redacted	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]

**Peak Day Forecasted Requirements MDt/d**

**Con Edison and Orange & Rockland**

<b>Winter</b>	<b>Consolidated Edison</b>	<b>Orange &amp; Rockland</b>	<b>Total</b>	
Redacted				

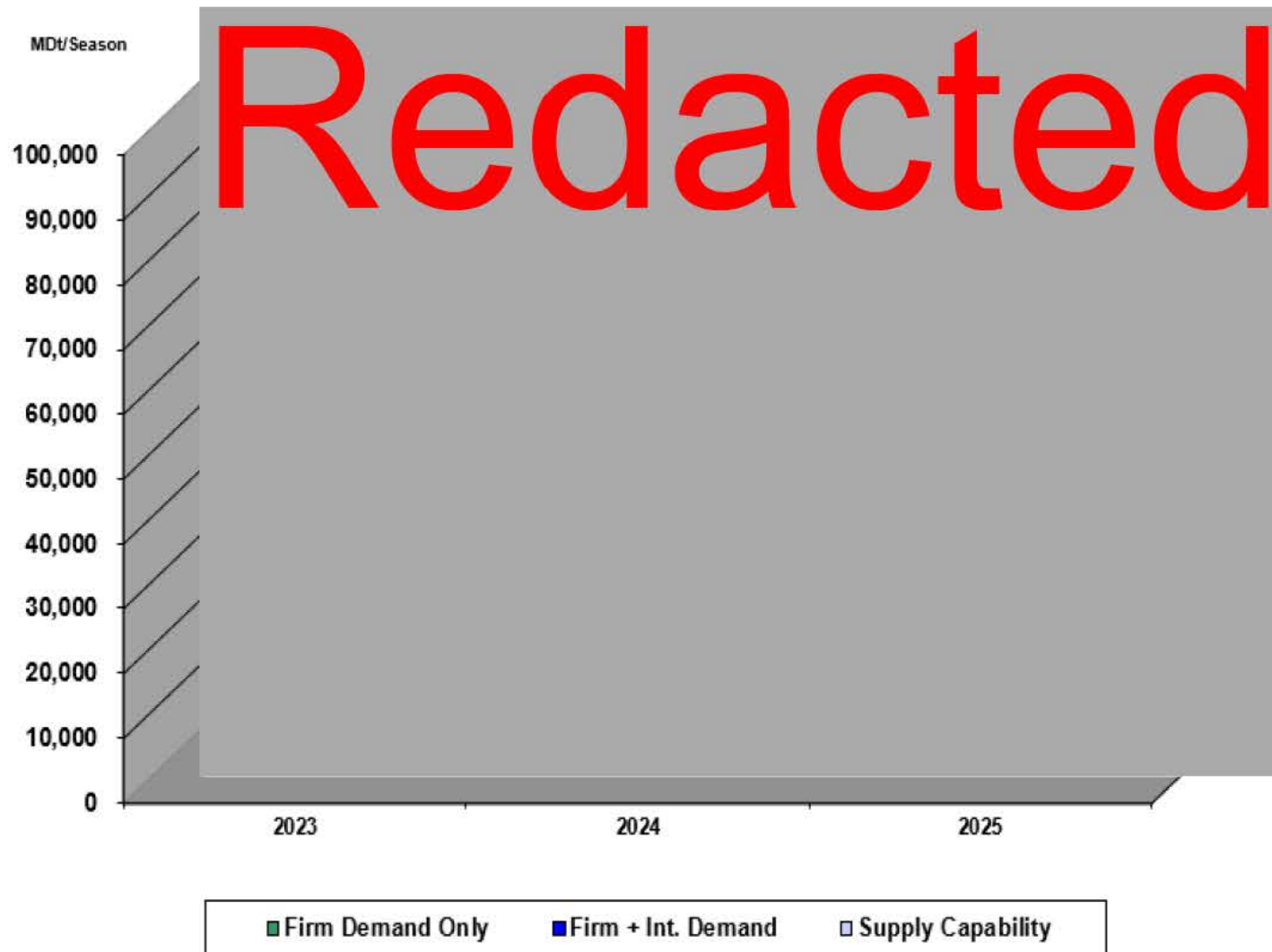
**Non Traditional Revenues**  
**(Capacity Release, Asset Management Arrangements and Bundled Sales)**  
**Con Edison**

