Niagara Mohawk Power Corporation
d/b/a National Grid

PROCEEDING ON MOTION OF THE COMMISSION AS TO THE RATES, CHARGES, RULES AND REGULATIONS OF NIAGARA MOHAWK POWER CORPORATION FOR ELECTRIC AND GAS SERVICE

Corrections and Updates Testimony and Exhibits of:

Revenue Requirements Panel
Exhibit__ (RRP-1CU) through
Exhibit __ (RRP-3CU) Schedule 28

Book 6

July 10, 2017

Submitted to:
New York State Public Service Commission
Case 17-E-0238
Case 17-G-0239

Submitted by:
Niagara Mohawk Power Corporation

nationalgrid

C&U Testimony of
RRP

Before the Public Service Commission

NIAGARA MOHAWK POWER CORPORATION d/b/a NATIONAL GRID

Corrections and Updates Testimony

of

The Revenue Requirements Panel

Dated: July 10, 2017

Corrections and Updates Testimony of The Revenue Requirements Panel

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Rate Year, and Data Years, as identified in Information Request No. DPS-035 (SEK-5) Supplemental. The fourth adjustment was made in accordance with Information Request No. DPS-207 (SEK-25) to reclassify vendor charges from consultant expense to capital expense, resulting in a reduction in electric expense. The fifth adjustment reflects the effects of the updated inflation factor.

Schedule 2 – Contractors

Schedule 2 shows two adjustments that reduce electric and gas contractor expense in the Historic Test Year. The first adjustment was made in accordance with Information Request No. DPS-031 (MEW-4a) to remove a portion of a helicopter pre-payment that should have been amortized over eight years. The second adjustment reflects the effects of the updated inflation factor.

Schedule 4 – Employee Expenses

Schedule 4 reflects two adjustments to employee expenses. The first adjustment increases electric employee expense in the Historic Test Year to remove an adjustment that was erroneously included in the Historic Test Year. This adjustment was made in accordance with Information Request No. DPS-

filing that are affected only by inflation is provided following the Panel's testimony.

IX. Proposed Treatment of Existing Regulatory Deferral Accounts and New Reconciliation Mechanisms

Q. Please describe the corrections and updates shown in Schedule 4 of Exhibit ___ (RRP-9CU).

A. The Company has updated several thresholds to reflect the updated rate allowances based on the adjustments discussed throughout this testimony.

X. Other Updates

Q. Is the Panel making any other corrections and updates to its direct testimony?

A. Yes. The Company is making three additional changes: one to update the Company's proposal for financing the Gas Business Enablement ("GBE") program, another to update the allocation proposed for the AMI program, and a third to correct a portion of its direct testimony related to Other Benefits.

Q. Please describe the Company's efforts to identify financing options for the GBE program.

Corrections and Updates Testimony of The Revenue Requirements Panel

A. GBE is a foundational investment in the future of National Grid's U.S. gas business that will deliver operational, safety, and customer service benefits for the Company and its customers. Because GBE is a significant financial investment, and is being deployed across multiple jurisdictions on a staggered schedule, National Grid is exploring financing options that would allow it to better manage the costs of GBE as compared to traditional utility financing, while at the same time equitably aligning recovery of the investment with the implementation of GBE functionality by the U.S. operating companies and the realization of its benefits by their customers.

Specifically, National Grid is considering an opportunity to finance GBE through a third-party financial institution that could potentially reduce total costs by utilizing lower-cost financing than would otherwise be available through traditional means. Under the third-parting financing option, National Grid would maintain ownership of the GBE system but license/lease the assets to a special-purpose financing entity which, in turn, would sublicense/sublease the systems to National Grid's operating companies. The financing entity/bank would finance the total cost of the project utilizing 100 percent debt at interest rates lower than the Company's weighted average cost of capital. All GBE program costs – capital, operating expenses, and financing costs – would be financed at this lower cost of financing and amortized over a

ten-year period on a levelized basis. Costs would be recovered from National Grid's U.S. operating companies through rent payments based on their allocated share of the total project costs. The rent payment would be payable on a schedule that aligns with the implementation of GBE at each company (*i.e.*, rent payments would commence when an operating company began using the system and continue for a period of ten years).

Q. What are the benefits of third-party financing?

A. Because the third-party/bank can finance the project at a lower cost, and National Grid is foregoing recovery of an equity return on the investment, this option has the potential to reduce total financing costs as compared to traditional utility debt/equity financing. Lower financing costs, coupled with a levelized payment stream that mitigates the upfront financial impact of the program's design, build, and implementation expenses, would lower the total cost of GBE on a net present value basis. While the amount of any savings will ultimately depend on the interest rates secured by the financing entity/bank and other factors, based on indicative interest rates, the total financing costs to all National Grid U.S. customers for the GBE project could be lowered by $10 million to $35 million on a net present value basis. In terms of the impact on the Niagara Mohawk's rate filing, because the rent payments would be levelized and extend over a longer recovery period, the

Company's revenue requirement for GBE over the Rate Year and Data Years could be reduced by $15 million or more.

In addition to lowering overall project costs on a net present value basis, this financing option would equitably align cost recovery of GBE with the implementation of program benefits and provide National Grid's operating companies with a reasonable opportunity to recover the costs of this important investment from the benefitting customers. As GBE is placed in-service in each jurisdiction, National Grid's operating companies will incur costs in the form of rent payments based on their allocated share of system costs. This approach will support implementation of GBE on a staggered schedule that best meets National Grid's business needs and mitigates execution risks, while at the same time eliminating any incentive to delay needed investments based on the timing of rate recovery.

National Grid is continuing to perform its due diligence on the feasibility of the third-party financing approach, but expects to have completed its analysis prior to the conclusion of this case.

Q. What is the Company's proposal with regard to the potential impact of third-party financing on GBE cost recovery?

A. To the extent the third-party financing option is viable and reduces the Company's GBE costs (*i.e.*, lower rent payments) during the rate plan period as compared to the costs reflected in rates, the Company proposes to defer any underspending for the benefit of customers.

Q. Would this financing and project allocation methodology be used for other National Grid affiliates?

A. Yes. As discussed above, if National Grid proceeds with the third-party financing option, all National Grid affiliates utilizing GBE, including KEDNY and KEDLI, will be charged an allocated share of system costs through levelized rent payments that align with the implementation of GBE functionality at each company.

Q. Please describe the Company's updates to its AMI proposal.

A. In the Company's original filing, the AMI Panel presented a proposal to deploy AMI technology for its electric and gas customers. The proposal includes the implementation of back-office information technology systems to manage AMI, store customer data, and support billing and other customer service activities. Because the systems will be owned by the Service Company, their costs were included within the electric and gas revenue requirement as a Service Company rent expense. At this time, these costs are

Corrections and Updates Testimony of The Revenue Requirements Panel

List of Exhibits

Exhibit ___ (RRP-1CU) Statement of Operating Incomes

Exhibit ___ (RRP-3CU) Electric and Gas O&M Expenses by Expense Type;

Exhibit ___ (RRP-4CU) Electric and Gas Depreciation Expense;

Exhibit ___ (RRP-5CU) Electric and Gas Taxes Other than Income Taxes;

Exhibit ___ (RRP-6CU) Electric and Gas Federal and State Income Taxes;

Exhibit ___ (RRP-7CU) Electric and Gas Rate Bases;

Exhibit ___ (RRP-8CU) Inflation Factors;

Exhibit ___ (RRP-9CU) Deferral Exhibits; and

Exhibit ___ (RRP-11CU) Workpaper Data Supporting Certain Exhibits

Expense Specific Schedules Impacted only by Inflation

Schedule 5 – Hardware
Schedule 6 – Software
Schedule 10 – Construction Reimbursement
Schedule 15 – Other Benefits
Schedule 19 – Materials Outside Vendor
Schedule 20 – Materials From Inventory
Schedule 21 – Materials Stores Handling
Schedule 22 – Postage
Schedule 30 – Regulatory Assessment Fees
Schedule 33 – Vegetation Management
Schedule 34 – Savings
Schedule 36 – Accounting
Schedule 37 – Conservation Load Management

Exhibit_____(RRP-3CU)
Schedule 1
Page 5 of 5

Niagara Mohawk Power Corporation d/b/a National Grid
Operating Expenses by Component
Consultants
($000's)

Explanation of Adjustments:		Provider Company	Source Workpaper	Total	Electric	Gas
Page 1	Adjustments: (to normalize Historic Year)					
	To remove Ticonderoga Line Costs	Niagara Mohawk Power Corporation	Workpaper 5	$ (55.4)	$ (55.4)	$ -
	Reclass Rate Case Expense	National Grid USA Service Company	Workpaper 3	(49.1)	(41.3)	$ (7.8)
	Test Year Analysis Adjustments	National Grid USA Service Company	RPP-2, Schedule 1	(86.4)	(72.5)	(13.9)
	To exclude Gas Business Enablement Expense	National Grid USA Service Company	Workpaper 2	(625.6)	-	(625.6)
	Removal of Unrecoverable SIR Deferral Amounts	Niagara Mohawk Power Corporation	Workpaper 4	(22.5)	(19.1)	(3.4)
	Allocation adjustment for common facilities charges	Niagara Mohawk Power Corporation	Workpaper 6	-	(4.0)	4.0
	Allocation adjustment vendor allocation	Niagara Mohawk Power Corporation	Workpaper 7 / Attachment 8 to DPS-036 (SEK-6) Supplemental	(409.7)	(474.5)	64.9
	Normalize consulting vendor charges	National Grid USA Service Company	Workpaper 7 / DPS-036 (SEK-6) Supplemental	(60.5)	(50.6)	(9.9)
	Normalize consulting vendor charges -OC Tanner	National Grid USA Service Company	Workpaper 8 / DPS-035 (SEK-5) Supplemental	(674.9)	(568.7)	(106.2)
	Reclass vendor charges from expense to capital	Niagara Mohawk Power Corporation	Workpaper 9 / DPS-207 (SEK-25)	(135.2)	(135.2)	-
				$ (2,119.2)	$ (1,421.2)	$ (698.0)
Page 2	Adjustments: (to reflect conditions in the Rate Year)					
	General inflation %					
	4.3476%			$ 1,089.7	$ 826.2	$ 263.5
	TOTAL			$ 1,089.7	$ 826.2	$ 263.5
Page 3 & 4	Adjustments: (to reflect conditions in Data Year 1)					
	General inflation %					
	2.5988%			$ 679.7	$ 515.3	$ 164.4
	TOTAL			$ 679.7	$ 515.3	$ 164.4
Page 3 & 4	Adjustments: (to reflect conditions in Data Year 2)					
	General inflation %					
	2.4138%			$ 647.7	$ 491.1	$ 156.6
	TOTAL			$ 647.7	$ 491.1	$ 156.6

Niagara Mohawk Power Corporation d/b/a National Grid
Operating Expenses by Component
Contractors
($000's)

Explanation of Adjustments:		Provider Company	Source Workpaper	Total	Electric	Gas
Page 1	Adjustments: (to normalize Historic Year)					
	To remove Major Storm Costs	Niagara Mohawk Power Corporation	Workpaper 3	$ (2,053.3)	$ (2,053.3)	$ -
	To remove Ticonderoga Line Costs	Niagara Mohawk Power Corporation	Workpaper 5	(4.8)	(4.8)	-
	Test Year Analysis Adjustments	National Grid USA Service Company	RRP-2, Schedule 1	-		
	To exclude Gas Business Enablement Expense	Niagara Mohawk Power Corporation	Workpaper 2	(3.7)	-	(3.7)
	To remove expensed Gas Corrosion Costs	Niagara Mohawk Power Corporation	Workpaper 4	(294.7)	-	(294.7)
	Allocation adjustment for common facilities charges	Niagara Mohawk Power Corporation	Workpaper 6	-	(369.3)	369.3
	To remove prepaid helicoptor costs	National Grid USA Service Company	Workpaper 7 / DPS-031 MEW-4a	(437.5)	(366.7)	(70.8)
	TOTAL			$ (2,794.0)	$ (2,794.1)	$ 0.1
Page 2	Adjustments: (to reflect conditions in the Rate Year)					
	General inflation %					
	4.3476%			$ 4,396.0	$ 3,457.4	$ 938.6
	TOTAL			$ 4,396.0	$ 3,457.4	$ 938.6
Page 3 & 4	Adjustments: (to reflect conditions in Data Year 1)					
	General inflation %					
	2.5988%			$ 2,742.0	$ 2,156.5	$ 585.4
	TOTAL			$ 2,742.0	$ 2,156.5	$ 585.4
Page 3 & 4	Adjustments: (to reflect conditions in Data Year 2)					
	General inflation %					
	2.4138%			$ 2,613.0	$ 2,055.1	$ 557.9
	TOTAL			$ 2,613.0	$ 2,055.1	$ 557.9

Exhibit_____(RRP-3CU)
Schedule 4
Page 5 of 5

Niagara Mohawk Power Corporation d/b/a National Grid
Operating Expenses by Component
Employee Expenses
($000's)

		Provider Company	Source Workpaper	Total	Electric	Gas
Explanation of Adjustments:						
Page 1	Adjustments: (to normalize Historic Year)					
	Test Year Analysis Adjustments	Niagara Mohawk Power Corporation	RRP-2, Schedule 1	$ (22.6)	$ (16.7)	$ (5.9)
	Test Year Analysis Adjustments	National Grid USA Service Company	RRP-2, Schedule 1	(59.2)	(48.4)	(10.7)
	Test Year Analysis Adjustments	All Other Companies	RRP-2, Schedule 1	(0.1)	(0.0)	(0.0)
	To exclude Gas Business Enablement Expense	Niagara Mohawk Power Corporation	Workpaper 2	(10.6)	-	(10.6)
	To remove Major Storm Costs	Niagara Mohawk Power Corporation	Workpaper 3	(0.7)	(0.7)	-
	To remove Major Storm Costs	National Grid USA Service Company	Workpaper 3	(8.0)	(8.0)	-
	To remove Ticonderoga Line Costs	Niagara Mohawk Power Corporation	Workpaper 4	(0.1)	(0.1)	-
	To remove Band A Employee Expenses	Niagara Mohawk Power Corporation	RRP-2, Schedule 1	(55.6)	(47.7)	(7.9)
	Allocation Adjustment for Common Facilities charges	Niagara Mohawk Power Corporation	Workpaper 5	-	(0.8)	0.8
	To fix Employee Expense adjustment included in HTY	Niagara Mohawk Power Corporation	Workpaper 6 / DPS-057 JPC-13	114.6	114.6	-
				$ (42.3)	$ (8.0)	$ (34.3)
Page 2	Adjustments: (to reflect conditions in the Rate Year)					
	General inflation %					
	4.3476%			$ 376.4	$ 317.1	$ 59.4
	TOTAL			$ 376.4	$ 317.1	$ 59.4
Page 3 & 4	Adjustments: (to reflect conditions in Data Year 1)					
	General inflation %					
	2.5988%			$ 234.8	$ 197.8	$ 37.0
	TOTAL			$ 234.8	$ 197.8	$ 37.0
Page 3 & 4	Adjustments: (to reflect conditions in Data Year 2)					
	General inflation %					
	2.4138%			$ 223.7	$ 188.5	$ 35.3
	TOTAL			$ 223.7	$ 188.5	$ 35.3

Exhibit_____(RRP-3CU)
Schedule 5
Page 5 of 5

Niagara Mohawk Power Corporation d/b/a National Grid
Operating Expenses by Component
Hardware Expenses
($000's)

		Provider Company	Source Workpaper	Total	Electric	Gas
Explanation of Adjustments:						
Page 1	Adjustments: (to normalize Historic Year)					
	To exclude Gas Business Enablement Expense	Niagara Mohawk Power Corporation	Workpaper 2	$ (0.3)	$ -	$ (0.3)
	Allocation adjustment for common facilities charges	Niagara Mohawk Power Corporation	Workpaper 3	-	(0.0)	0.0
				$ (0.3)	$ (0.0)	$ (0.3)
Page 2	Adjustments: (to reflect conditions in the Rate Year)					
	General inflation % 4.3476%			$ 18.0	$ 15.5	$ 2.5
	TOTAL			$ 18.0	$ 15.5	$ 2.5
Page 3 & 4	Adjustments: (to reflect conditions in Data Year 1)					
	General inflation % 2.5988%			$ 11.2	$ 9.7	$ 1.6
	TOTAL			$ 11.2	$ 9.7	$ 1.6
Page 3 & 4	Adjustments: (to reflect conditions in Data Year 2)					
	General inflation % 2.4138%			$ 10.7	$ 9.2	$ 1.5
	TOTAL			$ 10.7	$ 9.2	$ 1.5

Exhibit_____(RRP-3CU)
Schedule 6
Page 5 of 5

Niagara Mohawk Power Corporation d/b/a National Grid
Operating Expenses by Component
Software Expenses
($000's)

		Provider Company	Source Workpaper	Total	Electric	Gas
Explanation of Adjustments:						
Page 1	Adjustments: (to normalize Historic Year)					
				$ -	$ -	
	To exclude Gas Business Enablement Expense	Niagara Mohawk Power Corporation	Workpaper 2	(0.1)	-	(0.1)
				-	-	
				$ (0.1)	$ -	$ (0.1)
Page 2	Adjustments: (to reflect conditions in the Rate Year)					
	General inflation %					
	4.3476%			$ 617.1	$ 515.8	$ 101.2
	TOTAL			$ 617.1	$ 515.8	$ 101.2
Page 3	Adjustments: (to reflect conditions in Data Year 1)					
	General inflation %					
	2.5988%			$ 384.9	$ 321.8	$ 63.1
	TOTAL			$ 384.9	$ 321.8	$ 63.1
Page 3	Adjustments: (to reflect conditions in Data Year 2)					
	General inflation %					
	2.4138%			$ 366.8	$ 306.6	$ 60.2
	TOTAL			$ 366.8	$ 306.6	$ 60.2

Exhibit_____(RRP-3CU)
Schedule 7
Page 5 of 5

Niagara Mohawk Power Corporation d/b/a National Grid
Operating Expenses by Component
Other Expenses
($000's)

Explanation of Adjustments:		Provider Company	Source Workpaper	Total	Electric	Gas
Page 1	Adjustments: (to normalize Historic Year)					
	To adjust allocation of Verizon costs	National Grid USA Service Company	Workpaper 7	$ (3,077.4)	$ (3,430.1)	$ 352.7
	To reclass Incentives to separate schedule	Niagara Mohawk Power Corporation	Workpaper 6	(762.8)	-	$ (762.8)
	To remove Ticonderoga Line Costs	Niagara Mohawk Power Corporation	Workpaper 5	0.6	0.6	-
	To exclude Gas Business Enablement Expense	Niagara Mohawk Power Corporation	Workpaper 2	(1.7)	-	(1.7)
	To remove Major Storm Costs	Niagara Mohawk Power Corporation	Workpaper 3	(3.8)	(3.8)	-
	Removal of Unrecoverable SIR Deferral Amounts	Niagara Mohawk Power Corporation	Workpaper 4	(4.3)	(3.7)	(0.6)
	Test Year Analysis Adjustments	National Grid USA Service Company	RRP-2, Schedule 1	(420.4)	(2.9)	(417.6)
	To reclass Economic Development Grants	National Grid USA Service Company	Workpaper 8	(15,094.6)	(14,924.3)	(170.3)
	Allocation adjustment for common facilities charges	Niagara Mohawk Power Corporation	Workpaper 9	-	(15.9)	15.9
	Adjustment to correct SIR deferral charges	Niagara Mohawk Power Corporation	Workpaper 10 / DPS-010 JPC-5 & DPS-096 MJA-6	(125.6)	(106.8)	(18.8)
	TOTAL			$ (19,489.9)	$ (18,486.7)	$ (1,003.2)
Page 2	Adjustments: (to reflect conditions in the Rate Year)					
	General inflation %					
	4.3476%			$ 1,138.5	$ 898.7	$ 239.8
	TOTAL			$ 1,138.5	$ 898.7	$ 239.8
Page 3	Adjustments: (to reflect conditions in Data Year 1)					
	General inflation %					
	2.5988%			$ 710.1	$ 560.6	$ 149.6
	TOTAL			$ 710.1	$ 560.6	$ 149.6
Page 3	Adjustments: (to reflect conditions in Data Year 2)					
	General inflation %					
	2.4138%			$ 676.7	$ 534.2	$ 142.5
	TOTAL			$ 676.7	$ 534.2	$ 142.5

Exhibit_____(RRP-3CU)
Schedule 9
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Niagara Mohawk Power Corporation d/b/a National Grid
Operating Expenses by Component
Service Company Rents - Summary

Line	Rent Type	Adjusted Test Year Electric	Adjusted Test Year Gas	Rate Year 19 Expense Electric	Rate Year 19 Expense Gas	Data Year 20 Expense Electric	Data Year 20 Expense Gas	Data Year 21 Expense Electric	Data Year 21 Expense Gas
1	Facilities	$ 1,822,979	$ 430,805	$ 1,674,044	$ 390,928	$ 1,372,755	$ 329,892	$ 1,032,106	$ 258,400
2	Information Systems	$ 26,282,541	$ 4,261,864	$ 39,551,639	$ 8,780,725	$ 45,707,744	$ 12,119,718	$ 56,642,545	$ 15,945,723
3	Total Service Company Rent Expense	$ 28,105,520	$ 4,692,669	$ 41,225,682	$ 9,171,653	$ 47,080,499	$ 12,449,610	$ 57,674,651	$ 16,204,123
4									
5	IS and Facilities Test Year per Books	$ 31,185,799	$ 5,589,472						
6									
7	Normalizing Adjustment	$ (3,080,280)	$ (896,803)	$ 13,120,163	$ 4,478,984	$ 5,854,816	$ 3,277,957	$ 10,594,152	$ 3,754,513

Exhibit_____(RRP-3CU)
Schedule 9
Page 7 of 9

Niagara Mohawk Power Corporation d/b/a National Grid
Operating Expenses by Component
Service Company Rents - Summary by Rent Type/Program

		Historic Test Year Expense		Rate Year Expense		Data Year 1 Expense		Data Year 2 Expense	
Line	Rent Type	Electric	Gas	Electric	Gas	Electric	Gas	Electric	Gas
1	Existing IS Projects	$26,282,541	$4,261,864	$24,050,522	$4,254,858	$22,081,240	$3,932,792	$20,513,331	$3,600,740
2	*Total Existing IS Projects*	$26,282,541	$4,261,864	$24,050,522	$4,254,858	$22,081,240	$3,932,792	$20,513,331	$3,600,740
3									
4	Cyber Security (IS)	$ -	$ -	$ 1,391,946	$ 267,076	$ 1,882,247	$ 361,152	$ 2,046,338	$ 392,636
5	FY18 Plan (SSP)	$ -	$ -	$ 6,778,031	$ 1,130,610	$ 7,741,409	$ 1,658,441	$ 7,268,007	$ 2,333,228
6	Growth Playbook	$ -	$ -	$ 87,303	$ 19,896	$ 779,395	$ 220,456	$ 842,201	$ 250,230
7	PSC Mandate (SSP)	$ -	$ -	$ 1,498,999	$ 301,765	$ 1,411,469	$ 299,225	$ 1,335,587	$ 282,804
8	Other Mandates (IS)	$ -	$ -	$ 719,810	$ 196,937	$ 1,709,141	$ 405,933	$ 2,660,290	$ 582,481
9	Physical Security (IS)	$ -	$ -	$ 194,516	$ 37,146	$ 278,028	$ 53,087	$ 358,145	$ 68,380
10	Tech Modernization (IS)	$ -	$ -	$ 1,548,366	$ 297,089	$ 3,661,796	$ 702,599	$ 5,777,548	$ 1,108,553
11	REV / Grid Mod Projects (ECP, AMI, IS, EIOP)	$ -	$ -	$ 3,282,145	$ 499,938	$ 5,625,524	$ 604,899	$ 14,747,702	$ 1,387,366
12	Gas Business Enablement (GIOP)	$ -	$ -	$ -	$ 1,775,409	$ 537,495	$ 3,881,134	$ 1,093,397	$ 5,939,303
13	*Total Forecasted IS Projects*	$0	$0	$15,501,116	$4,525,867	$23,626,504	$8,186,926	$36,129,214	$12,344,983
14									
15	Existing Facilities Projects	$ 1,822,979	$ 430,805	$ 1,649,830	$ 386,395	$ 1,339,695	$ 323,702	$ 990,889	$ 250,683
16	Forecasted Facilities Projects	$ -	$ -	$ 24,214	$ 4,533	$ 33,060	$ 6,190	$ 41,217	$ 7,717
17	*Total Facilities Projects*	$1,822,979	$430,805	$1,674,044	$390,928	$1,372,755	$329,892	$1,032,106	$258,400
18									
19	Total Service Company Rent Expense	$28,105,520	$4,692,669	$41,225,682	$9,171,653	$47,080,499	$12,449,610	$57,674,651	$16,204,123

Exhibit_____(RRP-3CU)
Schedule 19
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Niagara Mohawk Power Corporation d/b/a National Grid
Operating Expenses by Component
Materials Outside Vendor
($000's)