Rate Year (January 1st thru December 31st)					
	Actual 2017	Actual 2018	Actual 2019	Actual 2020	Actual 2021 - 10 mos
Discretionary Release Asset Management Arrangements Exchanges Bundled Sales	<b>Redacted</b>				
<b>Total</b>	<b>Redacted</b>				

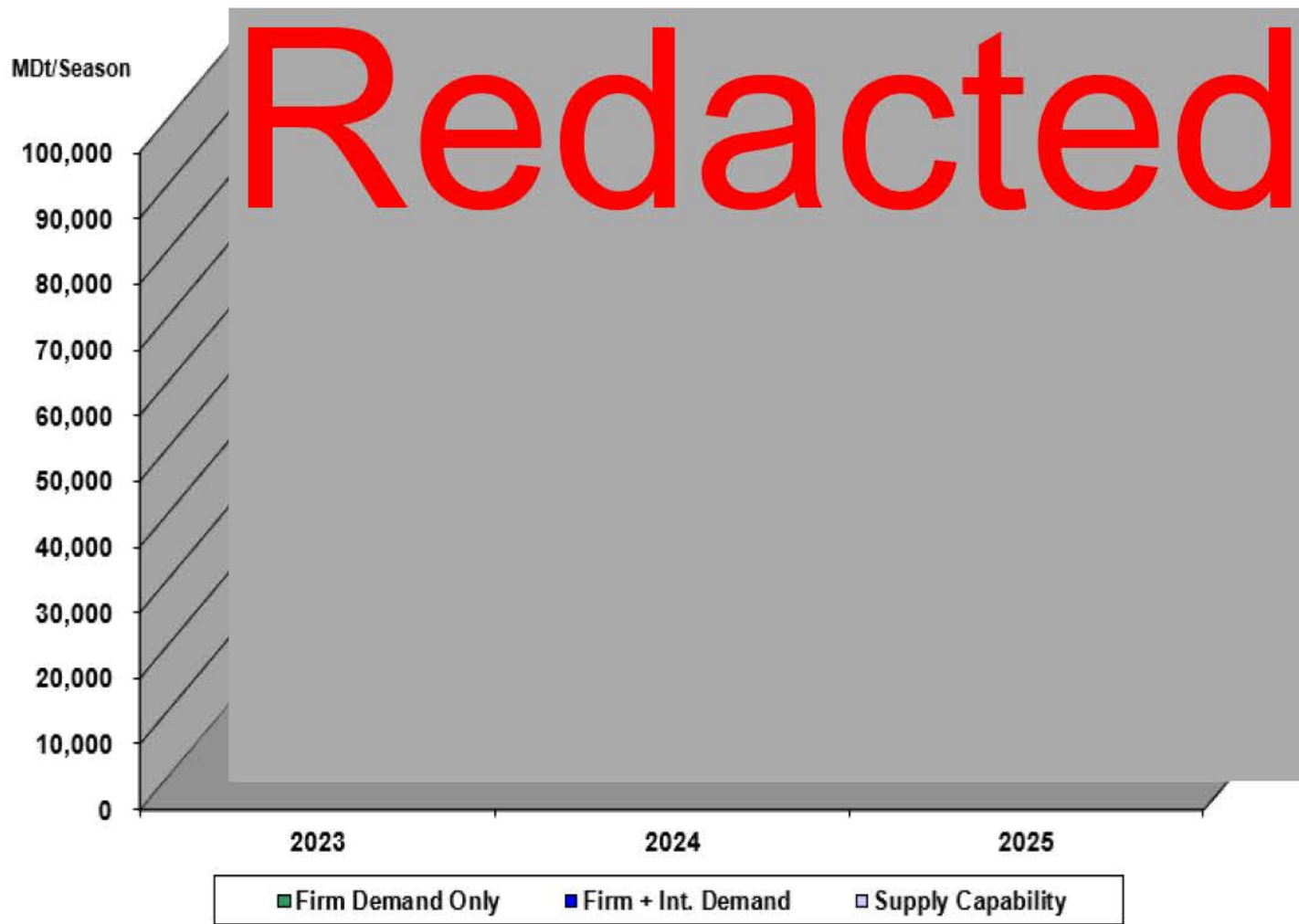
**Major Comments, Protests, etc., in Gas-Related FERC Cases**

Docket No(s).	Pipeline or Rulemaking/NOI	Filing Date(s)	Issue(s)
RP17-407-000	National Fuel	3/1/2017	Protest of National Fuel's LAUF percentages.
RP17-407-001	National Fuel	3/20/2017	Protest of National Fuel's revised LAUF filing.
RP17-407-002	National Fuel	4/24/2017	Comments requesting that FERC accept LAUF tariff changes subject to refund.
RM18-1-000	Grid Resilience	10/23/2017	Comments on Grid Resilience Rulemaking.
PL18-1-000	Policy Statement NOI	7/25/2018	Comments on FERC's review of the Certificate Policy Statement.
RP18-1126-000	Transcontinental Gas Pipe Line	9/12/2018	Protest of Transco Section 4 Rate Filing
AC18-220-000	Spectra Accounting Letter	10/9/2018	Protest of Spectra letter requesting that it be allowed to move ADIT balances to retained earnings for Algonquin and Texas Eastern
RP19-62-000	Dominion Transmission	10/23/2018	Comments requesting that FERC have Dominion explain certain entries on its Form 501-G.
RP19-343-000	Texas Eastern Transmission	12/12/2018	Protest of Texas Eastern's Rate Case Filing
RP19-343-000/AC18-220	Texas Eastern Transmission	1/17/2019	Request for Clarification/Rehearing of FERC Order on Texas Eastern's Rate Case with a LDC customer group
RP19-343-000	Texas Eastern Transmission	1/25/2019	Supplement to January 17, 2019 Motion for Clarification, or in the Alternative, Request for Rehearing and Rehearing of the Texas Eastern Customer Group
RP19-343/AC18-220	Spectra Pipelines	5/7/2019	Comment of The Texas Eastern Customer Group to the April 23, 2019 Response to Data Requests of Spectra Energy Partners, LP
RP19-1426-000	National Fuel	08/12/2019	Motion to Intervene, Protest and Request for Maximum Suspension of National Fuel Gas Supply Corporation Tariff Filing
RP19-343-000	Texas Eastern Transmission	11/18/2019	Initial Comments of the Texas Eastern Customer Group in Support of October 28, 2019 Stipulation and Agreement by Texas Eastern Transmission
RP19-343-000	Texas Eastern Transmission	12/9/2019	Reply Comments of the Texas Eastern Customer Group in Support of October 28, 2019 Stipulation and Agreement by Texas Eastern Transmission
CP20-48-000	Iroquois Gas	3/3/2020	Comments in Support of Iroquois Enhancement By Compression Project
CP20-493-000	Tennessee Gas Pipeline	8/5/2020	Comments in Support of Tennessee Compression Project
RP20-1060	Columbia Gas	8/12/2020	Individual Protest of Columbia Gas Sect. 4 Rate Proceeding
RP20-1060	Columbia Gas	8/12/2020	Group Protest of Columbia Gas Sect. 4 Rate Proceeding
RP20-1060	Columbia Gas	11/4/2020	Joint Request for Summary Rejection of Columbia Gas Rate Case
RP21-144-000	Eastern Gas (formerly Dominion)	2/11/2021	Comments supporting Eastern Gas' request for low-bar RNG quality standards
CP20-48-000	Iroquois Gas	4/20/2021	Comments in support of Iroquois Enhancement By Compression Project
RP21-1001-000	Texas Eastern Transmission	8/11/2021	Protest of Texas Eastern's Rate
RP21-1188-000	Texas Eastern Transmission	10/12/2021	Protest, Request for Maximum Suspension, Request for Evidentiary Hearing, and Request for Release of Privileged Documents to the Public Domain of Texas Eastern Customer Group
RP21-1143-000	Transcontinental Gas	10/21/2021	Request of the WSS Customer Group for Summary Rejection, Protest, and Request for a Full Evidentiary Hearing for Transco's request to apply market-based rates to the Washington Storage Field
RP21-1001-002	Texas Eastern Transmission	11/1/2021	Comments of the Texas Eastern Customer Group to the Response of Texas Eastern Transmission
RP21-1143-000	Transcontinental Gas	11/23/2021	Answer in Opposition to Motion for Leave to Answer or, in the Alternative, Motion for Leave to Respond and Response of the WSS Customer Group
CP20-493-000	Tennessee Gas Pipeline	12/17/2021	Motion for Leave to Answer and Answer of Consolidated Edison Company of New York, Inc. to U.S. Environmental Protection Agency Comments