		Provider Company	Workpaper Reference	Total	Electric	Gas
Explanation of Adjustments:						
Page 1	Adjustments: (to normalize Historic Year)					
	To exclude Gas Business Enablement Expense	Niagara Mohawk Power Corporation	Workpaper 2	$ (1.4)	$ -	$ (1.4)
	Allocation adjustment for common facilities charges	Niagara Mohawk Power Corporation	Workpaper 3	-	(14.5)	14.5
	TOTAL			$ (1.4)	$ (14.5)	$ 13.1
Page 2	Adjustments: (to reflect conditions in the Rate Year)					
	General inflation %					
	4.3476%			$ 507.1	$ 375.3	$ 131.8
	TOTAL			$ 507.1	$ 375.3	$ 131.8
Page 3 & 4	Adjustments: (to reflect conditions in Data Year 1)					
	General inflation %					
	2.5988%			$ 316.3	$ 234.1	$ 82.2
	TOTAL			$ 316.3	$ 234.1	$ 82.2
Page 3 & 4	Adjustments: (to reflect conditions in Data Year 2)					
	General inflation %					
	2.4138%			$ 301.4	$ 223.1	$ 78.3
	TOTAL			$ 301.4	$ 223.1	$ 78.3

Niagara Mohawk Power Corporation d/b/a National Grid
Operating Expenses by Component
Other Initiatives
($000's)

		Provider Company	Source Workpaper	Total	Electric	Gas
Explanation of Adjustments:						
Page 1	Adjustments: (to normalize Historic Year)					
				$ -	$ -	$ -
				$ -	$ -	$ -
Page 2	Adjustments: (to reflect conditions in the Rate Year)					
	Opex associated with Capex - Dist	NMPC	WP 1	$ 4,643.8	$ 4,643.8	$ -
	Opex associated with Capex - Tran	NMPC	WP 1	6,015.4	6,015.4	-
	Transmission I&M	NMPC	EIOP-12	4,191.6	4,191.6	-
	Distribution Veg Mgmt	NMPC	EIOP-12	10,000.0	10,000.0	-
	Electric FTE's	NMPC	Page 10	6,791.6	6,791.6	-
	Gas FTE's	NMPC	Page 10	302.8	-	302.8
	Distribution REV	NMPC	Page 9	36,770.1	36,770.1	-
	Electric Opex Other	NMPC	EIOP-12	-	-	-
	Transmission Line Removal	NMPC	EIOP-12	2,312.4	2,312.4	-
	NWA Evaluation	NMPC	EIOP-12	750.0	750.0	-
	Transmission I&M	NGRID USA Service Co.	EIOP-12	-	-	-
	Distribution Veg Mgmt	NGRID USA Service Co.	EIOP-12	-	-	-
	Electric FTE's	NGRID USA Service Co.	Page 10	1,113.4	1,113.4	-
	Gas FTE's	NGRID USA Service Co.	Page 10	4,759.7	-	4,759.7
	Electric GBE	NMPC	GIOP-10	198.0	198.0	-
	Electric RD&D	NMPC	EIOP-15	213.0	213.0	-
	Gas Opex Workload	NMPC	GIOP-5	5,791.6	-	5,791.6
	Gas Opex/Capex	NMPC	GIOP-5	217.5	-	217.5
	Gas Opex Safety	NMPC	GIOP-5	4,689.8	-	4,689.8
	Gas Non-pipe Alternative	NMPC	Page 9	3,441.9	-	3,441.9
	Customer - Outreach	NGRID USA Service Co.	WP-2	800.0	664.0	136.0
	Customer - Bill Design	NGRID USA Service Co.	WP-3	545.5	398.2	147.3
			#N/A			
	Energy Efficiency Labor	NGRID USA Service Co.	WP-4	821.9	261.0	560.9
	Electric IS RTB	NGRID USA Service Co.	ISP-3	6,764.0	6,764.0	-
	Gas IS RTB	NGRID USA Service Co.	ISP-3	1,297.8	-	1,297.8
	Gas Opex/GBE	NMPC	GIOP-10	10,823.7	-	10,823.7
	Management Audit	NGRID USA Service Co.		400.0	336.0	64.0
	General Inflation Rate					
	4.3476%	NMPC				
	TOTAL			$ 113,655.7	$ 81,422.6	$ 32,233.1
Page 3 & 4	Adjustments: (to reflect conditions in Data Year 1)					
	Opex associated with Capex - Dist	NMPC	WP 1	$ 1,588.5	$ 1,588.5	$ -
	Opex associated with Capex - Tran	NMPC	WP 1	(53.6)	(53.6)	-
	Transmission I&M	NMPC	EIOP-12	-	-	-
	Distribution Veg Mgmt	NMPC	EIOP-12	-	-	-
	Electric FTE's	NMPC	Page 10	2,162.7	2,162.7	-
	Gas FTE's	NMPC	Page 10	6.7	-	6.7
	Distribution REV	NMPC	Page 9	6,569.0	6,569.0	-
	Electric Opex Other	NMPC	EIOP-12	-	-	-
	Transmission Line Removal	NMPC	EIOP-12	(476.0)	(476.0)	-
	NWA Evaluation	NMPC	EIOP-12	-	-	-
	Transmission I&M	NGRID USA Service Co.	EIOP-12	-	-	-
	Distribution Veg Mgmt	NGRID USA Service Co.	EIOP-12	-	-	-
	Electric FTE's	NGRID USA Service Co.	Page 10	309.8	309.8	-
	Gas FTE's	NGRID USA Service Co.	Page 10	1,000.6	-	1,000.6
	Electric GBE	NMPC	GIOP-10	46.5	46.5	-
	Electric RD&D	NMPC	EIOP-15	8.4	8.4	-
	Gas Opex Workload	NMPC	GIOP-5	(2,316.0)	-	(2,316.0)
	Gas Opex/Capex	NMPC	GIOP-5	16.1	-	16.1
	Gas Opex Safety	NMPC	GIOP-5	2.9	-	2.9
	Gas Non-pipe Alternative	NMPC	Page 9	913.8	-	913.8

Exhibit___(RRP-3CU)
Schedule 27
Page 6 of 10

Niagara Mohawk Power Corporation d/b/a National Grid
Operating Expenses by Component
Other Initiatives
($000's)

		Provider Company	Source Workpaper	Total	Electric	Gas
Explanation of Adjustments:						
	Customer - Outreach	NGRID USA Service Co.	WP-2	-	-	-
	Customer - Bill Design	NGRID USA Service Co.	WP-3	-	-	-
	Energy Efficiency Labor	NGRID USA Service Co.	WP-4	(167.3)	(130.2)	(37.2)
	Electric IS RTB	NGRID USA Service Co.	ISP-3	770.8	770.8	-
	Gas IS RTB	NGRID USA Service Co.	ISP-3	147.9	-	147.9
	Gas Opex/GBE	NMPC	GIOP-10	(2,647.1)	-	(2,647.1)
	Management Audit	NGRID USA Service Co.		-	-	-
	General Inflation Rate 2.5988%	NMPC		870.5	554.9	315.6
	TOTAL			$ 8,754.2	$ 11,350.9	$ (2,596.7)
Page 3 & 4	Adjustments: (to reflect conditions in Data Year 2)					
	Opex associated with Capex - Dist	NMPC	WP 1	$ 1,221.9	1,221.9	$ -
	Opex associated with Capex - Tran	NMPC	WP 1	1,025.4	1,025.4	-
	Transmission I&M	NMPC	EIOP-12	-	-	-
	Distribution Veg Mgmt	NMPC	EIOP-12	-	-	-
	Electric FTE's	NMPC	Page 10	1,465.0	1,465.0	-
	Gas FTE's	NMPC	Page 10	6.7	-	6.7
	Distribution REV	NMPC	Page 9	2,936.8	2,936.8	-
	Electric Opex Other	NMPC	EIOP-12	-	-	-
	Transmission Line Removal	NMPC	EIOP-12	(1,920.0)	(1,920.0)	-
	NWA Evaluation	NMPC	EIOP-12	-	-	-
	Transmission I&M	NGRID USA Service Co.	EIOP-12	-	-	-
	Distribution Veg Mgmt	NGRID USA Service Co.	EIOP-12	-	-	-
	Electric FTE's	NGRID USA Service Co.	Page 10	94.0	94.0	-
	Gas FTE's	NGRID USA Service Co.	Page 10	133.8	-	133.8
	Electric GBE	NMPC	GIOP-10	(244.5)	(244.5)	-
	Electric RD&D	NMPC	EIOP-15	8.6	8.6	-
	Gas Opex Workload	NMPC	GIOP-5	4.4	-	4.4
	Gas Opex/Capex	NMPC	GIOP-5	19.0	-	19.0
	Gas Opex Safety	NMPC	GIOP-5	(483.0)	-	(483.0)
	Gas Non-pipe Alternative	NMPC	Page 9	565.3	-	565.3
	Customer - Outreach	NGRID USA Service Co.	WP-2	-	-	-
	Customer - Bill Design	NGRID USA Service Co.	WP-3	-	-	-
	Energy Efficiency Labor	NGRID USA Service Co.	WP-4	(172.4)	(134.1)	(38.3)
	Electric IS RTB	NGRID USA Service Co.	ISP-3	(4,042.7)	(4,042.7)	-
	Gas IS RTB	NGRID USA Service Co.	ISP-3	(775.7)	-	(775.7)
	Gas Opex/GBE	NMPC	GIOP-10	(3,668.6)	-	(3,668.6)
	Management Audit	NGRID USA Service Co.		-	-	-
	General Inflation Rate 2.4138%	NMPC		(12.3)	32.0	(44.3)
	TOTAL			$ (3,838.2)	$ 442.5	$ (4,280.7)

Niagara Mohawk Power Corporation d/b/a National Grid
Operating Expenses by Component
Other Initiatives
($000's)

	Electric			Gas			
Program Description	Rate Year Ending March 31, 2019	Data Year Ending March 31, 2020	Data Year Ending March 31, 2021	Rate Year Ending March 31, 2019	Data Year Ending March 31, 2020	Data Year Ending March 31, 2021	Source Exhibit / Workpaper
Gas Opex Workload							
CMS- Ipads	-	-	-	775.0	150.0	150.0	GIOP-5CU
Gas Transmission Engineering- IMP/IVP Inspections (PHSMA)	-	-	-	2,639.9	992.9	1,045.9	GIOP-5CU
Pressure Regulation Eng- Tran Station Integrity Mgmt Prog	-	-	-	798.0	798.0	798.0	GIOP-5CU
Enhance Pipeline Compliance System ("PCS")	-	-	-	46.2	-	-	GIOP-5CU
Gas Work Methods & Standards- Traditional Gas RD&D	-	-	-	41.0	44.0	46.0	GIOP-5CU
Damage Prevention- Damage Prevention Advisor Program	-	-	-	345.0	355.4	366.0	GIOP-5CU
Damage Prevention- Ticket Risk Assessment Costs	-	-	-	32.6	34.2	35.9	GIOP-5CU
I&R- Increased Pipeline Survey	-	-	-	1,000.0	1,000.0	1,000.0	GIOP-5CU
I&R- Vegetation Management Gas Maintenance	-	-	-	113.9	101.1	38.1	GIOP-5CU
Geographic Information system ("GIS"), Mapping Gas Services	-	-	-	-	-	-	GIOP-5CU
AMF- Advanced Metering Functionality	-	-	-	-	-	-	GIOP-5CU
Elevated Pressure Metering Program Maintenance	-	-	-	47.0	48.1	49.1	GIOP-5CU
Gas Operations- Tools	-	-	-	100.0	100.0	100.0	GIOP-5CU
I&R- Dry line Heater Flushing	-	-	-	7.5	7.5	7.5	GIOP-5CU
I&R- Field Tests & Training Lab	-	-	-	20.0	21.0	23.0	GIOP-5CU
I&R- Gas Regulator Station Security	-	-	-	-	-	-	GIOP-5CU
I&R- Odorant Injection Pump Air Supply	-	-	-	28.0	41.0	55.0	GIOP-5CU
I&R- Portable Compressed Natural Gas (CNG)	-	-	-	15.0	16.0	18.0	GIOP-5CU
I&R- Portable Temporary Regulator Station	-	-	-	-	-	-	GIOP-5CU
GPSC - Residential Methane Detector Pilot	-	-	-	150.0	150.0	150.0	GIOP-5CU
GPSC - Public Awareness Inside Inspections	-	-	-	-	-	-	GIOP-5CU
GPSC - 1st Responder - Mobile Hands on Training	-	-	-	392.1	341.1	341.1	GIOP-5CU
GPSC - 1st Responder - Train the Trainer	-	-	-	74.0	54.0	54.0	GIOP-5CU
Damage Prevetion- GPS Location of Transmission Pipeline	-	-	-	1,300.0	1,300.0	-	GIOP-5CU
Damage Prevetion- Wrapping Company Vehicles	-	-	-	30.0	30.0	30.0	GIOP-5CU
CMS- Gas Inside Service Inspections				2,601.8	2,672.9	2,737.0	GIOP-5CU
Gas Pipeline and Safety Compliance- Operator Qualification Tester				141.9	144.7	147.6	GIOP-5CU
I&R- Agricultural Depth Survey	-	-	-	-	-	750.0	GIOP-5CU
Sub-total	-	-	-	10,698.9	8,401.9	7,942.3	
Gas Business Enablement							
GBE Incremental Opex	-	-	-	9,630.6	5,727.3	2,437.6	GIOP-10
GBE Customer Benefit	-	-	-	(6.9)	(158.5)	(1,025.0)	GIOP-12
GBE Incremental Run the Business	-	-	-	1,200.0	2,607.8	3,095.3	GIOP-11
Sub-total	-	-	-	10,823.7	8,176.6	4,507.9	
Customer - Outreach							
Outreach & Education	664.0	664.0	664.0	136.0	136.0	136.0	WP-2
Customer - Bill Design							
Bill Redesign - Color Printing	398.2	398.2	398.2	147.3	147.3	147.3	WP-3
Energy Efficiency Labor							
Forecast of Electric Labor in Base Rates	261.0	130.8	(3.3)				WP-4CU
Forecast of Gas Labor in Base Rates				560.9	523.8	485.5	WP-4CU
Information Systems RTB							
Electric IS RTB	6,764.0	7,534.8	3,492.1	-	-	-	ISP-3
Gas IS RTB	-	-	-	1,297.8	1,445.7	670.0	ISP-3
Audits							
Management Audit	336.0	336.0	336.0	64.0	64.0	64.0	WP-7CU
Sub-total	81,422.6	92,218.6	92,629.1	32,233.1	29,320.8	25,084.4	
Inflation	-	554.9	586.9	-	315.6	271.3	
Total	81,422.6	92,773.5	93,216.0	32,233.1	29,636.4	25,355.7	

Niagara Mohawk Power Corporation
d/b/a National Grid

PROCEEDING ON MOTION OF THE COMMISSION AS TO THE RATES, CHARGES, RULES AND REGULATIONS OF NIAGARA MOHAWK POWER CORPORATION FOR ELECTRIC AND GAS SERVICE

Corrections and Updates Testimony and Exhibits of:

Revenue Requirements Panel
Exhibit __ (RRP-3CU) Schedule 29 through Exhibit__ (RRP-11CU)
Workpapers to Exhibit RRP-3CU Schedule 17

Book 7

July 10, 2017

Submitted to:
New York State Public Service Commission
Case 17-E-0238
Case 17-G-0239

Submitted by:
Niagara Mohawk Power Corporation

nationalgrid

Date of Request: June 13, 2017 Request No. DPS-035 SEK-5 SUPPLEMENTAL
Due Date: June 23, 2017 NMPC Req. No. NM-422

NIAGARA MOHAWK POWER CORPORATION d/b/a NATIONAL GRID
Case No. 17-E-0238 and 17-G-0239 –
Niagara Mohawk Power Corporation d/b/a National Grid – Electric and Gas Rates

Request for Information

FROM: DPS Staff, Sarah Keymel

TO: National Grid, Revenue Requirements Panel

SUBJECT: ***CONSULTANTS***

Request:
Note: Information responsive to these requests should be provided in pdf format as well as Excel format with all formulas and functions enabled.

1. Provide a copy of the accounting policies and procedures for the consultant cost component of the proposed revenue requirement.

2. With reference to Exhibit__(RRP-3), Schedule 1, Page 5, provide a full explanation of each adjustment to normalize the historic test year. Include in your response all supporting documentation and workpapers related to these adjustments.

3. With reference to Exhibit__(RRP-3), Schedule 1, Page 5, provide a detailed listing of all charges that make up the normalizing adjustments listed in (A)-(E) below. Be sure to include in your response the vendor name, amount charged to electric and gas, and the total cost.
   A. Removal of Ticonderoga Line Costs;
   B. Reclass Rate Case Expense;
   C. To exclude Gas Business Enablement Expense;
   D. Removal of Unrecoverable SIR Deferral Amounts; and
   E. Allocation adjustment for common facilities charges.

4. In the same format as Exhibit__(RRP-11), Workpapers to Exhibit RRP-3, Schedule 1, Workpaper 1, Page 1, provide the data for calendar years 2012, 2013, 2014, and 2015. Provide an explanation for each category (e.g., direct accounts payable, direct other journal, etc…) that details why there was an increase or decrease in costs from year to year.

5. Exhibit__(RRP-11), Workpapers to RRP-3, Schedule 1, Workpaper 1, Page 17 shows charges being indirectly charged to Niagara Mohawk from the vendor OC Tanner Recognition Co.

A. Fully explain why these charges were incurred.
B. Explain why the Company believes these charges should be included in rates.
C. Provide a copy of the contract and purchase order the Company has with the vendor that supports and identifies the work being performed.
D. Provide a copy of the largest dollar amount invoice that this vendor charged to Niagara Mohawk in the historic test year.
E. For calendar years 2013, 2014, and 2015, provide the total amount that OC Tanner Recognition Co. charged to Niagara Mohawk.

Response:

5b. After further review and consideration, the Company agrees to remove the OC Tanner costs from the Historic Test Year, Rate Year and Data Years. This adjustment will be reflected in the Company's Corrections and Updates filing.

Name of Respondent:
Stephanie Briggs

Date of Reply:
June 16, 2017

SCHEDULE 9

Service Company Rents

Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Rate Year ended March 31, 2019