**Summer Season Supply/Demand Balance  
Con Edison and Orange & Rockland**

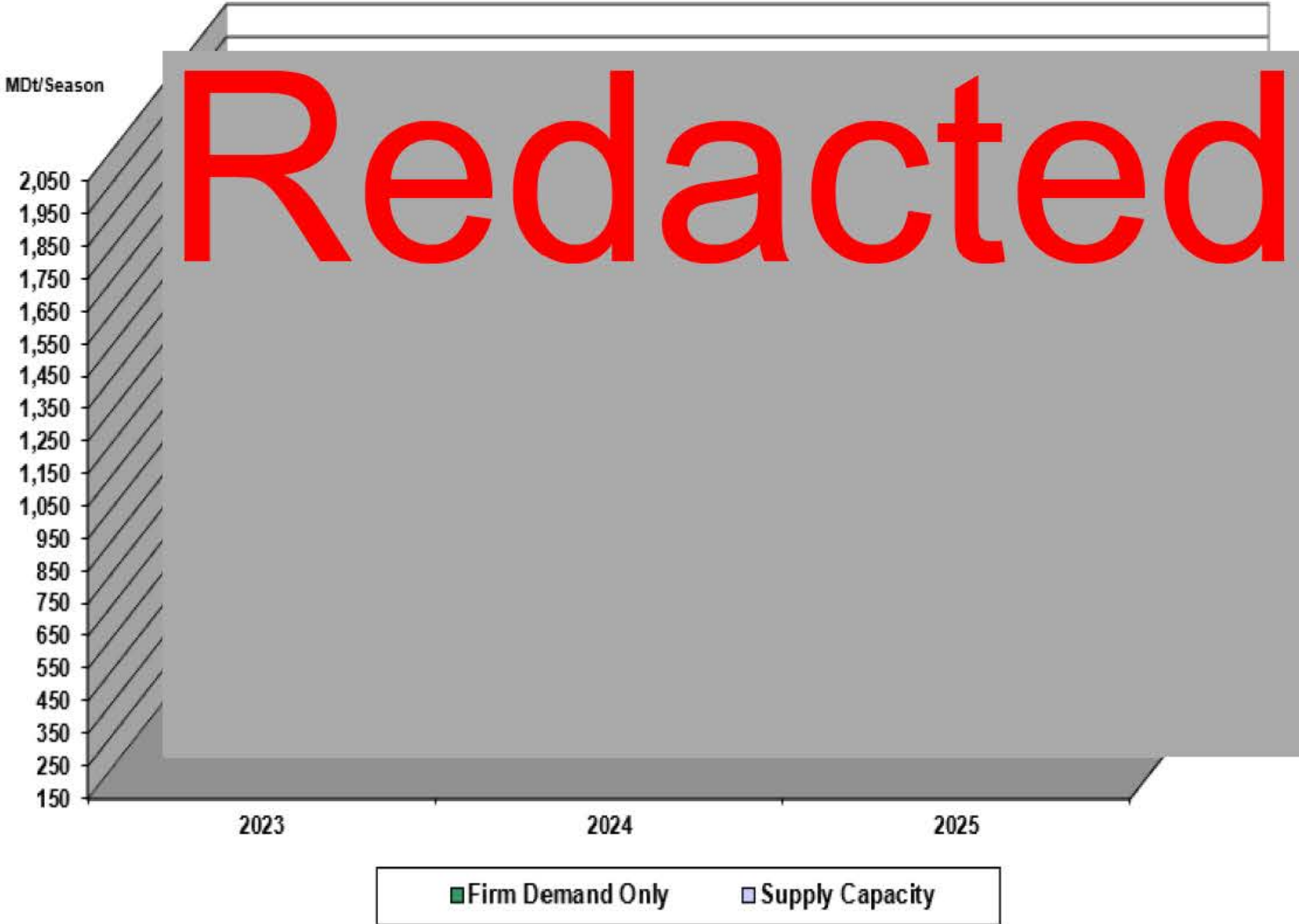


Winter Season Supply/Demand Balance  
Con Edison and Orange & Rockland

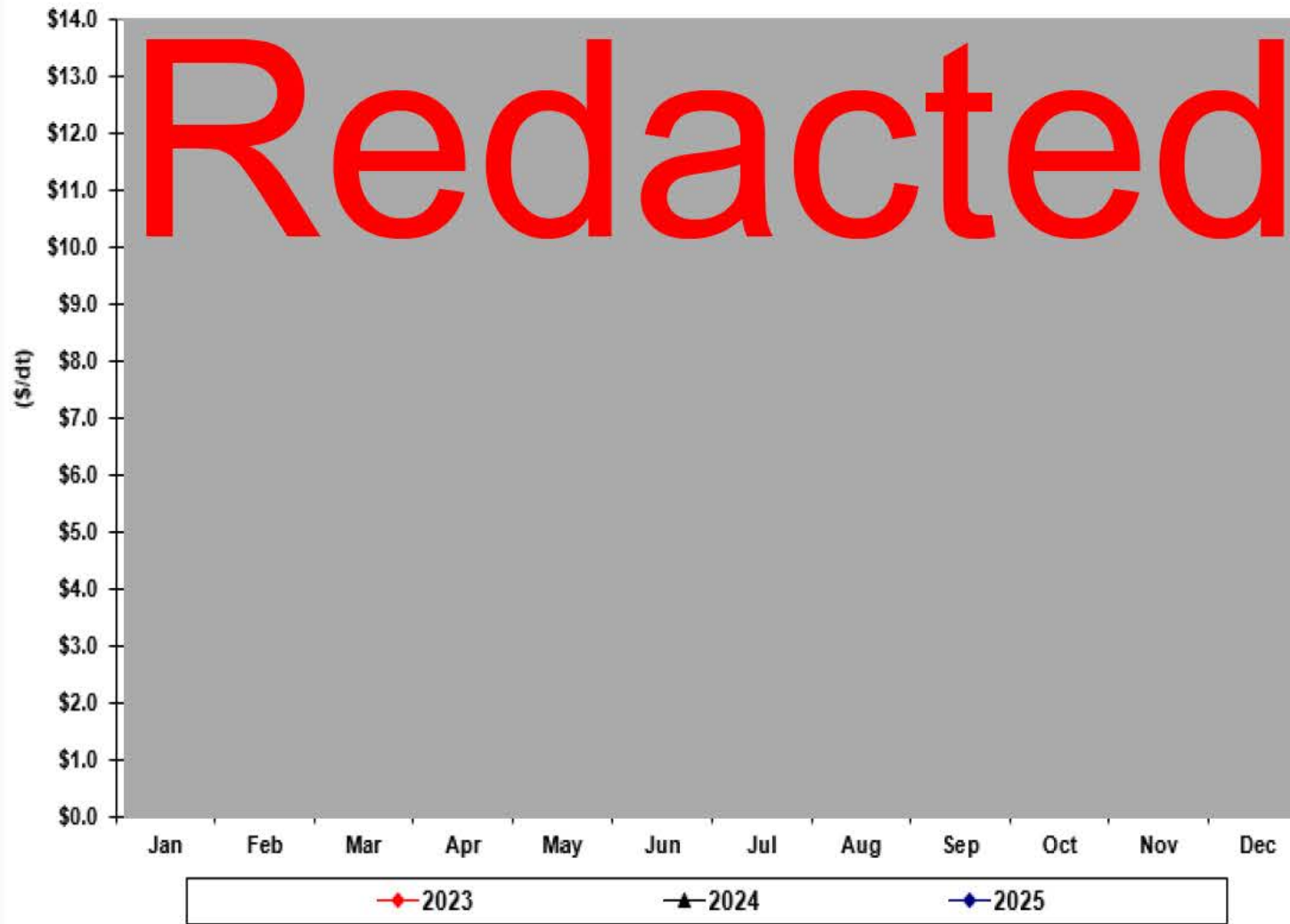




Design Day Supply/Demand Balance  
Con Edison and Orange & Rockland



Natural Gas Monthly Marginal Commodity Costs  
Con Edison and Orange & Rockland



## Natural Gas Marginal Costs (\$/Dth)

Con Edison and Orange & Rockland

Rate Year	Average Annual (1) (commodity)	Average Summer (1) (commodity)	Average Winter (1) (commodity)	Design Day (2) (commodity)
2023	<b>Redacted</b>			
2024				
2025				

**Notes:**

1) based on the highest commodity cost of dispatched gas supply

2) Henry-Hub index, plus an incremental supply service, based on an historic account of an average of Transco Z6 and Tetco M3 prices (\$/Dth)

## CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. - GIOSP Gas Distribution Peak Forecasting Model O&M

2022

### 1. Project / Program Summary

Type: <input checked="" type="checkbox"/> Project <input type="checkbox"/> Program	Category: <input type="checkbox"/> Capital <input checked="" type="checkbox"/> O&M <input type="checkbox"/> Regulatory Asset
Work Plan Category: <input type="checkbox"/> Regulatory Mandated <input type="checkbox"/> Operationally Required <input checked="" type="checkbox"/> Strategic	
Project/Program Title: Gas Distribution Peak Forecasting Model	
Project/Program Manager: Ildi Telegrafi	Project/Program Number (Level 1):
Status: <input type="checkbox"/> Initiation <input type="checkbox"/> Planning <input type="checkbox"/> Execution <input type="checkbox"/> On-going <input type="checkbox"/> Other: _____	
Estimated Start Date: 2023	Estimated Date In Service: 2024
<b>A. Total Funding Request (\$000)</b> Capital: 0 O&M: \$2,054 (2023-2026)	<b>B.</b> <input type="checkbox"/> 5-Year Gross Cost Savings (\$000) <input type="checkbox"/> 5-Year Gross Cost Avoidance (\$000) O&M: Capital:
<b>C. 5-Year Ongoing Maintenance Expense (\$000)</b> O&M: Capital:	<b>D. Investment Payback Period: (Years/months) (If applicable)</b>
<b>Work Description:</b>  The Company is seeking to develop a firm gas distribution forecasting model that predicts firm gas peak day demand at design weather conditions. This new firm gas distribution forecast model will predict the peak day and peak hour firm gas demand for newly established districts within the gas distribution system in the Company’s gas service territory. Using this new model, the Company will be able to project firm gas peak day demand at the neighborhood/district level as well as for any specific location of interest for the gas distribution system out 20 years.  This forecast will consider new business, new construction, demand response, steam-to-gas customers, energy efficiency (EE), distributed generation, oil to gas conversions, electrification of heating (EoH), and electrification of gas appliances.  The Company currently uses the Gas System and High Pressure (HP)/Transmission Regulator Forecasts to manage the gas transmission system, and these existing forecasts will be used along with other analytical tools to determine the boundaries for the firm gas peak distribution forecasting model at design weather conditions.  The new forecasting model will balance and reconcile with the System and HP/Transmission Regulator Forecasts to factor line loss into its predictions. The model will bridge these boundary forecasts with the existing daily forecast model and with assessments made by using the Synergi Distribution Hydraulic Model (Stoner). The existing Marquette Daily Gas Forecasting Model will be	

utilized to assist in the development. Connecting the existing models to the new model would allow the Company to balance output and forecasted demands by distribution location and to consider future changes to distribution and transmission piping. Such will enable enhanced planning and strategic pinpointing for non-pipe solutions.