Line	Investment Name	Programs	INVP #	Bill Pool	FY19 Total Spend	In Service Date	Amortization Period	4/1/2018 4/1/2018 Balance	3/31/2019 3/31/2019 Balance	Average Balance	9.9061% Service Co Return	Year Return	Return on Accum Taxes	Total Return
1	Cloud Security	Cyber Security	3683	G020	$ 1,460,000	5/1/2017	84	$ 1,268,810	$ 1,060,238	$ 1,164,524	9.9061%	$ 115,359	$ (33,454)	$ 81,905
2	Risk Based Authentication - 2FA token alternative	Cyber Security	3683	G020	$ 235,080	6/1/2017	84	$ 207,094	$ 173,511	$ 190,303	9.9061%	$ 18,852	$ (5,498)	$ 13,354
3	INVP 3614D1 Ent Network Security	Cyber Security	3614D1	G020	$ 9,478,590	6/30/2017	84	$ 8,463,027	$ 7,108,943	$ 7,785,985	9.9061%	$ 771,286	$ (226,176)	$ 545,110
4	Threat Behavior Modeling	Cyber Security	3683	G020	$ 800,000	8/1/2017	84	$ 723,810	$ 609,524	$ 666,667	9.9061%	$ 66,041	$ (19,469)	$ 46,572
5	Identity & Access Management :Role Base Access Management (RBAC)	Cyber Security	3683	G020	$ 1,650,000	10/1/2017	84	$ 1,532,143	$ 1,296,429	$ 1,414,286	9.9061%	$ 140,100	$ (41,719)	$ 98,382
6	Enhanced DLP Gateway and Endpoint	Cyber Security	3683	G020	$ 2,238,480	12/1/2017	84	$ 2,131,886	$ 1,812,103	$ 1,971,994	9.9061%	$ 195,347	$ (58,720)	$ 136,627
7	INVP 3614B7 CNI Network Security	Cyber Security	3614B7	G020	$ 4,829,586	12/31/2017	84	$ 4,657,101	$ 3,967,160	$ 4,312,130	9.9061%	$ 427,163	$ (128,980)	$ 298,183
8	INVP 3614E4 US CNI Security I&E	Cyber Security	3614E4	G020	$ 1,207,045	12/31/2017	84	$ 1,163,936	$ 991,501	$ 1,077,719	9.9061%	$ 106,760	$ (32,236)	$ 74,524
9	US CNI Intrusion Detection/Prevention Phase 1	Cyber Security	3683	G020	$ 550,000	3/31/2018	84	$ 550,000	$ 471,429	$ 510,714	9.9061%	$ 50,592	$ (11,577)	$ 39,015
10	Identity & Access Management: Fine Grain Access Management	Cyber Security	3683	G020	$ 1,650,000	3/31/2018	84	$ 1,650,000	$ 1,414,286	$ 1,532,143	9.9061%	$ 151,775	$ (34,730)	$ 117,046
11	vStig Scaling Upgrades	Cyber Security	3683	G020	$ 1,000,000	8/1/2018	84	$ -	$ 904,762	$ 452,381	9.9061%	$ 44,813	$ (18,015)	$ 26,799
12	IT/OT Discovery and Implementation Phase 1	Cyber Security	3683	G020	$ 5,500,000	10/1/2018	84	$ -	$ 5,107,143	$ 2,553,571	9.9061%	$ 252,959	$ (101,687)	$ 151,272
13	Security Research Lab	Cyber Security	3683	G020	$ 325,000	10/1/2018	84	$ -	$ 301,786	$ 150,893	9.9061%	$ 14,948	$ (6,009)	$ 8,939
14	US CNI Security Enhancements Phase 1	Cyber Security	3683	G020	$ 1,650,000	11/1/2018	84	$ -	$ 1,551,786	$ 775,893	9.9061%	$ 76,861	$ (30,897)	$ 45,963
15	Identity & Access Management: Privileged Access Management	Cyber Security	3683	G020	$ 1,740,000	3/31/2019	84	$ -	$ 1,740,000	$ 870,000	9.9061%	$ 86,183	$ (20,787)	$ 65,396
16	Domain Based Security Phase 1	Cyber Security	3683	G020	$ 800,000	3/31/2019	84	$ -	$ 800,000	$ 400,000	9.9061%	$ 39,624	$ (9,557)	$ 30,067
17	Security Incident Event Management Phase 4	Cyber Security	3683	G020	$ 1,266,300	5/1/2019	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
18	Big Data Security Analytics Phase 1	Cyber Security	3683	G020	$ 4,621,552	5/1/2019	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
19	US CNI Intrusion Detection/Prevention Phase 2	Cyber Security	3683	G020	$ 300,000	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
20	Identity & Access Management: Shared Area Access Management	Cyber Security	3683	G020	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
21	Security Incident Event Management Phase 5	Cyber Security	3683	G020	$ -	5/1/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
22	Domain Based Security Phase 2	Cyber Security	3683	G020	$ -	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
23	Security Incident Event Management (SIEM) 6	Cyber Security	3683	G020	$ -	5/1/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
24	Big Data Security Analytics - Phase 2	Cyber Security	3683	G020	$ -	5/1/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
25	IT/OT Discovery and Implementation: Phase 2	Cyber Security	3683	G020	$ -	10/1/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
26	US CNI Security Enhancements - Phase 2	Cyber Security	3683	G020	$ -	11/1/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
27	Data Visualization	Cyber Security	3683	G020	$ -	12/1/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
29	INVP 4045 Double Pole Mgmt DB	FY18 Plan	4045	G198	$ 482,153	2/18/2017	84	$ 407,534	$ 338,655	$ 373,095	9.9061%	$ 36,959	$ (13,435)	$ 23,524
30	INVP 4373 Contingent Labor Admin Replacement	FY18 Plan	4373	G020	$ 250,692	2/20/2017	84	$ 211,895	$ 176,082	$ 193,988	9.9061%	$ 19,217	$ (6,986)	$ 12,231
32	INVP 4188 Aging System Stabilize	FY18 Plan	4188	G148	$ 782,710	3/31/2017	84	$ 670,895	$ 559,079	$ 614,987	9.9061%	$ 60,921	$ (21,027)	$ 39,894
33	INVP 4280 US VSTIG Bandwidth Ph2	FY18 Plan	4280	G020	$ 1,998,645	3/31/2017	84	$ 1,713,125	$ 1,427,604	$ 1,570,364	9.9061%	$ 155,562	$ (53,693)	$ 101,868
34	INVP 4307 US Win 7 Refresh Ph 3	FY18 Plan	4307	G020	$ 11,562,999	3/31/2017	84	$ 9,911,142	$ 8,259,285	$ 9,085,214	9.9061%	$ 899,989	$ (310,638)	$ 589,351
35	INVP 4364 Wireless Network	FY18 Plan	4364	G020	$ 2,303,959	3/31/2017	84	$ 1,974,822	$ 1,645,685	$ 1,810,253	9.9061%	$ 179,325	$ (61,895)	$ 117,430
36	S005242 M112 Systemic Improvement	FY18 Plan		G020	$ 8,000,000	3/31/2017	120	$ 7,200,000	$ 6,400,000	$ 6,800,000	9.9061%	$ 673,614	$ (235,399)	$ 438,215
37	INVP 4289 US Network Improvement	FY18 Plan	4289	G020	$ 978,717	3/31/2017	84	$ 838,900	$ 699,083	$ 768,992	9.9061%	$ 76,177	$ (26,293)	$ 49,884
38	HANA License Costs	FY18 Plan	4649	G020	$ 3,500,000	3/31/2017	84	$ 3,000,000	$ 2,500,000	$ 2,750,000	9.9061%	$ 272,417	$ (94,027)	$ 178,391
39	Microsoft ELA Renewal	FY18 Plan	4642	G020	$ 1,900,000	3/31/2017	84	$ 1,628,571	$ 1,357,143	$ 1,492,857	9.9061%	$ 147,884	$ (51,043)	$ 96,841
40	Mobile Device Refresh - FY 17	FY18 Plan	4671	G020	$ 4,546,000	3/31/2017	84	$ 3,896,571	$ 3,247,143	$ 3,571,857	9.9061%	$ 353,831	$ (122,127)	$ 231,704
41	Zscaler	FY18 Plan	4681	G020	$ 2,100,000	3/31/2017	84	$ 1,800,000	$ 1,500,000	$ 1,650,000	9.9061%	$ 163,450	$ (56,416)	$ 107,034
43	INVP 4631 Box Enablement	FY18 Plan	4631	G020	$ 254,000	4/30/2017	84	$ 220,738	$ 184,452	$ 202,595	9.9061%	$ 20,069	$ (5,820)	$ 14,249
44	INVP 4170 Time Transformation	FY18 Plan	4170	G020	$ 3,917,000	5/1/2017	84	$ 3,404,060	$ 2,844,488	$ 3,124,274	9.9061%	$ 309,493	$ (89,753)	$ 219,741
45	INVP 4420 US CNI OMSFocalPoint Infrastructure Upgrade	FY18 Plan	4420	G198	$ 1,366,563	5/1/2017	84	$ 1,187,608	$ 992,385	$ 1,089,997	9.9061%	$ 107,976	$ (31,313)	$ 76,663
46	INVP 4274 VSTIG Hardware Refresh	FY18 Plan	4274	G020	$ 608,000	5/31/2017	84	$ 535,619	$ 448,762	$ 492,190	9.9061%	$ 48,757	$ (14,220)	$ 34,537
47	US Video Conferencing upgrade for RW	FY18 Plan	4632	G020	$ 1,330,000	6/1/2017	84	$ 1,171,667	$ 981,667	$ 1,076,667	9.9061%	$ 106,656	$ (31,106)	$ 75,550
48	Hix D/C Improvement Server Refresh	FY18 Plan	4676	G020	$ 1,000,000	7/1/2017	84	$ 892,857	$ 750,000	$ 821,429	9.9061%	$ 81,371	$ (23,862)	$ 57,510
49	INVP 4464 Data Visualization	FY18 Plan	4464	G020	$ 4,440,000	7/31/2017	84	$ 4,017,143	$ 3,382,857	$ 3,700,000	9.9061%	$ 366,525	$ (108,051)	$ 258,474
50	Mobility - (MDM) Mobile Device	FY18 Plan	3430	G020	$ 1,162,000	7/31/2017	84	$ 1,051,333	$ 885,333	$ 968,333	9.9061%	$ 95,924	$ (28,278)	$ 67,646
51	Changes to ACIS for PMCC Civil Vendor Billing	FY18 Plan	4487	G186	$ 382,000	8/2/2017	84	$ 345,619	$ 291,048	$ 318,333	9.9061%	$ 31,534	$ (9,296)	$ 22,238
52	INVP 4461 Unix51 Interface Migration	FY18 Plan	4461	G020	$ 1,386,701	9/1/2017	84	$ 1,271,143	$ 1,073,042	$ 1,172,093	9.9061%	$ 116,108	$ (34,404)	$ 81,705
53	INVP 4287 Active Directory Upgrade	FY18 Plan	4287	G020	$ 804,825	9/30/2017	84	$ 747,338	$ 632,363	$ 689,850	9.9061%	$ 68,337	$ (20,349)	$ 47,988
54	US Control-Gas System Operating Procedure (SOP) Upgrade	FY18 Plan	4480	G210	$ 542,000	10/2/2017	84	$ 503,286	$ 425,857	$ 464,571	9.9061%	$ 46,021	$ (13,704)	$ 32,317
55	Enterprise Labs	FY18 Plan	4693	G020	$ 668,000	10/30/2017	84	$ 628,238	$ 532,810	$ 580,524	9.9061%	$ 57,507	$ (17,206)	$ 40,301
56	Cascade Electric Application Upgrade Project	FY18 Plan	3986	G198	$ 375,000	10/31/2017	84	$ 352,679	$ 299,107	$ 325,893	9.9061%	$ 32,283	$ (9,659)	$ 22,624
57	INVP 4408 Doc Mgmt Systems Replacement Delivery	FY18 Plan	4408	G149	$ 3,617,542	11/1/2017	84	$ 3,402,212	$ 2,885,420	$ 3,143,816	9.9061%	$ 311,429	$ (93,181)	$ 218,248
58	WIFI for Fleet Services Diagnostic Laptops	FY18 Plan	3956	G352	$ 838,000	11/1/2017	84	$ 788,119	$ 668,405	$ 728,262	9.9061%	$ 72,142	$ (21,585)	$ 50,557
59	Gas Service Database - UNY	FY18 Plan	3949	5210G	$ 325,000	12/1/2017	84	$ 309,524	$ 263,095	$ 286,310	9.9061%	$ 28,362	$ (8,525)	$ 19,837
62	Gas Capital Investment Planning Tool	FY18 Plan	4466	G210	$ 572,000	1/17/2018	84	$ 558,381	$ 476,667	$ 517,524	9.9061%	$ 51,266	$ (14,535)	$ 36,732
63	Computapole Enhancements to Support Inspection Types	FY18 Plan	4462	G186	$ 450,000	3/1/2018	84	$ 444,643	$ 380,357	$ 412,500	9.9061%	$ 40,863	$ (11,648)	$ 29,215
64	Travel & Expense Management (T&E) and Global Master Service Provider (MSP) Strategy	FY18 Plan	4578	G020	$ 1,232,000	3/1/2018	84	$ 1,217,333	$ 1,041,333	$ 1,129,333	9.9061%	$ 111,873	$ (31,890)	$ 79,983
65	Ageing System Stabilization/Upgrades - FY18	FY18 Plan	4389	G148	$ 1,500,000	3/15/2018	84	$ 1,482,143	$ 1,267,857	$ 1,375,000	9.9061%	$ 136,209	$ (38,827)	$ 97,382
66	INVP 3486 US MDS-Itron Enterprise Edition (IEE)	FY18 Plan	3486	G186	$ 670,943	3/31/2018	84	$ 670,943	$ 575,094	$ 623,019	9.9061%	$ 61,717	$ (14,122)	$ 47,595
67	INVP 4390 Plastic Fusion II	FY18 Plan	4390	G210	$ 506,000	3/31/2018	84	$ 506,000	$ 433,714	$ 469,857	9.9061%	$ 46,544	$ (10,650)	$ 35,894
68	INVP 4397 Ariba TLS and CI Update	FY18 Plan	4397	G020	$ 1,462,000	3/31/2018	120	$ 1,462,000	$ 1,315,800	$ 1,388,900	9.9061%	$ 137,586	$ (32,020)	$ 105,566
69	US Mobile Device Refresh	FY18 Plan	4395	G020	$ 5,000,000	3/31/2018	84	$ 5,000,000	$ 4,285,714	$ 4,642,857	9.9061%	$ 459,925	$ -	$ 459,925
70	US SAP: Infrastructure Landscape	FY18 Plan	4348	G020	$ 4,603,000	3/31/2018	84	$ 4,603,000	$ 3,945,429	$ 4,274,214	9.9061%	$ 423,407	$ (96,885)	$ 326,522
71	US CNI Tech Services-Network Equipment Lifecycle Replacements	FY18 Plan	4570	G186	$ 250,000	3/31/2018	84	$ 250,000	$ 214,286	$ 232,143	9.9061%	$ 22,996	$ (5,262)	$ 17,734
72	US CNI-EMS Lifecycle Hardware and Software Upgrade	FY18 Plan	4568	U186	$ 13,348,000	3/31/2018	84	$ 13,348,000	$ 11,441,143	$ 12,394,571	9.9061%	$ 1,227,817	$ (280,952)	$ 946,865
73	Network Transformation Completion - CEMS	FY18 Plan	4647	G020	$ 250,000	3/31/2018	84	$ 250,000	$ 214,286	$ 232,143	9.9061%	$ 22,996	$ (5,262)	$ 17,734
74	Application monitoring, Network/IDS, Operations monitoring	FY18 Plan	4677	G020	$ 750,000	3/31/2018	84	$ 750,000	$ 642,857	$ 696,429	9.9061%	$ 68,989	$ (15,786)	$ 53,203
75	Aged Printer refresh	FY18 Plan	4689	G020	$ 50,000	3/31/2018	84	$ 50,000	$ 42,857	$ 46,429	9.9061%	$ 4,599	$ (1,052)	$ 3,547
76	RSA Token refresh	FY18 Plan	4683	G020	$ 200,000	3/31/2018	84	$ 200,000	$ 171,429	$ 185,714	9.9061%	$ 18,397	$ (4,210)	$ 14,187
78	INVP4449 - EPA File	FY18 Plan	4449	C170	$ 700,000	3/31/2018	84	$ 700,000	$ 600,000	$ 650,000	9.9061%	$ 64,390	$ (14,734)	$ 49,656

Niagara Mohawk Power Corporation/d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Rate Year ended March 31, 2019

Line	Investment Name	Programs	INVP #	Year Amortization	5210G NIMO G Allocation	NIMO G Rent-Return	NIMO G Rent - Depn	5210E NIMO E Allocation	NIMO E Rent-Return	NIMO E Rent - Depn	5210T NIMO T Allocation	NIMO T Rent-Return	NIMO T Rent - Depn	Amortization Period	Bonus Rate	Bonus Depreciation
1	Cloud Security	Cyber Security	3683	$ 208,571	4.58%	$ 3,751	$ 9,553	17.76%	$ 14,546	$ 37,042	6.11%	$ 5,004	$ 12,744	36	50%	$ 730,000
2	Risk Based Authentication - 2FA token alternative	Cyber Security	3683	$ 33,583	4.58%	$ 612	$ 1,538	17.76%	$ 2,372	$ 5,964	6.11%	$ 816	$ 2,052	36	50%	$ 117,540
3	INVP 3614D1 Ent Network Security	Cyber Security	3614D1	$ 1,354,084	4.58%	$ 24,966	$ 62,017	17.76%	$ 96,812	$ 240,485	6.11%	$ 33,306	$ 82,735	36	50%	$ 4,739,295
4	Threat Behavior Modeling	Cyber Security	3683	$ 114,286	4.58%	$ 2,133	$ 5,234	17.76%	$ 8,271	$ 20,297	6.11%	$ 2,846	$ 6,983	36	50%	$ 400,000
5	Identity & Access Management :Role Base Access Management (RBAC)	Cyber Security	3683	$ 235,714	4.58%	$ 4,506	$ 10,796	17.76%	$ 17,473	$ 41,863	6.11%	$ 6,011	$ 14,402	36	50%	$ 825,000
6	Enhanced DLP Gateway and Endpoint	Cyber Security	3683	$ 319,783	4.58%	$ 6,258	$ 14,646	17.76%	$ 24,265	$ 56,793	6.11%	$ 8,348	$ 19,539	36	50%	$ 1,119,240
7	INVP 3614B7 CNI Network Security	Cyber Security	3614B7	$ 689,941	4.58%	$ 13,657	$ 31,599	17.76%	$ 52,957	$ 122,533	6.11%	$ 18,219	$ 42,155	36	50%	$ 2,414,793
8	INVP 3614E4 US CNI Security I&E	Cyber Security	3614E4	$ 172,435	4.58%	$ 3,413	$ 7,898	17.76%	$ 13,235	$ 30,624	6.11%	$ 4,553	$ 10,536	36	50%	$ 603,522
9	US CNI Intrusion Detection/Prevention Phase 1	Cyber Security	3683	$ 78,571	4.58%	$ 1,787	$ 3,599	17.76%	$ 6,929	$ 13,954	6.11%	$ 2,384	$ 4,801	36	40%	$ 220,000
10	Identity & Access Management: Fine Grain Access Management	Cyber Security	3683	$ 235,714	4.58%	$ 5,361	$ 10,796	17.76%	$ 20,787	$ 41,863	6.11%	$ 7,151	$ 14,402	36	40%	$ 660,000
11	vStig Scaling Upgrades	Cyber Security	3683	$ 95,238	4.58%	$ 1,227	$ 4,362	17.76%	$ 4,759	$ 16,914	6.11%	$ 1,637	$ 5,819	36	40%	$ 400,000
12	IT/OT Discovery and Implementation Phase 1	Cyber Security	3683	$ 392,857	4.58%	$ 6,928	$ 17,993	17.76%	$ 26,866	$ 69,771	6.11%	$ 9,243	$ 24,004	36	40%	$ 2,200,000
13	Security Research Lab	Cyber Security	3683	$ 23,214	4.58%	$ 409	$ 1,063	17.76%	$ 1,588	$ 4,123	6.11%	$ 546	$ 1,418	36	40%	$ 130,000
14	US CNI Security Enhancements Phase 1	Cyber Security	3683	$ 98,214	4.58%	$ 2,105	$ 4,498	17.76%	$ 8,163	$ 17,443	6.11%	$ 2,808	$ 6,001	36	40%	$ 660,000
15	Identity & Access Management: Privileged Access Management	Cyber Security	3683	$ -	4.58%	$ 2,995	$ -	17.76%	$ 11,614	$ -	6.11%	$ 3,996	$ -	36	30%	$ 522,000
16	Domain Based Security Phase 1	Cyber Security	3683	$ -	4.58%	$ 1,377	$ -	17.76%	$ 5,340	$ -	6.11%	$ 1,837	$ -	36	30%	$ 240,000
17	Security Incident Event Management Phase 4	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	30%	$ -
18	Big Data Security Analytics Phase 1	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	30%	$ -
19	US CNI Intrusion Detection/Prevention Phase 2	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
20	Identity & Access Management: Shared Area Access Management	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
21	Security Incident Event Management Phase 5	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
22	Domain Based Security Phase 2	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
23	Security Incident Event Management (SIEM) 6	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
24	Big Data Security Analytics - Phase 2	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
25	IT/OT Discovery and Implementation: Phase 2	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
26	US CNI Security Enhancements - Phase 2	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
27	Data Visualization	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
29	INVP 4045 Double Pole Mgmt DB	FY18 Plan	4045	$ 68,879	0.00%	$ -	$ -	41.93%	$ 9,864	$ 28,881	0.00%	$ -	$ -	36	50%	$ 241,077
30	INVP 4373 Contingent Labor Admin Replacement	FY18 Plan	4373	$ 35,813	4.58%	$ 560	$ 1,640	17.76%	$ 2,172	$ 6,360	6.11%	$ 747	$ 2,188	36	50%	$ 125,346
32	INVP 4188 Aging System Stabilize	FY18 Plan	4188	$ 111,816	4.83%	$ 1,927	$ 5,401	18.77%	$ 7,488	$ 20,988	6.43%	$ 2,565	$ 7,190	36	50%	$ 391,355
33	INVP 4280 US VSTIG Bandwidth Ph2	FY18 Plan	4280	$ 285,521	4.58%	$ 4,666	$ 13,077	17.76%	$ 18,092	$ 50,708	6.11%	$ 6,224	$ 17,445	36	50%	$ 999,323
34	INVP 4307 US Win 7 Refresh Ph 3	FY18 Plan	4307	$ 1,651,857	4.58%	$ 26,992	$ 75,655	17.76%	$ 104,669	$ 293,370	6.11%	$ 36,009	$ 100,928	36	50%	$ 5,781,500
35	INVP 4364 Wireless Network	FY18 Plan	4364	$ 329,137	4.58%	$ 5,378	$ 15,074	17.76%	$ 20,856	$ 58,455	6.11%	$ 7,175	$ 20,110	36	50%	$ 1,151,979
36	S005242 M112 Systemic Improvement	FY18 Plan		$ 800,000	4.58%	$ 20,070	$ 36,640	17.76%	$ 77,827	$ 142,080	6.11%	$ 26,775	$ 48,880	36	50%	$ 4,000,000
37	INVP 4289 US Network Improvement	FY18 Plan	4289	$ 139,817	4.58%	$ 2,285	$ 6,404	17.76%	$ 8,859	$ 24,831	6.11%	$ 3,048	$ 8,543	36	50%	$ 489,358
38	HANA License Costs	FY18 Plan	4649	$ 500,000	4.58%	$ 8,170	$ 22,900	17.76%	$ 31,682	$ 88,800	6.11%	$ 10,900	$ 30,550	36	50%	$ 1,750,000
39	Microsoft ELA Renewal	FY18 Plan	4642	$ 271,429	4.58%	$ 4,435	$ 12,431	17.76%	$ 17,199	$ 48,206	6.11%	$ 5,917	$ 16,584	36	50%	$ 950,000
40	Mobile Device Refresh - FY 17	FY18 Plan	4671	$ 649,429	4.58%	$ 10,612	$ 29,744	17.76%	$ 41,151	$ 115,339	6.11%	$ 14,157	$ 39,680	36	50%	$ 2,273,000
41	Zscaler	FY18 Plan	4681	$ 300,000	4.58%	$ 4,902	$ 13,740	17.76%	$ 19,009	$ 53,280	6.11%	$ 6,540	$ 18,330	36	50%	$ 1,050,000
43	INVP 4631 Box Enablement	FY18 Plan	4631	$ 36,286	4.58%	$ 653	$ 1,662	17.76%	$ 2,531	$ 6,444	6.11%	$ 871	$ 2,217	36	50%	$ 127,000
44	INVP 4170 Time Transformation	FY18 Plan	4170	$ 559,571	4.58%	$ 10,064	$ 25,628	17.76%	$ 39,026	$ 99,380	6.11%	$ 13,426	$ 34,190	36	50%	$ 1,958,500
45	INVP 4420 US CNI OMSFocalPoint Infrastructure Upgrade	FY18 Plan	4420	$ 195,223	0.00%	$ -	$ -	41.93%	$ 32,145	$ 81,857	0.00%	$ -	$ -	36	50%	$ 683,282
46	INVP 4274 VSTIG Hardware Refresh	FY18 Plan	4274	$ 86,857	4.58%	$ 1,582	$ 3,978	17.76%	$ 6,134	$ 15,426	6.11%	$ 2,110	$ 5,307	36	50%	$ 304,000
47	US Video Conferencing upgrade for RW	FY18 Plan	4632	$ 190,000	4.58%	$ 3,460	$ 8,702	17.76%	$ 13,418	$ 33,744	6.11%	$ 4,616	$ 11,609	36	50%	$ 665,000
48	Hix D/C Improvement Server Refresh	FY18 Plan	4676	$ 142,857	4.58%	$ 2,634	$ 6,543	17.76%	$ 10,214	$ 25,371	6.11%	$ 3,514	$ 8,729	36	50%	$ 500,000
49	INVP 4464 Data Visualization	FY18 Plan	4464	$ 634,286	4.58%	$ 11,838	$ 29,050	17.76%	$ 45,905	$ 112,649	6.11%	$ 15,793	$ 38,755	36	50%	$ 2,220,000
50	Mobility - (MDM) Mobile Device	FY18 Plan	3430	$ 166,000	4.58%	$ 3,098	$ 7,603	17.76%	$ 12,014	$ 29,482	6.11%	$ 4,133	$ 10,143	36	50%	$ 581,000
51	Changes to ACIS for PMCC Civil Vendor Billing	FY18 Plan	4487	$ 54,571	0.00%	$ -	$ -	30.74%	$ 6,836	$ 16,775	10.99%	$ 2,444	$ 5,997	36	50%	$ 191,000
52	INVP 4461 Unix51 Interface Migration	FY18 Plan	4461	$ 198,100	4.58%	$ 3,742	$ 9,073	17.76%	$ 14,511	$ 35,183	6.11%	$ 4,992	$ 12,104	36	50%	$ 693,351
53	INVP 4287 Active Directory Upgrade	FY18 Plan	4287	$ 114,975	4.58%	$ 2,198	$ 5,266	17.76%	$ 8,523	$ 20,420	6.11%	$ 2,932	$ 7,025	36	50%	$ 402,413
54	US Control-Gas System Operating Procedure (SOP) Upgrade	FY18 Plan	4480	$ 77,429	12.44%	$ 4,020	$ 9,632	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 271,000
55	Enterprise Labs	FY18 Plan	4693	$ 95,429	4.58%	$ 1,846	$ 4,371	17.76%	$ 7,157	$ 16,948	6.11%	$ 2,462	$ 5,831	36	50%	$ 334,000
56	Cascade Electric Application Upgrade Project	FY18 Plan	3986	$ 53,571	0.00%	$ -	$ -	41.93%	$ 9,486	$ 22,463	0.00%	$ -	$ -	36	50%	$ 187,500
57	INVP 4408 Doc Mgmt Systems Replacement Delivery	FY18 Plan	4408	$ 516,792	4.61%	$ 10,061	$ 23,824	17.88%	$ 39,023	$ 92,402	6.15%	$ 13,422	$ 31,783	36	50%	$ 1,808,771
58	WIFI for Fleet Services Diagnostic Laptops	FY18 Plan	3956	$ 119,714	4.63%	$ 2,341	$ 5,543	17.94%	$ 9,070	$ 21,477	6.17%	$ 3,119	$ 7,386	36	50%	$ 419,000
59	Gas Service Database - UNY	FY18 Plan	3949	$ 46,429	100.00%	$ 19,837	$ 46,429	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 162,500
62	Gas Capital Investment Planning Tool	FY18 Plan	4466	$ 81,714	12.44%	$ 4,569	$ 10,165	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 228,800
63	Computapole Enhancements to Support Inspection Types	FY18 Plan	4462	$ 64,286	0.00%	$ -	$ -	30.74%	$ 8,981	$ 19,761	10.99%	$ 3,211	$ 7,065	36	40%	$ 180,000
64	Travel & Expense Management (T&E) and Global Master Service Provider (MSP) Strategy	FY18 Plan	4578	$ 176,000	4.58%	$ 3,663	$ 8,061	17.76%	$ 14,205	$ 31,258	6.11%	$ 4,887	$ 10,754	36	40%	$ 492,800
65	Ageing System Stabilization/Upgrades - FY18	FY18 Plan	4389	$ 214,286	4.83%	$ 4,704	$ 10,350	18.77%	$ 18,279	$ 40,221	6.43%	$ 6,262	$ 13,779	36	40%	$ 600,000
66	INVP 3486 US MDS-Itron Enterprise Edition (IEE)	FY18 Plan	3486	$ 95,849	0.00%	$ -	$ -	30.74%	$ 14,631	$ 29,464	10.99%	$ 5,231	$ 10,534	36	40%	$ 268,377
67	INVP 4390 Plastic Fusion II	FY18 Plan	4390	$ 72,286	12.44%	$ 4,465	$ 8,992	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 202,400
68	INVP 4397 Ariba TLS and CI Update	FY18 Plan	4397	$ 146,200	4.58%	$ 4,835	$ 6,696	17.76%	$ 18,748	$ 25,965	6.11%	$ 6,450	$ 8,933	36	40%	$ 584,800
69	US Mobile Device Refresh	FY18 Plan	4395	$ 714,286	4.58%	$ 21,065	$ 32,714	17.76%	$ 81,683	$ 126,857	6.11%	$ 28,101	$ 43,643	36	40%	$ 2,000,000
70	US SAP: Infrastructure Landscape	FY18 Plan	4348	$ 657,571	4.58%	$ 14,955	$ 30,117	17.76%	$ 57,990	$ 116,785	6.11%	$ 19,951	$ 40,178	36	40%	$ 1,841,200
71	US CNI Tech Services-Network Equipment Lifecycle Replacements	FY18 Plan	4570	$ 35,714	0.00%	$ -	$ -	30.74%	$ 5,451	$ 10,979	10.99%	$ 1,949	$ 3,925	36	40%	$ 100,000
72	US CNI-EMS Lifecycle Hardware and Software Upgrade	FY18 Plan	4568	$ 1,906,857	0.00%	$ -	$ -	26.20%	$ 248,079	$ 499,597	35.42%	$ 335,380	$ 675,409	36	40%	$ 5,339,200
73	Network Transformation Completion - CEMS	FY18 Plan	4647	$ 35,714	4.58%	$ 812	$ 1,636	17.76%	$ 3,150	$ 6,343	6.11%	$ 1,084	$ 2,182	36	40%	$ 100,000
74	Application monitoring, Network/IDS, Operations monitoring	FY18 Plan	4677	$ 107,143	4.58%	$ 2,437	$ 4,907	17.76%	$ 9,449	$ 19,029	6.11%	$ 3,251	$ 6,546	36	40%	$ 300,000
75	Aged Printer refresh	FY18 Plan	4689	$ 7,143	4.58%	$ 162	$ 327	17.76%	$ 630	$ 1,269	6.11%	$ 217	$ 436	36	40%	$ 20,000
76	RSA Token refresh	FY18 Plan	4683	$ 28,571	4.58%	$ 650	$ 1,309	17.76%	$ 2,520	$ 5,074	6.11%	$ 867	$ 1,746	36	40%	$ 80,000
78	INVP4449 - EPA File	FY18 Plan	4449	$ 100,000	14.88%	$ 7,389	$ 14,880	40.06%	$ 19,892	$ 40,060	0.00%	$ -	$ -	36	40%	$ 280,000

Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Rate Year ended March 31, 2019

Line	Investment Name	Programs	INV P #	Bill Pool	FY19 Total Spend	In Service Date	Amortization Period	4/1/2018 Balance	3/31/2019 Balance	Average Balance	9.9061% Service Co Return	Year Return	Return on Accum Taxes	Total Return
79	Informatica Upgrade/Microstrategy Replacement Program	FY18 Plan	4469	G020	$ 3,516,000	5/1/2018	84	$ -	$ 3,055,571	$ 1,527,786	9.9061%	$ 151,344	$ (60,839)	$ 90,505
80	Call Center Customer Contact Center/SDC Technology Upgrade Implement Solution	FY18 Plan	3932	C175	$ 27,724,719	8/31/2018	84	$ -	$ 25,414,326	$ 12,707,163	9.9061%	$ 1,258,782	$ (506,020)	$ 752,763
81	US MDS-Energy Accounting System (EAS) migration to Wholesale Settlement Application (WSA)	FY18 Plan	4481	G186	$ 2,160,000	10/1/2018	84	$ -	$ 2,005,714	$ 1,002,857	9.9061%	$ 99,344	$ (39,935)	$ 59,409
82	INV P 4398 Storms/ISched Upgrade	FY18 Plan	4398	G160	$ 9,955,867	12/15/2018	84	$ -	$ 9,600,300	$ 4,800,150	9.9061%	$ 475,507	$ (191,150)	$ 284,357
84	STORMS Capital Cost Estimates	FY18 Plan	4467	G148	$ 776,000	3/1/2019	84	$ -	$ 766,762	$ 383,381	9.9061%	$ 37,978	$ (12,692)	$ 25,286
86	US CNI Tech Services-Network Equipment Lifecycle Replacements	FY18 Plan	4570	G186	$ 250,000	3/31/2019	84	$ -	$ 250,000	$ 125,000	9.9061%	$ 12,383	$ (2,987)	$ 9,396
87	Inventory Management Handheld Devices	FY18 Plan		G020	$ 75,000	3/31/2019	84	$ -	$ 75,000	$ 37,500	9.9061%	$ 3,715	$ (896)	$ 2,819
88	Customer Bill Redesign	FY18 Plan	4704Q	H173	$ 2,108,147	3/31/2019	84	$ -	$ 2,108,147	$ 1,054,074	9.9061%	$ 104,417	$ (25,185)	$ 79,232
89	INV P 3737 US CNI GMS SCADA Upgrade &	FY18 Plan	3737	C210	$ 22,909,291	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
90	Cisco Prime	FY18 Plan	4679	G020	$ 216,000	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
91	Contractor Management Modernization	FY18 Plan	4151	G327	$ 750,000	10/15/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
92	Risk Management (Tx Mains & Dx Mains)	GBE - Asset Management		C210	$ 2,110,800	12/1/2017	120	$ 2,040,440	$ 1,829,360	$ 1,934,900	9.9061%	$ 191,673	$ (58,373)	$ 133,300
93	AM Program Leadership-1	GBE - Asset Management		C210	$ 277,124	3/1/2018	120	$ 274,815	$ 247,102	$ 260,958	9.9061%	$ 25,851	$ (7,449)	$ 18,402
94	Enhancements	GBE - Asset Management		C210	$ 2,660,875	12/1/2018	120	$ -	$ 2,572,179	$ 1,286,090	9.9061%	$ 127,401	$ (51,214)	$ 76,187
95	Additional IM Modules	GBE - Asset Management		C210	$ 604,233	2/1/2019	120	$ -	$ 594,163	$ 297,081	9.9061%	$ 29,429	$ (9,825)	$ 19,604
96	AM Program Leadership-2	GBE - Asset Management		C210	$ 398,676	3/1/2019	120	$ -	$ 395,354	$ 197,677	9.9061%	$ 19,582	$ (6,549)	$ 13,033
97	Data Remediation, GIS Upgrade/ Migration & GIS Mobility	GBE - Asset Management		C210	$ 8,409,517	3/1/2019	120	$ -	$ 8,339,438	$ 4,169,719	9.9061%	$ 413,056	$ (138,137)	$ 274,919
98	EAM-FIN Integration	GBE - Asset Management		C210	$ 979,407	6/1/2019	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
99	Integrity Management Integrations	GBE - Asset Management		C210	$ 371,868	10/1/2019	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
100	AM Program Leadership-3	GBE - Asset Management		C210	$ -	3/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
101	Design (GWD), Estimating (CU), & Mobility	GBE - Asset Management		C210	$ 1,729,295	9/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
102	Asset Analytics Integration	GBE - Asset Management		C210	$ -	12/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
103	GIS (GWD/CU) - PPM Integration	GBE - Asset Management		C210	$ -	12/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
104	GIS-EAM Integration	GBE - Asset Management		C210	$ 1,250,000	12/2/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
105	AM Program Leadership-4	GBE - Asset Management		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
106	Use Case No.1 - Asset Risk	GBE - Asset Management		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
107	Complex Design (CAD) & Estimating (ESW)	GBE - Asset Management		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
108	Program Learning Management-1	GBE - Business Enablement		C210	$ 117,297	3/1/2018	120	$ 116,319	$ 104,590	$ 110,455	9.9061%	$ 10,942	$ (3,153)	$ 7,789
109	Program Transformational Change Office-1	GBE - Business Enablement		C210	$ 689,043	3/1/2018	120	$ 683,301	$ 614,397	$ 648,849	9.9061%	$ 64,276	$ (18,521)	$ 45,754
110	Program Business Sustainment-1	GBE - Business Enablement		C210	$ 69,617	3/1/2019	120	$ -	$ 69,037	$ 34,518	9.9061%	$ 3,419	$ (1,144)	$ 2,276
111	Program Learning Management-2	GBE - Business Enablement		C210	$ 130,211	3/1/2019	120	$ -	$ 129,126	$ 64,563	9.9061%	$ 6,396	$ (2,139)	$ 4,257
112	Program Transformational Change Office -2	GBE - Business Enablement		C210	$ 1,516,310	3/1/2019	120	$ -	$ 1,503,674	$ 751,837	9.9061%	$ 74,478	$ (24,907)	$ 49,570
113	Program Learning Management-3	GBE - Business Enablement		C210	$ -	3/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
114	Program Transformational Change Office-3	GBE - Business Enablement		C210	$ -	3/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
115	Program Business Sustainment-2	GBE - Business Enablement		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
116	Program Learning Management-4	GBE - Business Enablement		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
117	Program Transformational Change Office-4	GBE - Business Enablement		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
118	Customer Experience Program Leadership-1	GBE - Customer Engagement		C210	$ 260,229	3/1/2019	120	$ -	$ 258,060	$ 129,030	9.9061%	$ 12,782	$ (4,275)	$ 8,507
119	CxT Portal & Channel Management	GBE - Customer Engagement		C210	$ 6,679,688	6/1/2019	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
120	Customer Interaction - First Release	GBE - Customer Engagement		C210	$ 1,780,471	10/1/2019	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
121	Employee Support Interaction - First Release	GBE - Customer Engagement		C210	$ 3,871,396	10/1/2019	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
122	Customer Experience Program Leadership-2	GBE - Customer Engagement		C210	$ -	3/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
123	CRM / Contact Center	GBE - Customer Engagement		C210	$ 15,200,000	6/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
124	Large Commercial & Landlord Interaction	GBE - Customer Engagement		C210	$ 15,723	7/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
125	Employee Support Interaction - Second Release	GBE - Customer Engagement		C210	$ -	7/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
126	Customer Interaction - Second Release	GBE - Customer Engagement		C210	$ -	1/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
127	Customer Experience Program Leadership-3	GBE - Customer Engagement		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
128	Data Management Implementation (Quality & Cleansing)	GBE - Data Management		C210	$ 11,100,000	12/1/2017	120	$ 10,730,000	$ 9,620,000	$ 10,175,000	9.9061%	$ 1,007,944	$ (306,964)	$ 700,981
129	Data Management & Governance Program Leadership-1	GBE - Data Management		C210	$ 58,890	3/1/2018	120	$ 58,399	$ 52,510	$ 55,455	9.9061%	$ 5,493	$ (1,583)	$ 3,910
130	Enable the Data Archive Process	GBE - Data Management		C210	$ 2,111,916	3/1/2019	120	$ -	$ 2,094,317	$ 1,047,158	9.9061%	$ 103,732	$ (34,691)	$ 69,041
131	Data Management & Governance Program Leadership-2	GBE - Data Management		C210	$ 87,954	3/1/2019	120	$ -	$ 87,221	$ 43,611	9.9061%	$ 4,320	$ (1,445)	$ 2,875
132	Data Management & Governance Program Leadership-3	GBE - Data Management		C210	$ -	3/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
133	PowerPlan Architecture Enhancements	GBE - Information Services Enabling		C210	$ 6,080,111	11/1/2017	120	$ 5,826,773	$ 5,218,762	$ 5,522,767	9.9061%	$ 547,090	$ (166,124)	$ 380,966
134	Comprehensive Integration Services (Enhancements)	GBE - Information Services Enabling		C210	$ 78,624	12/1/2017	120	$ 76,003	$ 68,141	$ 72,072	9.9061%	$ 7,140	$ (2,174)	$ 4,965
135	Application (Environment) Infrastructure	GBE - Information Services Enabling		C210	$ 2,174,410	12/1/2017	120	$ 2,101,930	$ 1,884,489	$ 1,993,209	9.9061%	$ 197,449	$ (60,132)	$ 137,317
136	Development Operations & BPA Enablement-1	GBE - Information Services Enabling		C210	$ 2,903,920	3/1/2018	120	$ 2,879,721	$ 2,589,329	$ 2,734,525	9.9061%	$ 270,884	$ (78,057)	$ 192,827
137	SAP and Application Integration Development- Release 1-1	GBE - Information Services Enabling		C210	$ 4,765,187	3/1/2018	120	$ 4,725,477	$ 4,248,958	$ 4,487,218	9.9061%	$ 444,508	$ (128,088)	$ 316,419
138	Mobility CoE & End-User Computing-1	GBE - Information Services Enabling		C210	$ 604,790	3/1/2018	120	$ 599,750	$ 539,271	$ 569,511	9.9061%	$ 56,416	$ (16,257)	$ 40,159
139	Operations/System Monitoring	GBE - Information Services Enabling		C210	$ 1,057,768	8/1/2018	120	$ -	$ 987,251	$ 493,625	9.9061%	$ 48,899	$ (19,657)	$ 29,242
140	Development Operations & BPA Enablement-2	GBE - Information Services Enabling		C210	$ 2,562,011	3/1/2019	120	$ -	$ 2,540,661	$ 1,270,330	9.9061%	$ 125,840	$ (42,084)	$ 83,756
141	SAP and Application Integration Development- Release 1-2	GBE - Information Services Enabling		C210	$ 4,548,168	3/1/2019	120	$ -	$ 4,510,266	$ 2,255,133	9.9061%	$ 223,395	$ (74,710)	$ 148,686
142	SAP and Application Integration Development- Release 2-1	GBE - Information Services Enabling		C210	$ 5,055,712	3/1/2019	120	$ -	$ 5,013,581	$ 2,506,790	9.9061%	$ 248,325	$ (83,047)	$ 165,278
143	Mobility CoE & End-User Computing-2	GBE - Information Services Enabling		C210	$ 920,536	3/1/2019	120	$ -	$ 912,865	$ 456,432	9.9061%	$ 45,215	$ (15,121)	$ 30,094
144	Development Operations & BPA Enablement-3	GBE - Information Services Enabling		C210	$ -	3/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
145	SAP and Application Integration Development- Release 1-3	GBE - Information Services Enabling		C210	$ -	3/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
146	SAP and Application Integration Development- Release 2-2	GBE - Information Services Enabling		C210	$ -	3/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
147	SAP and Application Integration Development- Release 3-1	GBE - Information Services Enabling		C210	$ -	3/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -

Exhibit_____(RRP-11CU)
Workpapers to Exhibit RRP-3CU
Schedule 9
Workpaper 3
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Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Rate Year ended March 31, 2019

Line	Investment Name	Programs	INV P #	Year Amortization	5210G NIMO G Allocation	NIMO G Rent-Return	NIMO G Rent - Depn	5210E NIMO E Allocation	NIMO E Rent-Return	NIMO E Rent - Depn	5210T NIMO T Allocation	NIMO T Rent-Return	NIMO T Rent - Depn	Amortization Period	Bonus Rate	Bonus Depreciation
79	Informatica Upgrade/Microstrategy Replacement Program	FY18 Plan	4469	$ 460,429	4.58%	$ 4,145	$ 21,088	17.76%	$ 16,074	$ 81,772	6.11%	$ 5,530	$ 28,132	36	40%	$ 1,406,400
80	Call Center Customer Contact Center/SDC Technology Upgrade Implement Solution	FY18 Plan	3932	$ 2,310,393	8.65%	$ 65,119	$ 199,865	23.28%	$ 175,237	$ 537,841	0.00%	$ -	$ -	36	40%	$ 11,089,888
81	US MDS-Energy Accounting System (EAS) migration to Wholesale Settlement Application (WSA)	FY18 Plan	4481	$ 154,286	0.00%	$ -	$ -	30.74%	$ 18,262	$ 47,427	10.99%	$ 6,529	$ 16,956	36	40%	$ 864,000
82	INV P 4398 Storms/ISched Upgrade	FY18 Plan	4398	$ 355,567	7.15%	$ 20,332	$ 25,423	27.24%	$ 77,459	$ 96,856	9.63%	$ 27,384	$ 34,241	36	40%	$ 3,982,347
84	STORMS Capital Cost Estimates	FY18 Plan	4467	$ 9,238	4.83%	$ 1,221	$ 446	18.77%	$ 4,746	$ 1,734	6.43%	$ 1,626	$ 594	36	30%	$ 232,800
86	US CNI Tech Services-Network Equipment Lifecycle Replacements	FY18 Plan	4570	$ -	0.00%	$ -	$ -	30.74%	$ 2,888	$ -	10.99%	$ 1,033	$ -	36	30%	$ 75,000
87	Inventory Management Handheld Devices	FY18 Plan		$ -	4.58%	$ 129	$ -	17.76%	$ 501	$ -	6.11%	$ 172	$ -	36	30%	$ 22,500
88	Customer Bill Redesign	FY18 Plan	4704Q	$ -	7.07%	$ 5,602	$ -	19.12%	$ 15,149	$ -	0.00%	$ -	$ -	36	30%	$ 632,444
89	INV P 3737 US CNI GMS SCADA Upgrade &	FY18 Plan	3737	$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
90	Cisco Prime	FY18 Plan	4679	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
91	Contractor Management Modernization	FY18 Plan	4151	$ -	4.82%	$ -	$ -	18.70%	$ -	$ -	6.41%	$ -	$ -	36	0%	$ -
92	Risk Management (Tx Mains & Dx Mains)	GBE - Asset Management		$ 211,080	16.89%	$ 22,514	$ 35,651	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 1,055,400
93	AM Program Leadership-1	GBE - Asset Management		$ 27,712	16.89%	$ 3,108	$ 4,681	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 110,850
94	Enhancements	GBE - Asset Management		$ 88,696	16.89%	$ 12,868	$ 14,981	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 1,064,350
95	Additional IM Modules	GBE - Asset Management		$ 10,071	16.89%	$ 3,311	$ 1,701	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 181,270
96	AM Program Leadership-2	GBE - Asset Management		$ 3,322	16.89%	$ 2,201	$ 561	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 119,603
97	Data Remediation, GIS Upgrade/ Migration & GIS Mobility	GBE - Asset Management		$ 70,079	16.89%	$ 46,434	$ 11,836	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 2,522,855
98	EAM-FIN Integration	GBE - Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ -
99	Integrity Management Integrations	GBE - Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ -
100	AM Program Leadership-3	GBE - Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
101	Design (GWD), Estimating (CU), & Mobility	GBE - Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
102	Asset Analytics Integration	GBE - Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
103	GIS (GWD/CU) - PPM Integration	GBE - Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
104	GIS-EAM Integration	GBE - Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
105	AM Program Leadership-4	GBE - Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
106	Use Case No.1 - Asset Risk	GBE - Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
107	Complex Design (CAD) & Estimating (ESW)	GBE - Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
108	Program Learning Management-1	GBE - Business Enablement		$ 11,730	16.89%	$ 1,316	$ 1,981	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 46,919
109	Program Transformational Change Office-1	GBE - Business Enablement		$ 68,904	16.89%	$ 7,728	$ 11,638	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 275,617
110	Program Business Sustainment-1	GBE - Business Enablement		$ 580	16.89%	$ 384	$ 98	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 20,885
111	Program Learning Management-2	GBE - Business Enablement		$ 1,085	16.89%	$ 719	$ 183	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 39,063
112	Program Transformational Change Office -2	GBE - Business Enablement		$ 12,636	16.89%	$ 8,372	$ 2,134	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 454,893
113	Program Learning Management-3	GBE - Business Enablement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
114	Program Transformational Change Office-3	GBE - Business Enablement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
115	Program Business Sustainment-2	GBE - Business Enablement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
116	Program Learning Management-4	GBE - Business Enablement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
117	Program Transformational Change Office-4	GBE - Business Enablement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
118	Customer Experience Program Leadership-1	GBE - Customer Engagement		$ 2,169	16.89%	$ 1,437	$ 366	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 78,069
119	CxT Portal & Channel Management	GBE - Customer Engagement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ -
120	Customer Interaction - First Release	GBE - Customer Engagement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ -
121	Employee Support Interaction - First Release	GBE - Customer Engagement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ -
122	Customer Experience Program Leadership-2	GBE - Customer Engagement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
123	CRM / Contact Center	GBE - Customer Engagement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
124	Large Commercial & Landlord Interaction	GBE - Customer Engagement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
125	Employee Support Interaction - Second Release	GBE - Customer Engagement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
126	Customer Interaction - Second Release	GBE - Customer Engagement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
127	Customer Experience Program Leadership-3	GBE - Customer Engagement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
128	Data Management Implementation (Quality & Cleansing)	GBE - Data Management		$ 1,110,000	16.89%	$ 118,396	$ 187,479	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 5,550,000
129	Data Management & Governance Program Leadership-1	GBE - Data Management		$ 5,889	16.89%	$ 660	$ 995	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 23,556
130	Enable the Data Archive Process	GBE - Data Management		$ 17,599	16.89%	$ 11,661	$ 2,973	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 633,575
131	Data Management & Governance Program Leadership-2	GBE - Data Management		$ 733	16.89%	$ 486	$ 124	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 26,386
132	Data Management & Governance Program Leadership-3	GBE - Data Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
133	PowerPlan Architecture Enhancements	GBE - Information Services Enabling		$ 608,011	16.89%	$ 64,345	$ 102,693	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 3,040,055
134	Comprehensive Integration Services (Enhancements)	GBE - Information Services Enabling		$ 7,862	16.89%	$ 839	$ 1,328	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 39,312
135	Application (Environment) Infrastructure	GBE - Information Services Enabling		$ 217,441	16.89%	$ 23,193	$ 36,726	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 1,087,205
136	Development Operations & BPA Enablement-1	GBE - Information Services Enabling		$ 290,392	16.89%	$ 32,568	$ 49,047	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 1,161,568
137	SAP and Application Integration Development- Release 1-1	GBE - Information Services Enabling		$ 476,519	16.89%	$ 53,443	$ 80,484	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 1,906,075
138	Mobility CoE & End-User Computing-1	GBE - Information Services Enabling		$ 60,479	16.89%	$ 6,783	$ 10,215	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 241,916
139	Operations/System Monitoring	GBE - Information Services Enabling		$ 70,518	16.89%	$ 4,939	$ 11,910	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 423,107
140	Development Operations & BPA Enablement-2	GBE - Information Services Enabling		$ 21,350	16.89%	$ 14,146	$ 3,606	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 768,603
141	SAP and Application Integration Development- Release 1-2	GBE - Information Services Enabling		$ 37,901	16.89%	$ 25,113	$ 6,402	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 1,364,450
142	SAP and Application Integration Development- Release 2-1	GBE - Information Services Enabling		$ 42,131	16.89%	$ 27,915	$ 7,116	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 1,516,713
143	Mobility CoE & End-User Computing-2	GBE - Information Services Enabling		$ 7,671	16.89%	$ 5,083	$ 1,296	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 276,161
144	Development Operations & BPA Enablement-3	GBE - Information Services Enabling		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
145	SAP and Application Integration Development- Release 1-3	GBE - Information Services Enabling		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
146	SAP and Application Integration Development- Release 2-2	GBE - Information Services Enabling		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
147	SAP and Application Integration Development- Release 3-1	GBE - Information Services Enabling		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -

Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Rate Year ended March 31, 2019