This effort will result in:

- The development of a granular Excel based firm gas distribution peak day forecasting model
- A proven methodology and algorithms for transposing the firm gas transmission system and regulator peak day forecasts to distribution level district forecasts
- Mapping of the gas service territory to distribution districts

Con Edison Subject Matter Experts (SMEs) from the Gas Forecasting, Policy Integration Forecasting, Forecasting Services, Gas Engineering, and Gas Control Sections will team up with a vendor to develop the model, methodology, and mapping.

**Justification Summary:**

Given the Company's commitment to a clean energy future and the interests of its stakeholders, optimization and accurate planning for the gas distribution system is necessary. The effectiveness of the Company's plans for its gas distribution system has a direct impact on its gas customers. In addition, if the gas distribution system is not planned for properly, there is the risk of shedding gas load in certain areas. Identifying distinct areas of load growth will assist with pinpointing non-pipe solutions instead of the need for system reinforcements. Current gas policy is moving towards less development of gas supply. As such, the margins on the gas system will become tighter thus prompting the need for a more granular and longer-term forecasting model for the distribution system.

**Relationship to Broader Company Plans and Initiatives (e.g. Long-Range Plans, CLCPA Initiatives, Risk Mitigation)**

This project would provide information vital in forming long-range goals and will address future changes to the gas distribution system over the next 20 years. Planning around accurate forecasts for firm gas peak day demand at the distribution district/neighborhood level reduces many risks.

Currently, the Company is assessing its plans for the gas system because of implications from climate policy. Legislation like the CLCPA and Local Law 97 advocate moving toward renewable energy sources and electrification. This project will enable enhanced planning and strategic pinpointing for non-pipe solutions, which aligns with these regulations/policies, and will be instrumental in the Company's strategic planning towards assisting energy customers achieve a green energy future.

## 2. Supplemental Information

**Alternatives**

The only alternative is to continue the current gas distribution forecasting process, which does not provide a long-range projection and does not entirely bridge the technical information between the existing long-term system and transmission regulator forecasts and short-term distribution forecasts.

**Risk of No Action**

Identifying distinct areas of load growth will assist with pinpointing non-pipe solutions instead of the need for system reinforcements. The risk of no action is that the Company may miss the opportunity to pursue Non-Pipe Alternatives on behalf of its customers.

Under the current policy landscape, not having a locational district and granular distribution long-term peak day forecasting model could lead to reduced reliability of the gas system over time. If the gas distribution system is not planned for with accuracy, there is the risk of shedding gas load in certain areas.

### **Non-Financial Benefits**

Non-financial benefits of this project include the ability to predict peak demand at the distribution district level well into the future hence, the potential to leverage that information to develop distribution management strategies, the potential to improve the reliability of the system by optimizing engineering strategies, and the enhanced ability to achieve and comply with the New York City and State's long-term climate goals and regulations.

### **Summary of Financial Benefits and Costs (attach backup)**

#### 1. Cost-benefit analysis (if required)

This project will indirectly result in financial benefits, as mentioned below. Improved precision of gas distribution system modeling through a) statistical and other methodologies and b) inclusion of climate change driven policy will improve short- and long-term planning for system infrastructure that will lead to optimized operation and maintenance of the overall system. An optimized system maintains safety and reliability, leading to overall cost savings.

#### 2. Major financial benefits

This new tool will optimize predicting firm gas peak demand in specific areas of the gas distribution system over a 20-year period. This improved and long-term gas distribution system forecast will lead to:

- Improved pinpointing and planning of Non-Pipe Solutions
- Maintaining normal planning for an increasingly dynamic distribution system consumption that is inclusive of the direction within climate change driven policy (i.e., CLCPA, Local Law 97, etc.)
- Avoided cost of building additional distribution system infrastructure
- Optimized planning of regulator operations to better maintain system pressure within operational requirements
- Improved planning towards optimal areas of critical investment in decreasing opportunities for leaks by operating at lower pressures

#### 3. Total cost

The total cost of this project is \$2.054 million, which will result in:

- The development of an Excel based firm gas distribution peak day forecasting model
- A proven methodology and algorithms for transposing the firm gas transmission system and regulator peak day forecasts to distribution level district forecast
- Mapping of the gas service territory to distribution districts

The primary cost components are forecast vendor professional services and incremental internal labor. This work is O&M and 3 additional Full Time Equivalents (FTE) are required in Rate Year 1. An estimated cost breakdown for Rate Year 1 is as follows:

- Consultant Professional Services: \$1,166,000

<ul style="list-style-type: none"> <li>• 3 FTE: \$388,000</li> <li>• Overheads: \$120,000</li> </ul> <p>In Rate Years 2 and 3, ongoing operations and maintenance on the model/methodology/mapping will occur, totaling \$190,000 per year. This includes 1 FTE and associated overheads for the Gas &amp; Steam Forecasting Section; and is anticipated for adjustments and calibrations required annually to update the mapping, to operate and maintain model, and to sustain accuracy.</p> <p>4. Basis for estimate</p> <p>Vendor quote and Company estimates.</p> <p>5. Conclusion</p> <p>This tool must be developed in order to continue to increase the accuracy, time horizon, and the granularity of the firm gas peak day distribution system forecast. The final product will facilitate more prudent planning and will help Gas Operations effectively adapt to emerging energy policy and regulations.</p>
<p><b>Project Risks and Mitigation Plan</b></p> <p>See Technical Evaluation / Analysis below.</p>
<p><b>Technical Evaluation / Analysis</b></p> <p>The Company has held several detailed discussions, internally and with a gas forecasting expert vendor, that have reviewed and assessed the scope and approach towards achieving an accurate firm gas peak demand distribution forecast model.</p>
<p><b>Project Relationships (if applicable)</b></p> <p>N/A.</p>

**3. Funding Detail**

**Historical Spend**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Actual 2020</u>	<u>Historic Year (O&amp;M only)</u>	<u>Forecast 2021</u>
Capital						
O&M						
Regulatory Asset						

**Total Request (\$000):**

**Total Request by Year:**

	<u>Request 2022</u>	<u>Request 2023</u>	<u>Request 2024</u>	<u>Request 2025</u>	<u>Request 2026</u>
Capital					
O&M*		<u>1,674</u>	<u>190</u>	<u>190</u>	

<b>Regulatory Asset</b>					
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**Capital/Regulatory Asset Request by Elements of Expense:**

<u>EOE</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Labor					
M&S					
Contract Services					
Other					
Overheads					
<b>Total</b>					

**Total Gross Cost Savings / Avoidance by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M Savings					
O&M Avoidance					
Capital Savings					
Capital Avoidance					

**Total Ongoing Maintenance Expense by Year:**

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
O&M		<u>1,674</u>	<u>190</u>	<u>190</u>	
Capital					

\*If whitepaper is supporting a capital project/program this refers to implementation O&M

## 4. Definitions

**Total Funding Request:** All funding requested for program or project over program/project lifecycle or for on-going programs the five-year requested amount, including all capital, O&M, retirement.

**Cost Savings:** Reductions in costs that are currently being incurred (e.g., reduced annual maintenance cost relative to today)

**Cost Avoidance:** Reductions in anticipated future costs that don't occur today (e.g., anticipated short-term fixes/maintenance if capital isn't deployed)

Project Status:

- Initiation – New project, not authorized yet
- Planning – Project authorized, not started yet
- Executing – Project in-flight
- On-going – Annual program