Line	Investment Name	Programs	INV P #	Bill Pool	FY19 Total Spend	In Service Date	Amortization Period	4/1/2018 4/1/2018 Balance	3/31/2019 3/31/2019 Balance	Average Balance	9.9061% Service Co Return	Year Return	Return on Accum Taxes	Total Return
148	Mobility CoE & End-User Computing-3	GBE - Information Services Enabling		C210	$ -	3/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
149	Test Automation Implementation	GBE - Information Services Enabling		C210	$ 1,525,391	12/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
150	Development Operations & BPA Enablement-4	GBE - Information Services Enabling		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
151	SAP and Application Integration Development- Release 1-4	GBE - Information Services Enabling		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
152	SAP and Application Integration Development- Release 3-2	GBE - Information Services Enabling		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
153	Mobility CoE & End-User Computing-4	GBE - Information Services Enabling		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
154	Portfolio Management Leadership-1	GBE - Portfolio Office		C210	$ 1,645,919	3/1/2018	120	$ 1,632,203	$ 1,467,611	$ 1,549,907	9.9061%	$ 153,535	$ (44,242)	$ 109,293
155	Solution Architects & Agile Coaches-1	GBE - Portfolio Office		C210	$ 1,958,277	3/1/2018	120	$ 1,941,958	$ 1,746,130	$ 1,844,044	9.9061%	$ 182,673	$ (52,639)	$ 130,034
156	Portfolio Management Leadership-2	GBE - Portfolio Office		C210	$ 2,144,482	3/1/2019	120	$ -	$ 2,126,611	$ 1,063,306	9.9061%	$ 105,332	$ (35,226)	$ 70,106
157	Solution Architects & Agile Coaches-2	GBE - Portfolio Office		C210	$ 3,964,632	3/1/2019	120	$ -	$ 3,931,593	$ 1,965,797	9.9061%	$ 194,734	$ (65,124)	$ 129,609
158	Portfolio Management Leadership-3	GBE - Portfolio Office		C210	$ -	3/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
159	Solution Architects & Agile Coaches-3	GBE - Portfolio Office		C210	$ -	3/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
160	Portfolio Management Leadership-4	GBE - Portfolio Office		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
161	Regulatory/ Compliance	GBE - Regulatory and Compliance		C210	$ 2,250,000	9/1/2019	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
162	Supply Chain Program Leadership	GBE - Supply Chain		C210	$ 565,045	3/1/2019	120	$ -	$ 560,336	$ 280,168	9.9061%	$ 27,754	$ (9,282)	$ 18,472
163	Supply Chain Program Leadership	GBE - Supply Chain		C210	$ -	3/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
164	Business Architecture Design	GBE - Work Management		C210	$ 3,004,085	12/1/2017	120	$ 2,903,949	$ 2,603,540	$ 2,753,744	9.9061%	$ 272,788	$ (83,076)	$ 189,712
165	WMFE Program Leadership-1	GBE - Work Management		C210	$ 234,013	3/1/2018	120	$ 232,063	$ 208,662	$ 220,362	9.9061%	$ 21,829	$ (6,290)	$ 15,539
166	Corrosion and I&R Work	GBE - Work Management		C210	$ 24,678,252	7/1/2018	120	$ -	$ 22,827,383	$ 11,413,691	9.9061%	$ 1,130,650	$ (454,512)	$ 676,139
167	CU Governance & Library - process	GBE - Work Management		C210	$ 1,658,439	11/1/2018	120	$ -	$ 1,589,337	$ 794,669	9.9061%	$ 78,721	$ (31,645)	$ 47,076
168	WMFE Program Leadership-2	GBE - Work Management		C210	$ 563,692	3/1/2019	120	$ -	$ 558,995	$ 279,497	9.9061%	$ 27,687	$ (9,259)	$ 18,428
169	Company Driven Work: Collections and non-Appointment Offs - Gas	GBE - Work Management		C210	$ 4,139,734	10/1/2019	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
170	Company Driven Work: Collections and non-Appointment Offs- Electric	GBE - Work Management		C198	$ 2,229,087	10/1/2019	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
171	Customer, Leak Investigation & Inspections - Gas	GBE - Work Management		C210	$ 10,086,410	10/1/2019	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
172	Customer, Leak Investigation & Inspections - Electric	GBE - Work Management		C198	$ 5,431,143	10/1/2019	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
173	WMFE Program Leadership-3	GBE - Work Management		C210	$ -	3/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
174	PowerPlan Integration & Enhancements	GBE - Work Management		C210	$ -	6/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
175	Construction Work & Leak Repair	GBE - Work Management		C210	$ 1,832,544	9/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
176	WMFE Program Leadership-4	GBE - Work Management		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
177	Work Forecasting & Planning - solution	GBE - Work Management		C210	$ -	5/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
178	Core Projects & Program Management	GBE - Work Management		C210	$ -	6/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
179	WMFE Optimization	GBE - Work Management		C210	$ -	3/1/2022	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
180	Customer Experience Transformation-Communication Preference Management	Growth Play Book-CXT	4426	C175	$ 2,000,000	3/31/2019	84	$ -	$ 2,000,000	$ 1,000,000	9.9061%	$ 99,061	$ (23,893)	$ 75,167
181	Customer Experience Transformation-MyAccount Portal	Growth Play Book-CXT	4427	C175	$ 7,000,000	6/1/2019	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
182	Governance Risk & Compliance (GRC) Optimization/Upgrade	Growth Play Book-Finance	4222	G020	$ 1,540,000	3/1/2019	84	$ -	$ 1,521,667	$ 760,833	9.9061%	$ 75,369	$ (25,187)	$ 50,182
183	US SAP: Business Planning	Growth Play Book-Finance	4217	G020	$ 4,643,000	3/31/2019	84	$ -	$ 4,643,000	$ 2,321,500	9.9061%	$ 229,970	$ (55,469)	$ 174,501
184	US S AP: FERC on Hana (FOH)	Growth Play Book-Finance	4563	G020	$ 1,315,000	3/31/2019	84	$ -	$ 1,315,000	$ 657,500	9.9061%	$ 65,133	$ (15,710)	$ 49,423
185	DRMS for C&I Demand Response	NY REV / Grid Mod		5210E	$ 3,429,633	5/1/2017	36	$ 2,381,690	$ 1,238,479	$ 1,810,084	9.9061%	$ 179,308	$ (41,731)	$ 137,577
186	Load and DER Forecasting (Acquisition of Remote Sensing Data - NY)	NY REV / Grid Mod	4729	C113	$ 8,632,000	3/31/2018	84	$ 8,632,000	$ 7,398,857	$ 8,015,429	9.9061%	$ 794,015	$ (181,688)	$ 612,327
187	Plant Information Historian	NY REV / Grid Mod	4704K	G198	$ 11,427,818	9/30/2018	84	$ -	$ 10,611,545	$ 5,305,773	9.9061%	$ 525,594	$ (211,284)	$ 314,310
188	DG IOAP Phase II (Tactical)	NY REV / Grid Mod	4704P	5210E	$ 1,764,000	3/31/2019	84	$ -	$ 1,764,000	$ 882,000	9.9061%	$ 87,372	$ (21,074)	$ 66,298
189	E-Commerce Marketplace	NY REV / Grid Mod	4704D	5210E	$ 915,837	3/31/2019	84	$ -	$ 915,837	$ 457,919	9.9061%	$ 45,362	$ (10,941)	$ 34,421
190	AMI - Telecoms	NY REV / Grid Mod	4704I	5210E	$ 1,580,151	3/31/2019	84	$ -	$ 1,580,151	$ 790,076	9.9061%	$ 78,266	$ (18,878)	$ 59,388
191	AMI - CSS Enhancements	NY REV / Grid Mod	4704A	C113	$ 5,319,147	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
192	Green Button Connect	NY REV / Grid Mod	4704C	C113	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
193	DSP - DG IOAP	NY REV / Grid Mod	4704F	5210E	$ 9,120,628	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
194	AMI - Telecoms	NY REV / Grid Mod	4704I	5210E	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
195	Outdoor Lighting Inventory Portal	NY REV / Grid Mod	4704O	5210E	$ 500,000	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
196	DRMS for C&I Demand Response (Renewal)	NY REV / Grid Mod		5210E	$ -	5/1/2020	12	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
197	Grid MOD - ABB/ADMS & D-SCADA	NY REV / Grid Mod	4704G	5210E	$ 9,345,188	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
198	AMI - Telecoms	NY REV / Grid Mod	4704I	5210E	$ -	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
199	AMI - Enterprise Service Bus & API Integration	NY REV / Grid Mod	4704J	C113	$ 1,690,216	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
200	AMI - Enterprise Service Bus & API Integration	NY REV / Grid Mod	4704J	5210E	$ 3,762,093	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
201	AMI - Info Mgt & Advanced Analytics	NY REV / Grid Mod	4704L	C113	$ 1,720,346	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
202	AMI - Info Mgt & Advanced Analytics	NY REV / Grid Mod	4704L	5210E	$ 8,399,335	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
203	IS-Cloud Computing & Data Lake	NY REV / Grid Mod	4704M	C113	$ 432,445	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
204	IS-Cloud Computing & Data Lake	NY REV / Grid Mod	4704M	5210E	$ 2,111,349	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
205	Cyber Security	NY REV / Grid Mod	4704N	C113	$ 6,514,334	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
206	Cyber Security	NY REV / Grid Mod	4704N	5210E	$ 9,771,502	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
207	Residential Solar Marketplace	NY REV / Grid Mod		5210E	$ 54,350	3/31/2018	36	$ 54,350	$ 36,233	$ 45,292	9.9061%	$ 4,487	$ (938)	$ 3,549
208	INV P 3882 NYS Pipeline Safety CMS	Other Mandates	3882	G207	$ 1,308,000	3/17/2017	84	$ 1,105,571	$ 934,286	$ 1,019,929	9.9061%	$ 101,035	$ (34,829)	$ 66,206
209	INV P 3851 Consolidated Voice Recorder for US Electric Control Rooms	Other Mandates	3851	G181	$ 1,234,000	3/31/2017	84	$ 1,057,714	$ 881,429	$ 969,571	9.9061%	$ 96,047	$ (33,151)	$ 62,895
210	Annual HR & Payroll Mandatory Service Pack Upgrade (HRSP) - FY18	Other Mandates	4400	G020	$ 1,126,000	12/31/2017	84	$ 1,085,786	$ 924,929	$ 1,005,357	9.9061%	$ 99,592	$ (30,071)	$ 69,520
211	Regulatory Mandates - FY18	Other Mandates		G020	$ 5,071,622	3/31/2018	84	$ 5,071,622	$ 4,347,105	$ 4,709,363	9.9061%	$ 466,514	$ (106,749)	$ 359,765
212	US Control-Gas Electronic Bulletin Board (EBB) Upgrade	Other Mandates	4479	G210	$ 3,000,000	5/1/2018	84	$ -	$ 2,607,143	$ 1,303,571	9.9061%	$ 129,133	$ (51,910)	$ 77,223
213	Regulatory Mandates - FY19	Other Mandates		G020	$ 18,595,000	3/31/2019	84	$ -	$ 18,595,000	$ 9,297,500	9.9061%	$ 921,018	$ (222,150)	$ 698,869
214	Regulatory Mandates - FY20	Other Mandates		G020	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
215	Regulatory Mandates - FY21	Other Mandates		G020	$ -	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
218	Physical Security Replacements - FY17	Physical Security		G423	$ 165,620	3/31/2017	84	$ 141,960	$ 118,300	$ 130,130	9.9061%	$ 12,891	$ (4,449)	$ 8,441
219	Physical Security Replacements - FY18	Physical Security		G020	$ 950,000	3/31/2018	84	$ 950,000	$ 814,286	$ 882,143	9.9061%	$ 87,386	$ (19,996)	$ 67,390
222	Physical Security Replacements - FY18	Physical Security		G423	$ 35,000	3/31/2018	84	$ 35,000	$ 30,000	$ 32,500	9.9061%	$ 3,219	$ (737)	$ 2,483
223	Physical Security Replacements - FY19	Physical Security		G020	$ 825,000	3/31/2019	84	$ -	$ 825,000	$ 412,500	9.9061%	$ 40,863	$ (9,856)	$ 31,007

Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Rate Year ended March 31, 2019

Line	Investment Name	Programs	INV P #	Year Amortization	5210G NIMO G Allocation	NIMO G Rent-Return	NIMO G Rent-Depn	5210E NIMO E Allocation	NIMO E Rent-Return	NIMO E Rent-Depn	5210T NIMO T Allocation	NIMO T Rent-Return	NIMO T Rent-Depn	Amortization Period	Bonus Rate	Bonus Depreciation
148	Mobility CoE & End-User Computing-3	GBE-Information Services Enabling		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
149	Test Automation Implementation	GBE-Information Services Enabling		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
150	Development Operations & BPA Enablement-4	GBE-Information Services Enabling		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
151	SAP and Application Integration Development- Release 1-4	GBE-Information Services Enabling		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
152	SAP and Application Integration Development- Release 3-2	GBE-Information Services Enabling		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
153	Mobility CoE & End-User Computing-4	GBE-Information Services Enabling		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
154	Portfolio Management Leadership-1	GBE-Portfolio Office		$ 164,592	16.89%	$ 18,460	$ 27,800	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 658,368
155	Solution Architects & Agile Coaches-1	GBE-Portfolio Office		$ 195,828	16.89%	$ 21,963	$ 33,075	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 783,311
156	Portfolio Management Leadership-2	GBE-Portfolio Office		$ 17,871	16.89%	$ 11,841	$ 3,018	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 643,345
157	Solution Architects & Agile Coaches-2	GBE-Portfolio Office		$ 33,039	16.89%	$ 21,891	$ 5,580	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 1,189,390
158	Portfolio Management Leadership-3	GBE-Portfolio Office		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
159	Solution Architects & Agile Coaches-3	GBE-Portfolio Office		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
160	Portfolio Management Leadership-4	GBE-Portfolio Office		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
161	Regulatory/ Compliance	GBE-Regulatory and Compliance		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ -
162	Supply Chain Program Leadership	GBE-Supply Chain		$ 4,709	16.89%	$ 3,120	$ 795	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 169,514
163	Supply Chain Program Leadership	GBE-Supply Chain		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
164	Business Architecture Design	GBE-Work Management		$ 300,408	16.89%	$ 32,042	$ 50,739	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 1,502,042
165	WMFE Program Leadership-1	GBE-Work Management		$ 23,401	16.89%	$ 2,625	$ 3,952	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 93,605
166	Corrosion and I&R Work	GBE-Work Management		$ 1,850,869	16.89%	$ 114,200	$ 312,612	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 9,871,301
167	CU Governance & Library - process	GBE-Work Management		$ 69,102	16.89%	$ 7,951	$ 11,671	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 663,376
168	WMFE Program Leadership-2	GBE-Work Management		$ 4,697	16.89%	$ 3,112	$ 793	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 169,108
169	Company Driven Work: Collections and non-Appointment Offs - Gas	GBE-Work Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ -
170	Company Driven Work: Collections and non-Appointment Offs- Electric	GBE-Work Management		$ -	0.00%	$ -	$ -	47.71%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ -
171	Customer, Leak Investigation & Inspections - Gas	GBE-Work Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ -
172	Customer, Leak Investigation & Inspections - Electric	GBE-Work Management		$ -	0.00%	$ -	$ -	47.71%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ -
173	WMFE Program Leadership-3	GBE-Work Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
174	PowerPlan Integration & Enhancements	GBE-Work Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
175	Construction Work & Leak Repair	GBE-Work Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
176	WMFE Program Leadership-4	GBE-Work Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
177	Work Forecasting & Planning - solution	GBE-Work Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
178	Core Projects & Program Management	GBE-Work Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
179	WMFE Optimization	GBE-Work Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
180	Customer Experience Transformation-Communication Preference Management	Growth Play Book-CXT	4426	$ -	8.65%	$ 6,502	$ -	23.28%	$ 17,498	$ -	0.00%	$ -	$ -	36	30%	$ 600,000
181	Customer Experience Transformation-MyAccount Portal	Growth Play Book-CXT	4427	$ -	8.65%	$ -	$ -	23.28%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ -
182	Governance Risk & Compliance (GRC) Optimization/Upgrade	Growth Play Book-Finance	4222	$ 18,333	4.58%	$ 2,298	$ 840	17.76%	$ 8,912	$ 3,256	6.11%	$ 3,066	$ 1,120	36	30%	$ 462,000
183	US SAP: Business Planning	Growth Play Book-Finance	4217	$ -	4.58%	$ 7,992	$ -	17.76%	$ 30,991	$ -	6.11%	$ 10,662	$ -	36	30%	$ 1,392,900
184	US S AP: FERC on Hana (FOH)	Growth Play Book-Finance	4563	$ -	4.58%	$ 2,264	$ -	17.76%	$ 8,777	$ -	6.11%	$ 3,020	$ -	36	30%	$ 394,500
185	DRMS for C&I Demand Response	NY REV / Grid Mod		$ 1,143,211	0.00%	$ -	$ -	100.00%	$ 137,577	$ 1,143,211	0.00%	$ -	$ -	36	50%	$ 1,714,817
186	Load and DER Forecasting (Acquisition of Remote Sensing Data - NY)	NY REV / Grid Mod	4729	$ 1,233,143	27.09%	$ 165,879	$ 334,058	72.91%	$ 446,448	$ 899,084	0.00%	$ -	$ -	36	40%	$ 3,452,800
187	Plant Information Historian	NY REV / Grid Mod	4704K	$ 816,273	0.00%	$ -	$ -	41.93%	$ 131,790	$ 342,263	0.00%	$ -	$ -	36	40%	$ 4,571,127
188	DG IOAP Phase II (Tactical)	NY REV / Grid Mod	4704P	$ -	0.00%	$ -	$ -	100.00%	$ 66,298	$ -	0.00%	$ -	$ -	36	30%	$ 529,200
189	E-Commerce Marketplace	NY REV / Grid Mod	4704D	$ -	0.00%	$ -	$ -	100.00%	$ 34,421	$ -	0.00%	$ -	$ -	36	30%	$ 274,751
190	AMI - Telecoms	NY REV / Grid Mod	4704I	$ -	0.00%	$ -	$ -	100.00%	$ 59,388	$ -	0.00%	$ -	$ -	36	30%	$ 474,045
191	AMI - CSS Enhancements	NY REV / Grid Mod	4704A	$ -	27.09%	$ -	$ -	72.91%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
192	Green Button Connect	NY REV / Grid Mod	4704C	$ -	27.09%	$ -	$ -	72.91%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
193	DSP - DG IOAP	NY REV / Grid Mod	4704F	$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
194	AMI - Telecoms	NY REV / Grid Mod	4704I	$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
195	Outdoor Lighting Inventory Portal	NY REV / Grid Mod	4704O	$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
196	DRMS for C&I Demand Response (Renewal)	NY REV / Grid Mod		$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	12	0%	$ -
197	Grid MOD - ABB/ADMS & D-SCADA	NY REV / Grid Mod	4704G	$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
198	AMI - Telecoms	NY REV / Grid Mod	4704I	$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
199	AMI - Enterprise Service Bus & API Integration	NY REV / Grid Mod	4704J	$ -	27.09%	$ -	$ -	72.91%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
200	AMI - Enterprise Service Bus & API Integration	NY REV / Grid Mod	4704J	$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
201	AMI - Info Mgt & Advanced Analytics	NY REV / Grid Mod	4704L	$ -	27.09%	$ -	$ -	72.91%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
202	AMI - Info Mgt & Advanced Analytics	NY REV / Grid Mod	4704L	$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
203	IS-Cloud Computing & Data Lake	NY REV / Grid Mod	4704M	$ -	27.09%	$ -	$ -	72.91%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
204	IS-Cloud Computing & Data Lake	NY REV / Grid Mod	4704M	$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
205	Cyber Security	NY REV / Grid Mod	4704N	$ -	27.09%	$ -	$ -	72.91%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
206	Cyber Security	NY REV / Grid Mod	4704N	$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
207	Residential Solar Marketplace	NY REV / Grid Mod		$ 18,117	0.00%	$ -	$ -	100.00%	$ 3,549	$ 18,117	0.00%	$ -	$ -	36	40%	$ 21,740
208	INV P 3882 NYS Pipeline Safety CMS	Other Mandates	3882	$ 171,286	19.47%	$ 12,890	$ 33,349	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 654,000
209	INV P 3851 Consolidated Voice Recorder for US Electric Control Rooms	Other Mandates	3851	$ 176,286	0.00%	$ -	$ -	74.79%	$ 47,039	$ 131,844	25.21%	$ 15,856	$ 44,442	36	50%	$ 617,000
210	Annual HR & Payroll Mandatory Service Pack Upgrade (HRSP) - FY18	Other Mandates	4400	$ 160,857	4.58%	$ 3,184	$ 7,367	17.76%	$ 12,347	$ 28,568	6.11%	$ 4,248	$ 9,828	36	50%	$ 563,000
211	Regulatory Mandates - FY18	Other Mandates		$ 724,517	4.58%	$ 16,477	$ 33,183	17.76%	$ 63,894	$ 128,674	6.11%	$ 21,982	$ 44,268	36	40%	$ 2,028,649
212	US Control-Gas Electronic Bulletin Board (EBB) Upgrade	Other Mandates	4479	$ 392,857	12.44%	$ 9,607	$ 48,871	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 1,200,000
213	Regulatory Mandates - FY19	Other Mandates		$ -	4.58%	$ 32,008	$ -	17.76%	$ 124,119	$ -	6.11%	$ 42,701	$ -	36	30%	$ 5,578,500
214	Regulatory Mandates - FY20	Other Mandates		$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
215	Regulatory Mandates - FY21	Other Mandates		$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
218	Physical Security Replacements - FY17	Physical Security		$ 23,660	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 82,810
219	Physical Security Replacements - FY18	Physical Security		$ 135,714	4.58%	$ 3,086	$ 6,216	17.76%	$ 11,968	$ 24,103	6.11%	$ 4,118	$ 8,292	36	40%	$ 380,000
222	Physical Security Replacements - FY18	Physical Security		$ 5,000	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 14,000
223	Physical Security Replacements - FY19	Physical Security		$ -	4.58%	$ 1,420	$ -	17.76%	$ 5,507	$ -	6.11%	$ 1,894	$ -	36	30%	$ 247,500

Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Rate Year ended March 31, 2019

Line	Investment Name	Programs	INVP #	Bill Pool	FY19 Total Spend	In Service Date	Amortization Period	4/1/2018 4/1/2018 Balance	3/31/2019 3/31/2019 Balance	Average Balance	9.9061% Service Co Return	Year Return	Return on Accum Taxes	Total Return
226	Physical Security Replacements - FY19	Physical Security		G423	$ 55,000	3/31/2019	84	$ -	$ 55,000	$ 27,500	9.9061%	$ 2,724	$ (657)	$ 2,067
227	Physical Security Replacements - FY20	Physical Security		G020	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
230	Physical Security Replacements - FY20	Physical Security		G423	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
231	Physical Security Replacements - FY21	Physical Security		G020	$ -	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
236	INVP 4347 NYC Leave on for Landlord Program	PSC Mandate	4347	5220G	$ 870,095	7/31/2017	84	$ 787,229	$ 662,930	$ 725,079	9.9061%	$ 71,827	$ (21,174)	$ 50,652
237	INVP 4124 Auto Remote Net Meter	PSC Mandate	4124	C198	$ 3,584,165	8/31/2017	84	$ 3,285,485	$ 2,773,461	$ 3,029,473	9.9061%	$ 300,102	$ (88,923)	$ 211,179
238	INVP 3839A NY Retail Access Ph2	PSC Mandate	3839A	C170	$ 5,356,231	10/31/2017	84	$ 5,037,408	$ 4,272,232	$ 4,654,820	9.9061%	$ 461,110	$ (137,966)	$ 323,144
239	INVP 4411AB Distributed Generation Portal	PSC Mandate	4411A+B	C198	$ 3,347,611	11/30/2017	84	$ 3,188,201	$ 2,709,971	$ 2,949,086	9.9061%	$ 292,139	$ (87,815)	$ 204,324
241	INVP 4448 Low Income Order CRIS	PSC Mandate	4448	5220G	$ 2,207,590	12/31/2017	84	$ 2,128,748	$ 1,813,378	$ 1,971,063	9.9061%	$ 195,255	$ (58,956)	$ 136,299
242	INVP 4448 Low Income Order CSS	PSC Mandate	4448	C195	$ 2,489,410	12/31/2017	84	$ 2,400,503	$ 2,044,873	$ 2,222,688	9.9061%	$ 220,181	$ (66,483)	$ 153,699
243	INVP 4411C New Electric Connections	PSC Mandate	4411C	C198	$ 698,000	4/30/2018	84	$ -	$ 606,595	$ 303,298	9.9061%	$ 30,045	$ (12,078)	$ 17,967
244	INVP 4411D New Gas Connections	PSC Mandate	4411D	C210	$ 896,000	10/31/2018	84	$ -	$ 842,667	$ 421,333	9.9061%	$ 41,738	$ (16,778)	$ 24,959
245	CPE Buyback	Tech. Modernization	4684	G020	$ 5,140,000	3/31/2017	84	$ 4,405,714	$ 3,671,429	$ 4,038,571	9.9061%	$ 400,064	$ (138,085)	$ 261,979
246	Active Directory Improvements	Tech. Modernization	4489	G020	$ 275,000	11/30/2017	84	$ 261,905	$ 222,619	$ 242,262	9.9061%	$ 23,999	$ (7,214)	$ 16,785
247	Application Performance Management (APM)	Tech. Modernization	4490	G020	$ 375,000	1/31/2018	84	$ 366,071	$ 312,500	$ 339,286	9.9061%	$ 33,610	$ (9,529)	$ 24,081
248	RAS/VPN Re-Platform/Mobile	Tech. Modernization	4269	G020	$ 600,000	3/16/2018	84	$ 592,857	$ 507,143	$ 550,000	9.9061%	$ 54,483	$ (15,531)	$ 38,953
249	US Network Programme	Tech. Modernization	4496	G020	$ 3,025,000	3/31/2018	84	$ 3,025,000	$ 2,592,857	$ 2,808,929	9.9061%	$ 278,255	$ (63,671)	$ 214,584
250	US VSTIG Programme	Tech. Modernization	4498	G020	$ 2,700,000	3/31/2018	84	$ 2,700,000	$ 2,314,286	$ 2,507,143	9.9061%	$ 248,360	$ (56,830)	$ 191,530
251	US Wireless Programme	Tech. Modernization	4499	G020	$ 1,950,000	3/31/2018	84	$ 1,950,000	$ 1,671,429	$ 1,810,714	9.9061%	$ 179,371	$ (41,044)	$ 138,327
252	Monitoring and Alerting	Tech. Modernization	4493	G020	$ 450,000	3/31/2018	84	$ 450,000	$ 385,714	$ 417,857	9.9061%	$ 41,393	$ (9,472)	$ 31,922
253	RSA Re-platform	Tech. Modernization	4270	G020	$ 280,000	3/31/2018	84	$ 280,000	$ 240,000	$ 260,000	9.9061%	$ 25,756	$ (5,894)	$ 19,862
254	Cloud Broker - Hybrid Enablement	Tech. Modernization	3899	G020	$ 250,000	3/31/2018	84	$ 250,000	$ 214,286	$ 232,143	9.9061%	$ 22,996	$ (5,262)	$ 17,734
255	Office 2010 Upgrade	Tech. Modernization	4265	G020	$ 800,000	3/31/2018	84	$ 800,000	$ 685,714	$ 742,857	9.9061%	$ 73,588	$ (16,839)	$ 56,749
256	Citrix Infrstructure Upgrade (Xenapp and NetScaler)	Tech. Modernization	4279	G020	$ 500,000	3/31/2018	84	$ 500,000	$ 428,571	$ 464,286	9.9061%	$ 45,993	$ (10,524)	$ 35,468
257	Business Innovation Projects 1	Tech. Modernization	4707	G020	$ 3,368,613	3/31/2018	84	$ 3,368,613	$ 2,887,383	$ 3,127,998	9.9061%	$ 309,862	$ (70,903)	$ 238,959
258	Data Security	Tech. Modernization	4710	G020	$ 1,575,000	3/31/2018	84	$ 1,575,000	$ 1,350,000	$ 1,462,500	9.9061%	$ 144,877	$ (33,151)	$ 111,726
259	Orchestration and Self Service	Tech. Modernization	4726	G020	$ 750,000	3/31/2018	84	$ 750,000	$ 642,857	$ 696,429	9.9061%	$ 68,989	$ (15,786)	$ 53,203
260	Virtual Desktop - DaaS	Tech. Modernization	4727	G020	$ 550,000	3/31/2018	84	$ 550,000	$ 471,429	$ 510,714	9.9061%	$ 50,592	$ (11,577)	$ 39,015
261	SCI connections	Tech. Modernization	4495	G020	$ 100,000	3/31/2018	84	$ 100,000	$ 85,714	$ 92,857	9.9061%	$ 9,199	$ (2,105)	$ 7,094
262	US SAP: Dynamic Storage Tiering	Tech. Modernization	4560	G020	$ 1,355,000	7/5/2018	84	$ -	$ 1,209,821	$ 604,911	9.9061%	$ 59,923	$ (24,088)	$ 35,834
263	ICE Replacement	Tech. Modernization	4491	G020	$ 3,316,000	10/31/2018	84	$ -	$ 3,118,619	$ 1,559,310	9.9061%	$ 154,467	$ (62,094)	$ 92,372
264	US Network Programme	Tech. Modernization	4496	G020	$ 2,075,000	3/31/2019	84	$ -	$ 2,075,000	$ 1,037,500	9.9061%	$ 102,776	$ (24,789)	$ 77,986
265	US VSTIG Programme	Tech. Modernization	4498	G020	$ 1,700,000	3/31/2019	84	$ -	$ 1,700,000	$ 850,000	9.9061%	$ 84,202	$ (20,309)	$ 63,892
266	US Wireless Programme	Tech. Modernization	4499	G020	$ 1,500,000	3/31/2019	84	$ -	$ 1,500,000	$ 750,000	9.9061%	$ 74,296	$ (17,920)	$ 56,376
267	Data Visualisation Expansion	Tech. Modernization	4606	G020	$ 2,800,000	3/31/2019	84	$ -	$ 2,800,000	$ 1,400,000	9.9061%	$ 138,685	$ (33,451)	$ 105,234
268	US SAP: Business Warehouse (BW) Consolidation to HANA Enterprise Cloud (HEC)	Tech. Modernization	4562	G020	$ 2,366,000	3/31/2019	84	$ -	$ 2,366,000	$ 1,183,000	9.9061%	$ 117,189	$ (28,266)	$ 88,923
269	Monitoring and Alerting	Tech. Modernization	4493	G020	$ 1,000,000	3/31/2019	84	$ -	$ 1,000,000	$ 500,000	9.9061%	$ 49,530	$ (11,947)	$ 37,584
270	MWORK and Netmotion Risk Avoidance	Tech. Modernization	4725	G020	$ 500,000	3/31/2019	84	$ -	$ 500,000	$ 250,000	9.9061%	$ 24,765	$ (5,973)	$ 18,792
271	Improving End User Experience- Cloud based DMZ Service Platform	Tech. Modernization	4723	G020	$ 300,000	3/31/2019	84	$ -	$ 300,000	$ 150,000	9.9061%	$ 14,859	$ (3,584)	$ 11,275
272	Mobile Broadband POC	Tech. Modernization		G020	$ 100,000	3/31/2019	84	$ -	$ 100,000	$ 50,000	9.9061%	$ 4,953	$ (1,195)	$ 3,758
273	FY 19 Edge Projects	Tech. Modernization	4717	G020	$ 1,000,000	3/31/2019	84	$ -	$ 1,000,000	$ 500,000	9.9061%	$ 49,530	$ (11,947)	$ 37,584
274	FY 19 Network Projects	Tech. Modernization	4718	G020	$ 1,000,000	3/31/2019	84	$ -	$ 1,000,000	$ 500,000	9.9061%	$ 49,530	$ (11,947)	$ 37,584
275	Digital Asset Management (DAM)	Tech. Modernization	4711	G020	$ 500,000	3/31/2019	84	$ -	$ 500,000	$ 250,000	9.9061%	$ 24,765	$ (5,973)	$ 18,792
276	Business Innovation Projects 1	Tech. Modernization	4707	G020	$ 3,973,236	3/31/2019	84	$ -	$ 3,973,236	$ 1,986,618	9.9061%	$ 196,796	$ (47,467)	$ 149,329
277	Business Innovation Projects 2	Tech. Modernization	4708	G020	$ 3,368,613	3/31/2019	84	$ -	$ 3,368,613	$ 1,684,307	9.9061%	$ 166,849	$ (40,244)	$ 126,605
278	Business Innovation Projects 3	Tech. Modernization	4728	G020	$ 3,368,613	3/31/2019	84	$ -	$ 3,368,613	$ 1,684,307	9.9061%	$ 166,849	$ (40,244)	$ 126,605
279	EUC, network, and data center strategy	Tech. Modernization	4715	G020	$ 1,542,858	3/31/2019	84	$ -	$ 1,542,858	$ 771,429	9.9061%	$ 76,418	$ (18,432)	$ 57,986
280	Data Security	Tech. Modernization	4710	G020	$ 1,575,000	3/31/2019	84	$ -	$ 1,575,000	$ 787,500	9.9061%	$ 78,010	$ (18,816)	$ 59,194
281	FY 19 Data Centre Projects	Tech. Modernization	4716	G020	$ 2,000,000	3/31/2019	84	$ -	$ 2,000,000	$ 1,000,000	9.9061%	$ 99,061	$ (23,893)	$ 75,167
282	1327 Interfaces - 523 FTS, 340 RDX, 245 MQSI, 253 JCAPS, 44 PM4D, 7 VB	Tech. Modernization	4706	G020	$ 3,300,000	3/31/2019	84	$ -	$ 3,300,000	$ 1,650,000	9.9061%	$ 163,450	$ (39,424)	$ 124,026
283	US Video Conference Programme	Tech. Modernization	4497	G020	$ 1,550,000	6/1/2019	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
284	US SAP: Enhancement Pack 9 Upgrade	Tech. Modernization	4564	G020	$ 3,493,000	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
285	US Network Programme	Tech. Modernization	4496	G020	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
286	US VSTIG Programme	Tech. Modernization	4498	G020	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
287	US Wireless Programme	Tech. Modernization	4499	G020	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
288	Monitoring and Alerting	Tech. Modernization	4493	G020	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
289	Service Now - Release 3	Tech. Modernization	4261	G020	$ 1,900,000	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
290	IS Tools	Tech. Modernization	4513	G020	$ 200,000	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
291	FY 20 Edge Projects	Tech. Modernization	4720	G020	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
292	FY 20 Network Projects	Tech. Modernization	4721	G020	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
293	EMM Licenses	Tech. Modernization	4713	G020	$ 660,000	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
294	Business Innovation Projects 2	Tech. Modernization	4708	G020	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
295	Business Innovation Projects 3	Tech. Modernization	4728	G020	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
296	Data Security	Tech. Modernization	4710	G020	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
297	Hardware and Software Upgrades	Tech. Modernization	4722	G020	$ 6,500,000	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
298	Data Centre Consolidation efforts	Tech. Modernization	4709	G020	$ 3,000,000	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
299	FY 20 Data Centre Projects	Tech. Modernization	4719	G020	$ -	3/31/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
300	Enterprise Data Management Platform	Tech. Modernization	4582	G020	$ 2,500,000	6/1/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
301	Business Innovation Projects 2	Tech. Modernization	4708	G020	$ -	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
302	Business Innovation Projects 3	Tech. Modernization	4728	G020	$ -	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
	Total IS				$ 617,436,980			$ 215,718,329	$ 388,688,162	$ 302,203,245		$ 29,936,514	$ (8,909,743)	$ 21,026,771

Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Rate Year ended March 31, 2019

Line	Investment Name	Programs	INVP #	Year Amortization	5210G NIMO G Allocation	NIMO G Rent-Return	NIMO G Rent - Depn	5210E NIMO E Allocation	NIMO E Rent-Return	NIMO E Rent - Depn	5210T NIMO T Allocation	NIMO T Rent-Return	NIMO T Rent - Depn	Amortization Period	Bonus Rate	Bonus Depreciation
226	Physical Security Replacements - FY19	Physical Security		$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 16,500
227	Physical Security Replacements - FY20	Physical Security		$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
230	Physical Security Replacements - FY20	Physical Security		$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
231	Physical Security Replacements - FY21	Physical Security		$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
236	INVP 4347 NYC Leave on for Landlord Program	PSC Mandate	4347	$ 124,299	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 435,048
237	INVP 4124 Auto Remote Net Meter	PSC Mandate	4124	$ 512,024	0.00%	$ -	$ -	47.71%	$ 100,754	$ 244,286	0.00%	$ -	$ -	36	50%	$ 1,792,083
238	INVP 3839A NY Retail Access Ph2	PSC Mandate	3839A	$ 765,176	14.88%	$ 48,084	$ 113,858	40.06%	$ 129,452	$ 306,529	0.00%	$ -	$ -	36	50%	$ 2,678,116
239	INVP 4411AB Distributed Generation Portal	PSC Mandate	4411A+B	$ 478,230	0.00%	$ -	$ -	47.71%	$ 97,483	$ 228,164	0.00%	$ -	$ -	36	50%	$ 1,673,805
241	INVP 4448 Low Income Order CRIS	PSC Mandate	4448	$ 315,370	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 1,103,795
242	INVP 4448 Low Income Order CSS	PSC Mandate	4448	$ 355,630	21.56%	$ 33,137	$ 76,674	57.91%	$ 89,007	$ 205,945	0.00%	$ -	$ -	36	50%	$ 1,244,705
243	INVP 4411C New Electric Connections	PSC Mandate	4411C	$ 91,405	0.00%	$ -	$ -	47.71%	$ 8,572	$ 43,609	0.00%	$ -	$ -	36	40%	$ 279,200
244	INVP 4411D New Gas Connections	PSC Mandate	4411D	$ 53,333	16.89%	$ 4,216	$ 9,008	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 358,400
245	CPE Buyback	Tech. Modernization	4684	$ 734,286	4.58%	$ 11,999	$ 33,630	17.76%	$ 46,528	$ 130,409	6.11%	$ 16,007	$ 44,865	36	50%	$ 2,570,000
246	Active Directory Improvements	Tech. Modernization	4489	$ 39,286	4.58%	$ 769	$ 1,799	17.76%	$ 2,981	$ 6,977	6.11%	$ 1,026	$ 2,400	36	50%	$ 137,500
247	Application Performance Management (APM)	Tech. Modernization	4490	$ 53,571	4.58%	$ 1,103	$ 2,454	17.76%	$ 4,277	$ 9,514	6.11%	$ 1,471	$ 3,273	36	40%	$ 150,000
248	RAS/VPN Re-Platform/Mobile	Tech. Modernization	4269	$ 85,714	4.58%	$ 1,784	$ 3,926	17.76%	$ 6,918	$ 15,223	6.11%	$ 2,380	$ 5,237	36	40%	$ 240,000
249	US Network Programme	Tech. Modernization	4496	$ 432,143	4.58%	$ 9,828	$ 19,792	17.76%	$ 38,110	$ 76,749	6.11%	$ 13,111	$ 26,404	36	40%	$ 1,210,000
250	US VSTIG Programme	Tech. Modernization	4498	$ 385,714	4.58%	$ 8,772	$ 17,666	17.76%	$ 34,016	$ 68,503	6.11%	$ 11,702	$ 23,567	36	40%	$ 1,080,000
251	US Wireless Programme	Tech. Modernization	4499	$ 278,571	4.58%	$ 6,335	$ 12,759	17.76%	$ 24,567	$ 49,474	6.11%	$ 8,452	$ 17,021	36	40%	$ 780,000
252	Monitoring and Alerting	Tech. Modernization	4493	$ 64,286	4.58%	$ 1,462	$ 2,944	17.76%	$ 5,669	$ 11,417	6.11%	$ 1,950	$ 3,928	36	40%	$ 180,000
253	RSA Re-platform	Tech. Modernization	4270	$ 40,000	4.58%	$ 910	$ 1,832	17.76%	$ 3,528	$ 7,104	6.11%	$ 1,214	$ 2,444	36	40%	$ 112,000
254	Cloud Broker - Hybrid Enablement	Tech. Modernization	3899	$ 35,714	4.58%	$ 812	$ 1,636	17.76%	$ 3,150	$ 6,343	6.11%	$ 1,084	$ 2,182	36	40%	$ 100,000
255	Office 2010 Upgrade	Tech. Modernization	4265	$ 114,286	4.58%	$ 2,599	$ 5,234	17.76%	$ 10,079	$ 20,297	6.11%	$ 3,467	$ 6,983	36	40%	$ 320,000
256	Citrix Infrstructure Upgrade (Xenapp and NetScaler)	Tech. Modernization	4279	$ 71,429	4.58%	$ 1,624	$ 3,271	17.76%	$ 6,299	$ 12,686	6.11%	$ 2,167	$ 4,364	36	40%	$ 200,000
257	Business Innovation Projects 1	Tech. Modernization	4707	$ 481,230	4.58%	$ 10,944	$ 22,040	17.76%	$ 42,439	$ 85,467	6.11%	$ 14,600	$ 29,403	36	40%	$ 1,347,445
258	Data Security	Tech. Modernization	4710	$ 225,000	4.58%	$ 5,117	$ 10,305	17.76%	$ 19,842	$ 39,960	6.11%	$ 6,826	$ 13,748	36	40%	$ 630,000
259	Orchestration and Self Service	Tech. Modernization	4726	$ 107,143	4.58%	$ 2,437	$ 4,907	17.76%	$ 9,449	$ 19,029	6.11%	$ 3,251	$ 6,546	36	40%	$ 300,000
260	Virtual Desktop - DaaS	Tech. Modernization	4727	$ 78,571	4.58%	$ 1,787	$ 3,599	17.76%	$ 6,929	$ 13,954	6.11%	$ 2,384	$ 4,801	36	40%	$ 220,000
261	SCI connections	Tech. Modernization	4495	$ 14,286	4.58%	$ 325	$ 654	17.76%	$ 1,260	$ 2,537	6.11%	$ 433	$ 873	36	40%	$ 40,000
262	US SAP: Dynamic Storage Tiering	Tech. Modernization	4560	$ 145,179	4.58%	$ 1,641	$ 6,649	17.76%	$ 6,364	$ 25,784	6.11%	$ 2,189	$ 8,870	36	40%	$ 542,000
263	ICE Replacement	Tech. Modernization	4491	$ 197,381	4.58%	$ 4,231	$ 9,040	17.76%	$ 16,405	$ 35,055	6.11%	$ 5,644	$ 12,060	36	40%	$ 1,326,400
264	US Network Programme	Tech. Modernization	4496	$ -	4.58%	$ 3,572	$ -	17.76%	$ 13,850	$ -	6.11%	$ 4,765	$ -	36	30%	$ 622,500
265	US VSTIG Programme	Tech. Modernization	4498	$ -	4.58%	$ 2,926	$ -	17.76%	$ 11,347	$ -	6.11%	$ 3,904	$ -	36	30%	$ 510,000
266	US Wireless Programme	Tech. Modernization	4499	$ -	4.58%	$ 2,582	$ -	17.76%	$ 10,012	$ -	6.11%	$ 3,445	$ -	36	30%	$ 450,000
267	Data Visualisation Expansion	Tech. Modernization	4606	$ -	4.58%	$ 4,820	$ -	17.76%	$ 18,690	$ -	6.11%	$ 6,430	$ -	36	30%	$ 840,000
268	US SAP: Business Warehouse (BW) Consolidation to HANA Enterprise Cloud (HEC)	Tech. Modernization	4562	$ -	4.58%	$ 4,073	$ -	17.76%	$ 15,793	$ -	6.11%	$ 5,433	$ -	36	30%	$ 709,800
269	Monitoring and Alerting	Tech. Modernization	4493	$ -	4.58%	$ 1,721	$ -	17.76%	$ 6,675	$ -	6.11%	$ 2,296	$ -	36	30%	$ 300,000
270	MWORK and Netmotion Risk Avoidance	Tech. Modernization	4725	$ -	4.58%	$ 861	$ -	17.76%	$ 3,337	$ -	6.11%	$ 1,148	$ -	36	30%	$ 150,000
271	Improving End User Experience- Cloud based DMZ Service Platform	Tech. Modernization	4723	$ -	4.58%	$ 516	$ -	17.76%	$ 2,002	$ -	6.11%	$ 689	$ -	36	30%	$ 90,000
272	Mobile Broadband POC	Tech. Modernization		$ -	4.58%	$ 172	$ -	17.76%	$ 667	$ -	6.11%	$ 230	$ -	36	30%	$ 30,000
273	FY 19 Edge Projects	Tech. Modernization	4717	$ -	4.58%	$ 1,721	$ -	17.76%	$ 6,675	$ -	6.11%	$ 2,296	$ -	36	30%	$ 300,000
274	FY 19 Network Projects	Tech. Modernization	4718	$ -	4.58%	$ 1,721	$ -	17.76%	$ 6,675	$ -	6.11%	$ 2,296	$ -	36	30%	$ 300,000
275	Digital Asset Management (DAM)	Tech. Modernization	4711	$ -	4.58%	$ 861	$ -	17.76%	$ 3,337	$ -	6.11%	$ 1,148	$ -	36	30%	$ 150,000
276	Business Innovation Projects 1	Tech. Modernization	4707	$ -	4.58%	$ 6,839	$ -	17.76%	$ 26,521	$ -	6.11%	$ 9,124	$ -	36	30%	$ 1,191,971
277	Business Innovation Projects 2	Tech. Modernization	4708	$ -	4.58%	$ 5,799	$ -	17.76%	$ 22,485	$ -	6.11%	$ 7,736	$ -	36	30%	$ 1,010,584
278	Business Innovation Projects 3	Tech. Modernization	4728	$ -	4.58%	$ 5,799	$ -	17.76%	$ 22,485	$ -	6.11%	$ 7,736	$ -	36	30%	$ 1,010,584
279	EUC, network, and data center strategy	Tech. Modernization	4715	$ -	4.58%	$ 2,656	$ -	17.76%	$ 10,298	$ -	6.11%	$ 3,543	$ -	36	30%	$ 462,857
280	Data Security	Tech. Modernization	4710	$ -	4.58%	$ 2,711	$ -	17.76%	$ 10,513	$ -	6.11%	$ 3,617	$ -	36	30%	$ 472,500
281	FY 19 Data Centre Projects	Tech. Modernization	4716	$ -	4.58%	$ 3,443	$ -	17.76%	$ 13,350	$ -	6.11%	$ 4,593	$ -	36	30%	$ 600,000
282	1327 Interfaces - 523 FTS, 340 RDX, 245 MQSI, 253 JCAPS, 44 PM4D, 7 VB	Tech. Modernization	4706	$ -	4.58%	$ 5,680	$ -	17.76%	$ 22,027	$ -	6.11%	$ 7,578	$ -	36	30%	$ 990,000
283	US Video Conference Programme	Tech. Modernization	4497	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	30%	$ -
284	US SAP: Enhancement Pack 9 Upgrade	Tech. Modernization	4564	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
285	US Network Programme	Tech. Modernization	4496	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
286	US VSTIG Programme	Tech. Modernization	4498	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
287	US Wireless Programme	Tech. Modernization	4499	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
288	Monitoring and Alerting	Tech. Modernization	4493	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
289	Service Now - Release 3	Tech. Modernization	4261	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
290	IS Tools	Tech. Modernization	4513	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
291	FY 20 Edge Projects	Tech. Modernization	4720	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
292	FY 20 Network Projects	Tech. Modernization	4721	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
293	EMM Licenses	Tech. Modernization	4713	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
294	Business Innovation Projects 2	Tech. Modernization	4708	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
295	Business Innovation Projects 3	Tech. Modernization	4728	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
296	Data Security	Tech. Modernization	4710	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
297	Hardware and Software Upgrades	Tech. Modernization	4722	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
298	Data Centre Consolidation efforts	Tech. Modernization	4709	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
299	FY 20 Data Centre Projects	Tech. Modernization	4719	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
300	Enterprise Data Management Platform	Tech. Modernization	4582	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
301	Business Innovation Projects 2	Tech. Modernization	4708	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
302	Business Innovation Projects 3	Tech. Modernization	4728	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
	Total IS			$ 39,483,300		$ 1,648,658	$ 2,877,209		$ 3,946,430	$ 8,502,064		$ 1,058,927	$ 1,993,695			$ 180,594,497

NIMO G	$ 4,525,867	NIMO E	$ 15,501,116
HTY NIMO G	$ -	HTY NIMO E	$ -
RY 19 Adjust	$ 4,525,867	RY 19 Adjust	$ 15,501,116
NIMO	$ 20,026,983		
HTY NIMO	$ -		
RY19 Adjust	$ 20,026,983		

Exhibit_____(RRP-11CU)
Workpapers to Exhibit RRP-3CU
Schedule 9
Workpaper 6
Page 1 of 8

Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2020

Line	Investment Name	Programs	INVP #	Bill Pool	FY20 Total Spend	In Service Date	Amortization Period	4/1/2019 4/1/2019 Balance	3/31/2020 3/31/2020 Balance	Average Balance	9.9061% Service Co Return	Year Return	Return on Accum Taxes	Total Return
1	Cloud Security	Cyber Security	3683	G020	$ 1,460,000	5/1/2017	84	$ 1,060,238	$ 851,667	$ 955,952	9.9061%	$ 94,697	$ (33,762)	$ 60,936
2	Risk Based Authentication - 2FA token alternative	Cyber Security	3683	G020	$ 235,080	6/1/2017	84	$ 173,511	$ 139,929	$ 156,720	9.9061%	$ 15,525	$ (5,548)	$ 9,977
3	INVP 3614D1 Ent Network Security	Cyber Security	3614D1	G020	$ 9,478,590	6/30/2017	84	$ 7,108,943	$ 5,754,858	$ 6,431,900	9.9061%	$ 637,150	$ (228,174)	$ 408,976
4	Threat Behavior Modeling	Cyber Security	3683	G020	$ 800,000	8/1/2017	84	$ 609,524	$ 495,238	$ 552,381	9.9061%	$ 54,719	$ (19,637)	$ 35,082
5	Identity & Access Management :Role Base Access Management (RBAC)	Cyber Security	3683	G020	$ 1,650,000	10/1/2017	84	$ 1,296,429	$ 1,060,714	$ 1,178,571	9.9061%	$ 116,750	$ (42,066)	$ 74,684
6	Enhanced DLP Gateway and Endpoint	Cyber Security	3683	G020	$ 2,238,480	12/1/2017	84	$ 1,812,103	$ 1,492,320	$ 1,652,211	9.9061%	$ 163,669	$ (59,192)	$ 104,478
7	INVP 3614B7 CNI Network Security	Cyber Security	3614B7	G020	$ 4,829,586	12/31/2017	84	$ 3,967,160	$ 3,277,219	$ 3,622,189	9.9061%	$ 358,817	$ (129,998)	$ 228,819
8	INVP 3614E4 US CNI Security I&E	Cyber Security	3614E4	G020	$ 1,207,045	12/31/2017	84	$ 991,501	$ 819,066	$ 905,284	9.9061%	$ 89,678	$ (32,490)	$ 57,188
9	US CNI Intrusion Detection/Prevention Phase 1	Cyber Security	3683	G020	$ 550,000	3/31/2018	84	$ 471,429	$ 392,857	$ 432,143	9.9061%	$ 42,808	$ (14,289)	$ 28,519
10	Identity & Access Management: Fine Grain Access Management	Cyber Security	3683	G020	$ 1,650,000	3/31/2018	84	$ 1,414,286	$ 1,178,571	$ 1,296,429	9.9061%	$ 128,425	$ (42,867)	$ 85,558
11	vSfig Scaling Upgrades	Cyber Security	3683	G020	$ 1,000,000	8/1/2018	84	$ 904,762	$ 761,905	$ 833,333	9.9061%	$ 82,551	$ (22,566)	$ 59,985
12	IT/OT Discovery and Implementation Phase 1	Cyber Security	3683	G020	$ 5,500,000	10/1/2018	84	$ 5,107,143	$ 4,321,429	$ 4,714,286	9.9061%	$ 467,001	$ (129,327)	$ 337,674
13	Security Research Lab	Cyber Security	3683	G020	$ 325,000	10/1/2018	84	$ 301,786	$ 255,357	$ 278,571	9.9061%	$ 27,596	$ (7,642)	$ 19,953
14	US CNI Security Enhancements Phase 1	Cyber Security	3683	G020	$ 1,650,000	11/1/2018	84	$ 1,551,786	$ 1,316,071	$ 1,433,929	9.9061%	$ 142,046	$ (39,580)	$ 102,466
15	Identity & Access Management: Privileged Access Management	Cyber Security	3683	G020	$ 1,740,000	3/31/2019	84	$ 1,740,000	$ 1,491,429	$ 1,615,714	9.9061%	$ 160,054	$ (32,004)	$ 128,050
16	Domain Based Security Phase 1	Cyber Security	3683	G020	$ 800,000	3/31/2019	84	$ 800,000	$ 685,714	$ 742,857	9.9061%	$ 73,588	$ (14,715)	$ 58,873
17	Security Incident Event Management Phase 4	Cyber Security	3683	G020	$ 1,266,300	5/1/2019	84	$ -	$ 1,100,475	$ 550,238	9.9061%	$ 54,507	$ (17,709)	$ 36,798
18	Big Data Security Analytics Phase 1	Cyber Security	3683	G020	$ 4,621,552	5/1/2019	84	$ -	$ 4,016,349	$ 2,008,174	9.9061%	$ 198,931	$ (64,632)	$ 134,300
19	US CNI Intrusion Detection/Prevention Phase 2	Cyber Security	3683	G020	$ 800,000	3/31/2020	84	$ -	$ 800,000	$ 400,000	9.9061%	$ 39,624	$ -	$ 39,624
20	Identity & Access Management: Shared Area Access Management	Cyber Security	3683	G020	$ 1,740,000	3/31/2020	84	$ -	$ 1,740,000	$ 870,000	9.9061%	$ 86,183	$ -	$ 86,183
21	Security Incident Event Management Phase 5	Cyber Security	3683	G020	$ 733,150	5/1/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
22	Domain Based Security Phase 2	Cyber Security	3683	G020	$ 3,000,000	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
23	Security Incident Event Management (SIEM) 6	Cyber Security	3683	G020	$ -	5/1/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
24	Big Data Security Analytics - Phase 2	Cyber Security	3683	G020	$ 3,466,164	5/1/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
25	IT/OT Discovery and Implementation: Phase 2	Cyber Security	3683	G020	$ 3,769,230	10/1/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
26	US CNI Security Enhancements - Phase 2	Cyber Security	3683	G020	$ 2,640,000	11/1/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
27	Data Visualization	Cyber Security	3683	G020	$ -	12/1/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
29	INVP 4045 Double Pole Mgmt DB	FY18 Plan	4045	G198	$ 482,153	2/18/2017	84	$ 338,655	$ 269,776	$ 304,216	9.9061%	$ 30,136	$ (11,403)	$ 18,733
30	INVP 4373 Contingent Labor Admin Replacement	FY18 Plan	4373	G020	$ 250,692	2/20/2017	84	$ 176,082	$ 140,268	$ 158,175	9.9061%	$ 15,669	$ (5,929)	$ 9,740
32	INVP 4188 Aging System Stabilize	FY18 Plan	4188	G148	$ 782,710	3/31/2017	84	$ 559,079	$ 447,263	$ 503,171	9.9061%	$ 49,845	$ (18,883)	$ 30,962
33	INVP 4280 US VSTIG Bandwidth Ph2	FY18 Plan	4280	G020	$ 1,998,645	3/31/2017	84	$ 1,427,604	$ 1,142,083	$ 1,284,843	9.9061%	$ 127,278	$ (48,217)	$ 79,061
34	INVP 4307 US Win 7 Refresh Ph 3	FY18 Plan	4307	G020	$ 11,562,999	3/31/2017	84	$ 8,259,285	$ 6,607,428	$ 7,433,357	9.9061%	$ 736,355	$ (278,954)	$ 457,400
35	INVP 4364 Wireless Network	FY18 Plan	4364	G020	$ 2,303,959	3/31/2017	84	$ 1,645,685	$ 1,316,548	$ 1,481,116	9.9061%	$ 146,721	$ (55,582)	$ 91,138
36	S005242 M112 Systemic Improvement	FY18 Plan		G020	$ 8,000,000	3/31/2017	120	$ 6,400,000	$ 5,600,000	$ 6,000,000	9.9061%	$ 594,365	$ (227,131)	$ 367,234
37	INVP 4289 US Network Improvement	FY18 Plan	4289	G020	$ 978,717	3/31/2017	84	$ 699,083	$ 559,267	$ 629,175	9.9061%	$ 62,327	$ (23,611)	$ 38,715
38	HANA License Costs	FY18 Plan	4649	G020	$ 3,500,000	3/31/2017	84	$ 2,500,000	$ 2,000,000	$ 2,250,000	9.9061%	$ 222,887	$ (84,437)	$ 138,450
39	Microsoft ELA Renewal	FY18 Plan	4642	G020	$ 1,900,000	3/31/2017	84	$ 1,357,143	$ 1,085,714	$ 1,221,429	9.9061%	$ 120,996	$ (45,837)	$ 75,159
40	Mobile Device Refresh - FY17	FY18 Plan	4671	G020	$ 4,546,000	3/31/2017	84	$ 3,247,143	$ 2,597,714	$ 2,922,429	9.9061%	$ 289,498	$ (109,671)	$ 179,827
41	Zscaler	FY18 Plan	4681	G020	$ 2,100,000	3/31/2017	84	$ 1,500,000	$ 1,200,000	$ 1,350,000	9.9061%	$ 133,732	$ (50,662)	$ 83,070
43	INVP 4631 Box Enablement	FY18 Plan	4631	G020	$ 254,000	4/30/2017	84	$ 184,452	$ 148,167	$ 166,310	9.9061%	$ 16,475	$ (5,874)	$ 10,601
44	INVP 4170 Time Transformation	FY18 Plan	4170	G020	$ 3,917,000	5/1/2017	84	$ 2,844,488	$ 2,284,917	$ 2,564,702	9.9061%	$ 254,062	$ (90,578)	$ 163,483
45	INVP 4420 US CNI OMS FocalPoint Infrastructure Upgrade	FY18 Plan	4420	G198	$ 1,366,563	5/1/2017	84	$ 992,385	$ 797,162	$ 894,773	9.9061%	$ 88,637	$ (31,601)	$ 57,036
46	INVP 4274 VSTIG Hardware Refresh	FY18 Plan	4274	G020	$ 608,000	5/31/2017	84	$ 448,762	$ 361,905	$ 405,333	9.9061%	$ 40,153	$ (14,348)	$ 25,805
47	US Video Conferencing upgrade for RW	FY18 Plan	4632	G020	$ 1,330,000	6/1/2017	84	$ 981,667	$ 791,667	$ 886,667	9.9061%	$ 87,834	$ (31,386)	$ 56,448
48	Hix D/C Improvement Server Refresh	FY18 Plan	4676	G020	$ 1,000,000	7/1/2017	84	$ 750,000	$ 607,143	$ 678,571	9.9061%	$ 67,220	$ (24,073)	$ 43,147
49	INVP 4464 Data Visualization	FY18 Plan	4464	G020	$ 4,440,000	7/31/2017	84	$ 3,382,857	$ 2,748,571	$ 3,065,714	9.9061%	$ 303,692	$ (108,987)	$ 194,705
50	Mobility - (MDM) Mobile Device	FY18 Plan	3430	G020	$ 1,162,000	7/31/2017	84	$ 885,333	$ 719,333	$ 802,333	9.9061%	$ 79,480	$ (28,523)	$ 50,957
51	Changes to ACIS for PMCC Civil Vendor Billing	FY18 Plan	4487	G186	$ 382,000	8/2/2017	84	$ 291,048	$ 236,476	$ 263,762	9.9061%	$ 26,128	$ (9,377)	$ 16,752
52	INVP 4461 Unix51 Interface Migration	FY18 Plan	4461	G020	$ 1,386,701	9/1/2017	84	$ 1,073,042	$ 874,942	$ 973,992	9.9061%	$ 96,485	$ (34,696)	$ 61,788
53	INVP 4287 Active Directory Upgrade	FY18 Plan	4287	G020	$ 804,825	9/30/2017	84	$ 632,363	$ 517,388	$ 574,875	9.9061%	$ 56,948	$ (20,519)	$ 36,429
54	US Control-Gas System Operating Procedure (SOP) Upgrade	FY18 Plan	4480	G210	$ 542,000	10/2/2017	84	$ 425,857	$ 348,429	$ 387,143	9.9061%	$ 38,351	$ (13,818)	$ 24,533
55	Enterprise Labs	FY18 Plan	4693	G020	$ 668,000	10/30/2017	84	$ 532,810	$ 437,381	$ 485,095	9.9061%	$ 48,054	$ (17,347)	$ 30,707
56	Cascade Electric Application Upgrade Project	FY18 Plan	3986	G198	$ 375,000	10/31/2017	84	$ 299,107	$ 245,536	$ 272,321	9.9061%	$ 26,976	$ (9,738)	$ 17,238
57	INVP 4408 Doc Mgmt Systems Replacement Delivery	FY18 Plan	4408	G149	$ 3,617,542	11/1/2017	84	$ 2,885,420	$ 2,368,629	$ 2,627,025	9.9061%	$ 260,235	$ (93,943)	$ 166,292
58	WIFI for Fleet Services Diagnostic Laptops	FY18 Plan	3956	G352	$ 838,000	11/1/2017	84	$ 668,405	$ 548,690	$ 608,548	9.9061%	$ 60,283	$ (21,762)	$ 38,521
59	Gas Service Database - UNY	FY18 Plan	3949	5210G	$ 325,000	12/1/2017	84	$ 263,095	$ 216,667	$ 239,881	9.9061%	$ 23,763	$ (8,594)	$ 15,169
62	Gas Capital Investment Planning Tool	FY18 Plan	4466	G210	$ 572,000	1/17/2018	84	$ 476,667	$ 394,952	$ 435,810	9.9061%	$ 43,172	$ (15,330)	$ 27,841
63	Computapole Enhancements to Support Inspection Types	FY18 Plan	4462	G186	$ 450,000	3/1/2018	84	$ 380,357	$ 316,071	$ 348,214	9.9061%	$ 34,494	$ (12,274)	$ 22,221
64	Travel & Expense Management (T&E) and Global Master Service Provider (MSP) Strategy	FY18 Plan	4578	G020	$ 1,232,000	3/1/2018	84	$ 1,041,333	$ 865,333	$ 953,333	9.9061%	$ 94,438	$ (33,603)	$ 60,835
65	Ageing System Stabilization/Upgrades - FY 18	FY18 Plan	4389	G148	$ 1,500,000	3/15/2018	84	$ 1,267,857	$ 1,053,571	$ 1,160,714	9.9061%	$ 114,981	$ (40,913)	$ 74,069
66	INVP 3486 US MDS-Itron Enterprise Edition (IEE)	FY18 Plan	3486	G186	$ 670,943	3/31/2018	84	$ 575,094	$ 479,245	$ 527,170	9.9061%	$ 52,222	$ (17,431)	$ 34,791
67	INVP 4390 Plastic Fusion II	FY18 Plan	4390	G210	$ 506,000	3/31/2018	84	$ 433,714	$ 361,429	$ 397,571	9.9061%	$ 39,384	$ (13,146)	$ 26,238
68	INVP 4397 Ariba TLS and CI Update	FY18 Plan	4397	G020	$ 1,462,000	3/31/2018	120	$ 1,315,800	$ 1,169,600	$ 1,242,700	9.9061%	$ 123,103	$ (41,725)	$ 81,378
69	US Mobile Device Refresh	FY18 Plan	4395	G020	$ 5,000,000	3/31/2018	84	$ 4,285,714	$ 3,571,429	$ 3,928,571	9.9061%	$ 389,168	$ -	$ 389,168
70	US SAP: Infrastructure Landscape	FY18 Plan	4348	G020	$ 4,603,000	3/31/2018	84	$ 3,945,429	$ 3,287,857	$ 3,616,643	9.9061%	$ 358,268	$ (119,586)	$ 238,682
71	US CNI Tech Services-Network Equipment Lifecycle Replacements	FY18 Plan	4570	U186	$ 250,000	3/31/2018	84	$ 214,286	$ 178,571	$ 196,429	9.9061%	$ 19,458	$ (6,495)	$ 12,963
72	US CNI-EMS Lifecycle Hardware and Software Upgrade	FY18 Plan	4568	U186	$ 13,348,000	3/31/2018	84	$ 11,441,143	$ 9,534,286	$ 10,487,714	9.9061%	$ 1,038,922	$ (346,780)	$ 692,142
73	Network Transformation Completion - CEMS	FY18 Plan	4647	G020	$ 250,000	3/31/2018	84	$ 214,286	$ 178,571	$ 196,429	9.9061%	$ 19,458	$ (6,495)	$ 12,963
74	Application monitoring, Network/IDS, Operations monitoring	FY18 Plan	4677	G020	$ 750,000	3/31/2018	84	$ 642,857	$ 535,714	$ 589,286	9.9061%	$ 58,375	$ (19,485)	$ 38,890
75	Aged Printer refresh	FY18 Plan	4689	G020	$ 50,000	3/31/2018	84	$ 42,857	$ 35,714	$ 39,286	9.9061%	$ 3,892	$ (1,299)	$ 2,593
76	RSA Token refresh	FY18 Plan	4683	G020	$ 200,000	3/31/2018	84	$ 171,429	$ 142,857	$ 157,143	9.9061%	$ 15,567	$ (5,196)	$ 10,371
78	INVP4449 - EPA File	FY18 Plan	4449	C170	$ 700,000	3/31/2018	84	$ 600,000	$ 500,000	$ 550,000	9.9061%	$ 54,483	$ (18,186)	$ 36,298
79	Informatica Upgrade/Microstrategy Replacement Program	FY18 Plan	4469	G020	$ 3,516,000	5/1/2018	84	$ 3,055,571	$ 2,553,286	$ 2,804,429	9.9061%	$ 277,809	$ (74,341)	$ 203,468
80	Call Center Customer Contact Center/SDC Technology Upgrade Implement Solution	FY18 Plan	3932	C175	$ 27,724,719	8/31/2018	84	$ 25,414,326	$ 21,453,652	$ 23,433,989	9.9061%	$ 2,321,391	$ (638,778)	$ 1,682,613

Exhibit_____(RRP-11CU)
Workpapers to Exhibit RRP-3CU
Schedule 9
Workpaper 6
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Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2020

Line	Investment Name	Programs	INVP #	Year Amortization	5210G NIMO G Allocation	NIMO G Rent-Return	NIMO G Rent - Depn	5210E NIMO E Allocation	NIMO E Rent-Return	NIMO E Rent - Depn	5210T NIMO T Allocation	NIMO T Rent-Return	NIMO T Rent - Depn	Amortization Period	Bonus Rate	Bonus Depreciation
1	Cloud Security	Cyber Security	3683	$ 208,571	4.58%	$ 2,791	$ 9,553	17.76%	$ 10,822	$ 37,042	6.11%	$ 3,723	$ 12,744	36	50%	$ 730,000
2	Risk Based Authentication - 2FA token alternative	Cyber Security	3683	$ 33,583	4.58%	$ 457	$ 1,538	17.76%	$ 1,772	$ 5,964	6.11%	$ 610	$ 2,052	36	50%	$ 117,540
3	INVP 3614D1 Ent Network Security	Cyber Security	3614D1	$ 1,354,084	4.58%	$ 18,731	$ 62,017	17.76%	$ 72,634	$ 240,485	6.11%	$ 24,988	$ 82,735	36	50%	$ 4,739,295
4	Threat Behavior Modeling	Cyber Security	3683	$ 114,286	4.58%	$ 1,607	$ 5,234	17.76%	$ 6,231	$ 20,297	6.11%	$ 2,144	$ 6,983	36	50%	$ 400,000
5	Identity & Access Management :Role Base Access Management (RBAC)	Cyber Security	3683	$ 235,714	4.58%	$ 3,421	$ 10,796	17.76%	$ 13,264	$ 41,863	6.11%	$ 4,563	$ 14,402	36	50%	$ 825,000
6	Enhanced DLP Gateway and Endpoint	Cyber Security	3683	$ 319,783	4.58%	$ 4,785	$ 14,646	17.76%	$ 18,555	$ 56,793	6.11%	$ 6,384	$ 19,539	36	50%	$ 1,119,240
7	INVP 3614B7 CNI Network Security	Cyber Security	3614B7	$ 689,941	4.58%	$ 10,480	$ 31,599	17.76%	$ 40,638	$ 122,533	6.11%	$ 13,981	$ 42,155	36	50%	$ 2,414,793
8	INVP 3614E4 US CNI Security I&E	Cyber Security	3614E4	$ 172,435	4.58%	$ 2,619	$ 7,898	17.76%	$ 10,157	$ 30,624	6.11%	$ 3,494	$ 10,536	36	50%	$ 603,522
9	US CNI Intrusion Detection/Prevention Phase 1	Cyber Security	3683	$ 78,571	4.58%	$ 1,306	$ 3,599	17.76%	$ 5,065	$ 13,954	6.11%	$ 1,743	$ 4,801	36	40%	$ 220,000
10	Identity & Access Management: Fine Grain Access Management	Cyber Security	3683	$ 235,714	4.58%	$ 3,919	$ 10,796	17.76%	$ 15,195	$ 41,863	6.11%	$ 5,228	$ 14,402	36	40%	$ 660,000
11	vSig Scaling Upgrades	Cyber Security	3683	$ 142,857	4.58%	$ 2,747	$ 6,543	17.76%	$ 10,653	$ 25,371	6.11%	$ 3,665	$ 8,729	36	40%	$ 400,000
12	IT/OT Discovery and Implementation Phase 1	Cyber Security	3683	$ 785,714	4.58%	$ 15,465	$ 35,986	17.76%	$ 59,971	$ 139,543	6.11%	$ 20,632	$ 48,007	36	40%	$ 2,200,000
13	Security Research Lab	Cyber Security	3683	$ 46,429	4.58%	$ 914	$ 2,126	17.76%	$ 3,544	$ 8,246	6.11%	$ 1,219	$ 2,837	36	40%	$ 130,000
14	US CNI Security Enhancements Phase 1	Cyber Security	3683	$ 235,714	4.58%	$ 4,693	$ 10,796	17.76%	$ 18,198	$ 41,863	6.11%	$ 6,261	$ 14,402	36	40%	$ 660,000
15	Identity & Access Management: Privileged Access Management	Cyber Security	3683	$ 248,571	4.58%	$ 5,865	$ 11,385	17.76%	$ 22,742	$ 44,146	6.11%	$ 7,824	$ 15,188	36	30%	$ 522,000
16	Domain Based Security Phase 1	Cyber Security	3683	$ 114,286	4.58%	$ 2,696	$ 5,234	17.76%	$ 10,456	$ 20,297	6.11%	$ 3,597	$ 6,983	36	30%	$ 240,000
17	Security Incident Event Management Phase 4	Cyber Security	3683	$ 165,825	4.58%	$ 1,685	$ 7,595	17.76%	$ 6,535	$ 29,451	6.11%	$ 2,248	$ 10,132	36	30%	$ 379,890
18	Big Data Security Analytics Phase 1	Cyber Security	3683	$ 605,203	4.58%	$ 6,151	$ 27,718	17.76%	$ 23,852	$ 107,484	6.11%	$ 8,206	$ 36,978	36	30%	$ 1,386,466
19	US CNI Intrusion Detection/Prevention Phase 2	Cyber Security	3683	$ -	4.58%	$ 1,815	$ -	17.76%	$ 7,037	$ -	6.11%	$ 2,421	$ -	36	0%	$ -
20	Identity & Access Management: Shared Area Access Management	Cyber Security	3683	$ -	4.58%	$ 3,947	$ -	17.76%	$ 15,306	$ -	6.11%	$ 5,266	$ -	36	0%	$ -
21	Security Incident Event Management Phase 5	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
22	Domain Based Security Phase 2	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
23	Security Incident Event Management (SIEM) 6	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
24	Big Data Security Analytics - Phase 2	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
25	IT/OT Discovery and Implementation: Phase 2	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
26	US CNI Security Enhancements - Phase 2	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
27	Data Visualization	Cyber Security	3683	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
29	INVP 4045 Double Pole Mgmt DB	FY18 Plan	4045	$ 68,879	0.00%	$ -	$ -	41.93%	$ 7,855	$ 28,881	0.00%	$ -	$ -	36	50%	$ 241,077
30	INVP 4373 Contingent Labor Admin Replacement	FY18 Plan	4373	$ 35,813	4.58%	$ 446	$ 1,640	17.76%	$ 1,730	$ 6,360	6.11%	$ 595	$ 2,188	36	50%	$ 125,346
32	INVP 4188 Aging System Stabilize	FY18 Plan	4188	$ 111,816	4.83%	$ 1,495	$ 5,401	18.77%	$ 5,812	$ 20,988	6.43%	$ 1,991	$ 7,190	36	50%	$ 391,355
33	INVP 4280 US VSTIG Bandwidth Ph2	FY18 Plan	4280	$ 285,521	4.58%	$ 3,621	$ 13,077	17.76%	$ 14,041	$ 50,708	6.11%	$ 4,831	$ 17,445	36	50%	$ 999,323
34	INVP 4307 US Win 7 Refresh Ph 3	FY18 Plan	4307	$ 1,651,857	4.58%	$ 20,949	$ 75,655	17.76%	$ 81,234	$ 293,370	6.11%	$ 27,947	$ 100,928	36	50%	$ 5,781,500
35	INVP 4364 Wireless Network	FY18 Plan	4364	$ 329,137	4.58%	$ 4,174	$ 15,074	17.76%	$ 16,186	$ 58,455	6.11%	$ 5,569	$ 20,110	36	50%	$ 1,151,979
36	S005242 M112 Systemic Improvement	FY18 Plan		$ 800,000	4.58%	$ 16,819	$ 36,640	17.76%	$ 65,221	$ 142,080	6.11%	$ 22,438	$ 48,880	36	50%	$ 4,000,000
37	INVP 4289 US Network Improvement	FY18 Plan	4289	$ 139,817	4.58%	$ 1,773	$ 6,404	17.76%	$ 6,876	$ 24,831	6.11%	$ 2,366	$ 8,543	36	50%	$ 489,358
38	HANA License Costs	FY18 Plan	4649	$ 500,000	4.58%	$ 6,341	$ 22,900	17.76%	$ 24,589	$ 88,800	6.11%	$ 8,459	$ 30,550	36	50%	$ 1,750,000
39	Microsoft ELA Renewal	FY18 Plan	4642	$ 271,429	4.58%	$ 3,442	$ 12,431	17.76%	$ 13,348	$ 48,206	6.11%	$ 4,592	$ 16,584	36	50%	$ 950,000
40	Mobile Device Refresh - FY17	FY18 Plan	4671	$ 649,429	4.58%	$ 8,236	$ 29,744	17.76%	$ 31,937	$ 115,339	6.11%	$ 10,987	$ 39,680	36	50%	$ 2,273,000
41	Zscaler	FY18 Plan	4681	$ 300,000	4.58%	$ 3,805	$ 13,740	17.76%	$ 14,753	$ 53,280	6.11%	$ 5,076	$ 18,330	36	50%	$ 1,050,000
43	INVP 4631 Box Enablement	FY18 Plan	4631	$ 36,286	4.58%	$ 486	$ 1,662	17.76%	$ 1,883	$ 6,444	6.11%	$ 648	$ 2,217	36	50%	$ 127,000
44	INVP 4170 Time Transformation	FY18 Plan	4170	$ 559,571	4.58%	$ 7,488	$ 25,628	17.76%	$ 29,035	$ 99,380	6.11%	$ 9,989	$ 34,190	36	50%	$ 1,958,500
45	INVP 4420 US CNI OMS FocalPoint Infrastructure Upgrade	FY18 Plan	4420	$ 195,223	0.00%	$ -	$ -	41.93%	$ 23,915	$ 81,857	0.00%	$ -	$ -	36	50%	$ 683,282
46	INVP 4274 VSTIG Hardware Refresh	FY18 Plan	4274	$ 86,857	4.58%	$ 1,182	$ 3,978	17.76%	$ 4,583	$ 15,426	6.11%	$ 1,577	$ 5,307	36	50%	$ 304,000
47	US Video Conferencing upgrade for RW	FY18 Plan	4632	$ 190,000	4.58%	$ 2,585	$ 8,702	17.76%	$ 10,025	$ 33,744	6.11%	$ 3,449	$ 11,609	36	50%	$ 665,000
48	Hix D/C Improvement Server Refresh	FY18 Plan	4676	$ 142,857	4.58%	$ 1,976	$ 6,543	17.76%	$ 7,663	$ 25,371	6.11%	$ 2,636	$ 8,729	36	50%	$ 500,000
49	INVP 4464 Data Visualization	FY18 Plan	4464	$ 634,286	4.58%	$ 8,918	$ 29,050	17.76%	$ 34,580	$ 112,649	6.11%	$ 11,896	$ 38,755	36	50%	$ 2,220,000
50	Mobility - (MDM) Mobile Device	FY18 Plan	3430	$ 166,000	4.58%	$ 2,334	$ 7,603	17.76%	$ 9,050	$ 29,482	6.11%	$ 3,113	$ 10,143	36	50%	$ 581,000
51	Changes to ACIS for PMCC Civil Vendor Billing	FY18 Plan	4487	$ 54,571	0.00%	$ -	$ -	30.74%	$ 5,149	$ 16,775	10.99%	$ 1,841	$ 5,997	36	50%	$ 191,000
52	INVP 4461 Unix51 Interface Migration	FY18 Plan	4461	$ 198,100	4.58%	$ 2,830	$ 9,073	17.76%	$ 10,974	$ 35,183	6.11%	$ 3,775	$ 12,104	36	50%	$ 693,351
53	INVP 4287 Active Directory Upgrade	FY18 Plan	4287	$ 114,975	4.58%	$ 1,668	$ 5,266	17.76%	$ 6,470	$ 20,420	6.11%	$ 2,226	$ 7,025	36	50%	$ 402,413
54	US Control-Gas System Operating Procedure (SOP) Upgrade	FY18 Plan	4480	$ 77,429	12.44%	$ 3,052	$ 9,632	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 271,000
55	Enterprise Labs	FY18 Plan	4693	$ 95,429	4.58%	$ 1,406	$ 4,371	17.76%	$ 5,454	$ 16,948	6.11%	$ 1,876	$ 5,831	36	50%	$ 334,000
56	Cascade Electric Application Upgrade Project	FY18 Plan	3986	$ 53,571	0.00%	$ -	$ -	41.93%	$ 7,228	$ 22,463	0.00%	$ -	$ -	36	50%	$ 187,500
57	INVP 4408 Doc Mgmt Systems Replacement Delivery	FY18 Plan	4408	$ 516,792	4.61%	$ 7,666	$ 23,824	17.88%	$ 29,733	$ 92,402	6.15%	$ 10,227	$ 31,783	36	50%	$ 1,808,771
58	WIFI for Fleet Services Diagnostic Laptops	FY18 Plan	3956	$ 119,714	4.63%	$ 1,784	$ 5,543	17.94%	$ 6,911	$ 21,477	6.17%	$ 2,377	$ 7,386	36	50%	$ 419,000
59	Gas Service Database - UNY	FY18 Plan	3949	$ 46,429	100.00%	$ 15,169	$ 46,429	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 162,500
62	Gas Capital Investment Planning Tool	FY18 Plan	4466	$ 81,714	12.44%	$ 3,463	$ 10,165	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 228,800
63	Computapole Enhancements to Support Inspection Types	FY18 Plan	4462	$ 64,286	0.00%	$ -	$ -	30.74%	$ 6,831	$ 19,761	10.99%	$ 2,442	$ 7,065	36	40%	$ 180,000
64	Travel & Expense Management (T&E) and Global Master Service Provider (MSP) Strategy	FY18 Plan	4578	$ 176,000	4.58%	$ 2,786	$ 8,061	17.76%	$ 10,804	$ 31,258	6.11%	$ 3,717	$ 10,754	36	40%	$ 492,800
65	Ageing System Stabilization/Upgrades - FY 18	FY18 Plan	4389	$ 214,286	4.83%	$ 3,578	$ 10,350	18.77%	$ 13,903	$ 40,221	6.43%	$ 4,763	$ 13,779	36	40%	$ 600,000
66	INVP 3486 US MDS-Itron Enterprise Edition (IEE)	FY18 Plan	3486	$ 95,849	0.00%	$ -	$ -	30.74%	$ 10,695	$ 29,464	10.99%	$ 3,824	$ 10,534	36	40%	$ 268,377
67	INVP 4390 Plastic Fusion II	FY18 Plan	4390	$ 72,286	12.44%	$ 3,264	$ 8,992	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 202,400
68	INVP 4397 Ariba TLS and CI Update	FY18 Plan	4397	$ 146,200	4.58%	$ 3,727	$ 6,696	17.76%	$ 14,453	$ 25,965	6.11%	$ 4,972	$ 8,933	36	40%	$ 584,800
69	US Mobile Device Refresh	FY18 Plan	4395	$ 714,286	4.58%	$ 17,824	$ 32,714	17.76%	$ 69,116	$ 126,857	6.11%	$ 23,778	$ 43,643	36	40%	$ 2,000,000
70	US SAP: Infrastructure Landscape	FY18 Plan	4348	$ 657,571	4.58%	$ 10,932	$ 30,117	17.76%	$ 42,390	$ 116,785	6.11%	$ 14,583	$ 40,178	36	40%	$ 1,841,200
71	US CNI Tech Services-Network Equipment Lifecycle Replacements	FY18 Plan	4570	$ 35,714	0.00%	$ -	$ -	30.74%	$ 3,985	$ 10,979	10.99%	$ 1,425	$ 3,925	36	40%	$ 100,000
72	US CNI-EMS Lifecycle Hardware and Software Upgrade	FY18 Plan	4568	$ 1,906,857	0.00%	$ -	$ -	26.20%	$ 181,341	$ 499,597	35.42%	$ 245,157	$ 675,409	36	40%	$ 5,339,200
73	Network Transformation Completion - CEMS	FY18 Plan	4647	$ 35,714	4.58%	$ 594	$ 1,636	17.76%	$ 2,302	$ 6,343	6.11%	$ 792	$ 2,182	36	40%	$ 100,000
74	Application monitoring, Network/IDS, Operations monitoring	FY18 Plan	4677	$ 107,143	4.58%	$ 1,781	$ 4,907	17.76%	$ 6,907	$ 19,029	6.11%	$ 2,376	$ 6,546	36	40%	$ 300,000
75	Aged Printer refresh	FY18 Plan	4689	$ 7,143	4.58%	$ 119	$ 327	17.76%	$ 460	$ 1,269	6.11%	$ 158	$ 436	36	40%	$ 20,000
76	RSA Token refresh	FY18 Plan	4683	$ 28,571	4.58%	$ 475	$ 1,309	17.76%	$ 1,842	$ 5,074	6.11%	$ 634	$ 1,746	36	40%	$ 80,000
78	INVP4449 - EPA File	FY18 Plan	4449	$ 100,000	14.88%	$ 5,401	$ 14,880	40.06%	$ 14,541	$ 40,060	0.00%	$ -	$ -	36	40%	$ 280,000
79	Informatica Upgrade/Microstrategy Replacement Program	FY18 Plan	4469	$ 502,286	4.58%	$ 9,319	$ 23,005	17.76%	$ 36,136	$ 89,206	6.11%	$ 12,432	$ 30,690	36	40%	$ 1,406,400
80	Call Center Customer Contact Center/SDC Technology Upgrade Implement Solution	FY18 Plan	3932	$ 3,960,674	8.65%	$ 145,557	$ 342,625	23.28%	$ 391,699	$ 922,013	0.00%	$ -	$ -	36	40%	$ 11,089,888

Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2020

Line	Investment Name	Programs	INVP #	Bill Pool	FY20 Total Spend	In Service Date	Amortization Period	4/1/2019 4/1/2019 Balance	3/31/2020 3/31/2020 Balance	Average Balance	9.9061% Service Co Return	Year Return	Return on Accum Taxes	Total Return
81	US MDS-Energy Accounting System (EAS) migration to Wholesale Settlement Application (WSA)	FY18 Plan	4481	G186	$ 2,160,000	10/1/2018	84	$ 2,005,714	$ 1,697,143	$ 1,851,429	9.9061%	$ 183,404	$ (50,790)	$ 132,614
82	INVP 4398 Storms/ISched Upgrade	FY18 Plan	4398	G160	$ 9,955,867	12/15/2018	84	$ 9,481,778	$ 8,059,511	$ 8,770,644	9.9061%	$ 868,828	$ (243,543)	$ 625,285
84	STORMS Capital Cost Estimates	FY18 Plan	4467	G148	$ 776,000	3/1/2019	84	$ 766,762	$ 655,905	$ 711,333	9.9061%	$ 70,465	$ (18,713)	$ 51,752
86	US CNI Tech Services-Network Equipment Lifecycle Replacements	FY18 Plan	4570	G186	$ 250,000	3/31/2019	84	$ 250,000	$ 214,286	$ 232,143	9.9061%	$ 22,996	$ (4,598)	$ 18,398
87	Inventory Management Handheld Devices	FY18 Plan		G020	$ 75,000	3/31/2019	84	$ 75,000	$ 64,286	$ 69,643	9.9061%	$ 6,899	$ (1,379)	$ 5,519
88	Customer Bill Redesign	FY18 Plan	4704Q	H173	$ 2,108,147	3/31/2019	84	$ 2,108,147	$ 1,806,983	$ 1,957,565	9.9061%	$ 193,918	$ (38,776)	$ 155,142
89	INVP 3737 US CNI GMS SCADA Upgrade &	FY18 Plan	3737	C210	$ 25,930,291	3/31/2020	84	$ -	$ 25,930,291	$ 12,965,146	9.9061%	$ 1,284,338	$ -	$ 1,284,338
90	Cisco Prime	FY18 Plan	4679	G020	$ 432,000	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
91	Contractor Management Modernization	FY18 Plan	4151	G327	$ 3,750,000	10/15/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
92	Risk Management (Tx Mains & Dx Mains)	GBE- Asset Management		C210	$ 2,110,800	12/1/2017	120	$ 1,829,360	$ 1,618,280	$ 1,723,820	9.9061%	$ 170,763	$ (62,420)	$ 108,343
93	AM Program Leadership-1	GBE- Asset Management		C210	$ 277,124	3/1/2018	120	$ 247,102	$ 219,390	$ 233,246	9.9061%	$ 23,106	$ (8,307)	$ 14,798
94	Enhancements	GBE- Asset Management		C210	$ 2,660,875	12/1/2018	120	$ 2,572,179	$ 2,306,092	$ 2,439,136	9.9061%	$ 241,623	$ (68,875)	$ 172,748
95	Additional IM Modules	GBE- Asset Management		C210	$ 716,840	2/1/2019	120	$ 704,892	$ 633,208	$ 669,050	9.9061%	$ 66,277	$ (17,762)	$ 48,515
96	AM Program Leadership-2	GBE- Asset Management		C210	$ 398,676	3/1/2019	120	$ 395,354	$ 355,486	$ 375,420	9.9061%	$ 37,189	$ (10,011)	$ 27,179
97	Data Remediation, GIS Upgrade/ Migration & GIS Mobility	GBE- Asset Management		C210	$ 11,311,759	3/1/2019	120	$ 11,217,494	$ 10,086,318	$ 10,651,906	9.9061%	$ 1,055,187	$ (284,040)	$ 771,147
98	EAM-FIN Integration	GBE- Asset Management		C210	$ 1,778,102	6/1/2019	120	$ -	$ 1,629,927	$ 814,963	9.9061%	$ 80,731	$ (26,552)	$ 54,179
99	Integrity Management Integrations	GBE- Asset Management		C210	$ 1,088,112	10/1/2019	120	$ -	$ 1,033,706	$ 516,853	9.9061%	$ 51,200	$ (16,971)	$ 34,229
100	AM Program Leadership-3	GBE- Asset Management		C210	$ 408,336	3/1/2020	120	$ -	$ 404,933	$ 202,467	9.9061%	$ 20,057	$ (2,642)	$ 17,414
101	Design (GWD), Estimating (CU), & Mobility	GBE- Asset Management		C210	$ 6,649,865	9/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
102	Asset Analytics Integration	GBE- Asset Management		C210	$ -	12/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
103	GIS (GWD/CU) - PPM Integration	GBE- Asset Management		C210	$ -	12/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
104	GIS-EAM Integration	GBE- Asset Management		C210	$ 4,536,424	12/2/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
105	AM Program Leadership-4	GBE- Asset Management		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
106	Use Case No.1 - Asset Risk	GBE- Asset Management		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
107	Complex Design (CAD) & Estimating (ESW)	GBE- Asset Management		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
108	Program Learning Management-1	GBE- Business Enablement		C210	$ 117,297	3/1/2018	120	$ 104,590	$ 92,860	$ 98,725	9.9061%	$ 9,780	$ (3,516)	$ 6,264
109	Program Transformational Change Office-1	GBE- Business Enablement		C210	$ 689,043	3/1/2018	120	$ 614,397	$ 545,492	$ 579,944	9.9061%	$ 57,450	$ (20,656)	$ 36,794
110	Program Business Sustainment-1	GBE- Business Enablement		C210	$ 69,617	3/1/2019	120	$ 69,037	$ 62,075	$ 65,556	9.9061%	$ 6,494	$ (1,748)	$ 4,746
111	Program Learning Management-2	GBE- Business Enablement		C210	$ 130,211	3/1/2019	120	$ 129,126	$ 116,105	$ 122,615	9.9061%	$ 12,146	$ (3,270)	$ 8,877
112	Program Transformational Change Office -2	GBE- Business Enablement		C210	$ 1,516,310	3/1/2019	120	$ 1,503,674	$ 1,352,043	$ 1,427,858	9.9061%	$ 141,445	$ (38,075)	$ 103,370
113	Program Learning Management-3	GBE- Business Enablement		C210	$ 173,060	3/1/2020	120	$ -	$ 171,618	$ 85,809	9.9061%	$ 8,500	$ (1,120)	$ 7,381
114	Program Transformational Change Office-3	GBE- Business Enablement		C210	$ 368,704	3/1/2020	120	$ -	$ 365,632	$ 182,816	9.9061%	$ 18,110	$ (2,386)	$ 15,724
115	Program Business Sustainment-2	GBE- Business Enablement		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
116	Program Learning Management-4	GBE- Business Enablement		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
117	Program Transformational Change Office-4	GBE- Business Enablement		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
118	Customer Experience Program Leadership-1	GBE- Customer Engagement		C210	$ 260,229	3/1/2019	120	$ 258,060	$ 232,038	$ 245,049	9.9061%	$ 24,275	$ (6,534)	$ 17,740
119	CxT Portal & Channel Management	GBE- Customer Engagement		C210	$ 11,875,000	6/1/2019	120	$ -	$ 10,885,417	$ 5,442,708	9.9061%	$ 539,159	$ (177,329)	$ 361,830
120	Customer Interaction - First Release	GBE- Customer Engagement		C210	$ 4,796,546	10/1/2019	120	$ -	$ 4,556,718	$ 2,278,359	9.9061%	$ 225,696	$ (74,810)	$ 150,886
121	Employee Support Interaction - First Release	GBE- Customer Engagement		C210	$ 7,954,131	10/1/2019	120	$ -	$ 7,556,424	$ 3,778,212	9.9061%	$ 374,273	$ (124,058)	$ 250,215
122	Customer Experience Program Leadership-2	GBE- Customer Engagement		C210	$ 266,277	3/1/2020	120	$ -	$ 264,058	$ 132,029	9.9061%	$ 13,079	$ (1,723)	$ 11,356
123	CRM / Contact Center	GBE- Customer Engagement		C210	$ 19,000,000	6/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
124	Large Commercial & Landlord Interaction	GBE- Customer Engagement		C210	$ 35,376	7/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
125	Employee Support Interaction - Second Release	GBE- Customer Engagement		C210	$ -	7/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
126	Customer Interaction - Second Release	GBE- Customer Engagement		C210	$ -	1/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
127	Customer Experience Program Leadership-3	GBE- Customer Engagement		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
128	Data Management Implementation (Quality & Cleansing)	GBE- Data Management		C210	$ 11,100,000	12/1/2017	120	$ 9,620,000	$ 8,510,000	$ 9,065,000	9.9061%	$ 897,987	$ (328,247)	$ 569,739
129	Data Management & Governance Program Leadership-1	GBE- Data Management		C210	$ 58,890	3/1/2018	120	$ 52,510	$ 46,621	$ 49,566	9.9061%	$ 4,910	$ (1,765)	$ 3,145
130	Enable the Data Archive Process	GBE- Data Management		C210	$ 2,179,480	3/1/2019	120	$ 2,161,318	$ 1,943,370	$ 2,052,344	9.9061%	$ 203,307	$ (54,727)	$ 148,580
131	Data Management & Governance Program Leadership-2	GBE- Data Management		C210	$ 87,954	3/1/2019	120	$ 87,221	$ 78,426	$ 82,823	9.9061%	$ 8,205	$ (2,209)	$ 5,996
132	Data Management & Governance Program Leadership-3	GBE- Data Management		C210	$ 89,713	3/1/2020	120	$ -	$ 88,965	$ 44,483	9.9061%	$ 4,406	$ (580)	$ 3,826
133	PowerPlan Architecture Enhancements	GBE- Information Services Enabling		C210	$ 6,080,111	11/1/2017	120	$ 5,218,762	$ 4,610,751	$ 4,914,756	9.9061%	$ 486,860	$ (177,782)	$ 309,078
134	Comprehensive Integration Services (Enhancements)	GBE- Information Services Enabling		C210	$ 78,624	12/1/2017	120	$ 68,141	$ 60,278	$ 64,210	9.9061%	$ 6,361	$ (2,325)	$ 4,036
135	Application (Environment) Infrastructure	GBE- Information Services Enabling		C210	$ 2,174,410	12/1/2017	120	$ 1,884,489	$ 1,667,048	$ 1,775,768	9.9061%	$ 175,909	$ (64,301)	$ 111,608
136	Development Operations & BPA Enablement-1	GBE- Information Services Enabling		C210	$ 2,903,920	3/1/2018	120	$ 2,589,329	$ 2,298,937	$ 2,444,133	9.9061%	$ 242,118	$ (87,052)	$ 155,066
137	SAP and Application Integration Development- Release 1-1	GBE- Information Services Enabling		C210	$ 4,765,187	3/1/2018	120	$ 4,248,958	$ 3,772,440	$ 4,010,699	9.9061%	$ 397,303	$ (142,848)	$ 254,455
138	Mobility CoE & End-User Computing-1	GBE- Information Services Enabling		C210	$ 604,790	3/1/2018	120	$ 539,271	$ 478,792	$ 509,032	9.9061%	$ 50,425	$ (18,130)	$ 32,295
139	Operations/System Monitoring	GBE- Information Services Enabling		C210	$ 1,057,768	8/1/2018	120	$ 987,251	$ 881,474	$ 934,362	9.9061%	$ 92,559	$ (25,976)	$ 66,583
140	Development Operations & BPA Enablement-2	GBE- Information Services Enabling		C210	$ 2,562,011	3/1/2019	120	$ 2,540,661	$ 2,284,460	$ 2,412,560	9.9061%	$ 238,990	$ (64,332)	$ 174,658
141	SAP and Application Integration Development- Release 1-2	GBE- Information Services Enabling		C210	$ 4,548,168	3/1/2019	120	$ 4,510,266	$ 4,055,449	$ 4,282,858	9.9061%	$ 424,264	$ (114,205)	$ 310,059
142	SAP and Application Integration Development- Release 2-1	GBE- Information Services Enabling		C210	$ 5,055,712	3/1/2019	120	$ 5,013,581	$ 4,508,009	$ 4,760,795	9.9061%	$ 471,608	$ (126,950)	$ 344,659
143	Mobility CoE & End-User Computing-2	GBE- Information Services Enabling		C210	$ 920,536	3/1/2019	120	$ 912,865	$ 820,811	$ 866,838	9.9061%	$ 85,870	$ (23,115)	$ 62,755
144	Development Operations & BPA Enablement-3	GBE- Information Services Enabling		C210	$ 2,164,144	3/1/2020	120	$ -	$ 2,146,110	$ 1,073,055	9.9061%	$ 106,298	$ (14,003)	$ 92,295
145	SAP and Application Integration Development- Release 1-3	GBE- Information Services Enabling		C210	$ 600,000	3/1/2020	120	$ -	$ 595,000	$ 297,500	9.9061%	$ 29,471	$ (3,882)	$ 25,588
146	SAP and Application Integration Development- Release 2-2	GBE- Information Services Enabling		C210	$ 4,397,065	3/1/2020	120	$ -	$ 4,360,423	$ 2,180,211	9.9061%	$ 215,974	$ (28,451)	$ 187,522
147	SAP and Application Integration Development- Release 3-1	GBE- Information Services Enabling		C210	$ 85,915	3/1/2020	120	$ -	$ 85,199	$ 42,599	9.9061%	$ 4,220	$ (556)	$ 3,664
148	Mobility CoE & End-User Computing-3	GBE- Information Services Enabling		C210	$ 1,031,843	3/1/2020	120	$ -	$ 1,023,244	$ 511,622	9.9061%	$ 50,682	$ (6,677)	$ 44,005
149	Test Automation Implementation	GBE- Information Services Enabling		C210	$ 2,289,034	12/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
150	Development Operations & BPA Enablement-4	GBE- Information Services Enabling		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
151	SAP and Application Integration Development- Release 1-4	GBE- Information Services Enabling		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
152	SAP and Application Integration Development- Release 3-2	GBE- Information Services Enabling		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
153	Mobility CoE & End-User Computing-4	GBE- Information Services Enabling		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
154	Portfolio Management Leadership-1	GBE- Portfolio Office		C210	$ 1,645,919	3/1/2018	120	$ 1,467,611	$ 1,303,019	$ 1,385,315	9.9061%	$ 137,231	$ (49,340)	$ 87,890
155	Solution Architects & Agile Coaches-1	GBE- Portfolio Office		C210	$ 1,958,277	3/1/2018	120	$ 1,746,130	$ 1,550,303	$ 1,648,217	9.9061%	$ 163,274	$ (58,704)	$ 104,570
156	Portfolio Management Leadership-2	GBE- Portfolio Office		C210	$ 2,144,482	3/1/2019	120	$ 2,126,611	$ 1,912,163	$ 2,019,387	9.9061%	$ 200,042	$ (53,848)	$ 146,194

Exhibit_____(RRP-11CU)
Workpapers to Exhibit RRP-3CU
Schedule 9
Workpaper 6
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Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2020

Line	Investment Name	Programs	INVP #	Year Amortization	5210G NIMO G Allocation	NIMO G Rent-Return	NIMO G Rent - Depn	5210E NIMO E Allocation	NIMO E Rent-Return	NIMO E Rent - Depn	5210T NIMO T Allocation	NIMO T Rent-Return	NIMO T Rent - Depn	Amortization Period	Bonus Rate	Bonus Depreciation
81	US MDS-Energy Accounting System (EAS) migration to Wholesale Settlement Application (WSA)	FY18 Plan	4481	$ 308,571	0.00%	$ -	$ -	30.74%	$ 40,765	$ 94,855	10.99%	$ 14,574	$ 33,912	36	40%	$ 864,000
82	INVP 4398 Storms/ISched Upgrade	FY18 Plan	4398	$ 1,422,267	7.15%	$ 44,708	$ 101,692	27.24%	$ 170,328	$ 387,425	9.63%	$ 60,215	$ 136,964	36	40%	$ 3,982,347
84	STORMS Capital Cost Estimates	FY18 Plan	4467	$ 110,857	4.83%	$ 2,500	$ 5,354	18.77%	$ 9,714	$ 20,808	6.43%	$ 3,328	$ 7,128	36	30%	$ 232,800
86	US CNI Tech Services-Network Equipment Lifecycle Replacements	FY18 Plan	4570	$ 35,714	0.00%	$ -	$ -	30.74%	$ 5,656	$ 10,979	10.99%	$ 2,022	$ 3,925	36	30%	$ 75,000
87	Inventory Management Handheld Devices	FY18 Plan	-	$ 10,714	4.58%	$ 253	$ 491	17.76%	$ 980	$ 1,903	6.11%	$ 337	$ 655	36	30%	$ 22,500
88	Customer Bill Redesign	FY18 Plan	4704Q	$ 301,164	7.07%	$ 10,969	$ 21,292	19.12%	$ 29,663	$ 57,583	0.00%	$ -	$ -	36	30%	$ 632,444
89	INVP 3737 US CNI GMS SCADA Upgrade &	FY18 Plan	3737	$ -	16.89%	$ 216,925	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
90	Cisco Prime	FY18 Plan	4679	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
91	Contractor Management Modernization	FY18 Plan	4151	$ -	4.82%	$ -	$ -	18.70%	$ -	$ -	6.41%	$ -	$ -	36	0%	$ -
92	Risk Management (Tx Mains & Dx Mains)	GBE- Asset Management		$ 211,080	16.89%	$ 18,299	$ 35,651	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 1,055,400
93	AM Program Leadership-1	GBE- Asset Management		$ 27,712	16.89%	$ 2,499	$ 4,681	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 110,850
94	Enhancements	GBE- Asset Management		$ 266,088	16.89%	$ 29,177	$ 44,942	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 1,064,350
95	Additional IM Modules	GBE- Asset Management		$ 71,684	16.89%	$ 8,194	$ 12,107	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 215,052
96	AM Program Leadership-2	GBE- Asset Management		$ 39,868	16.89%	$ 4,590	$ 6,734	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 119,603
97	Data Remediation, GIS Upgrade/ Migration & GIS Mobility	GBE- Asset Management		$ 1,131,176	16.89%	$ 130,247	$ 191,056	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 3,393,528
98	EAM-FIN Integration	GBE- Asset Management		$ 148,175	16.89%	$ 9,151	$ 25,027	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 533,431
99	Integrity Management Integrations	GBE- Asset Management		$ 54,406	16.89%	$ 5,781	$ 9,189	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 326,433
100	AM Program Leadership-3	GBE- Asset Management		$ 3,403	16.89%	$ 2,941	$ 575	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
101	Design (GWD), Estimating (CU), & Mobility	GBE- Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
102	Asset Analytics Integration	GBE- Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
103	GIS (GWD/CU) - PPM Integration	GBE- Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
104	GIS-EAM Integration	GBE- Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
105	AM Program Leadership-4	GBE- Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
106	Use Case No.1 - Asset Risk	GBE- Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
107	Complex Design (CAD) & Estimating (ESW)	GBE- Asset Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
108	Program Learning Management-1	GBE- Business Enablement		$ 11,730	16.89%	$ 1,058	$ 1,981	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 46,919
109	Program Transformational Change Office-1	GBE- Business Enablement		$ 68,904	16.89%	$ 6,215	$ 11,638	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 275,617
110	Program Business Sustainment-1	GBE- Business Enablement		$ 6,962	16.89%	$ 802	$ 1,176	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 20,885
111	Program Learning Management-2	GBE- Business Enablement		$ 13,021	16.89%	$ 1,499	$ 2,199	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 39,063
112	Program Transformational Change Office -2	GBE- Business Enablement		$ 151,631	16.89%	$ 17,459	$ 25,610	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 454,893
113	Program Learning Management-3	GBE- Business Enablement		$ 1,442	16.89%	$ 1,247	$ 244	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
114	Program Transformational Change Office-3	GBE- Business Enablement		$ 3,073	16.89%	$ 2,656	$ 519	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
115	Program Business Sustainment-2	GBE- Business Enablement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
116	Program Learning Management-4	GBE- Business Enablement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
117	Program Transformational Change Office-4	GBE- Business Enablement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
118	Customer Experience Program Leadership-1	GBE- Customer Engagement		$ 26,023	16.89%	$ 2,996	$ 4,395	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 78,069
119	CxT Portal & Channel Management	GBE- Customer Engagement		$ 989,583	16.89%	$ 61,113	$ 167,141	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 3,562,500
120	Customer Interaction - First Release	GBE- Customer Engagement		$ 239,827	16.89%	$ 25,485	$ 40,507	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 1,438,964
121	Employee Support Interaction - First Release	GBE- Customer Engagement		$ 397,707	16.89%	$ 42,261	$ 67,173	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 2,386,239
122	Customer Experience Program Leadership-2	GBE- Customer Engagement		$ 2,219	16.89%	$ 1,918	$ 375	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
123	CRM / Contact Center	GBE- Customer Engagement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
124	Large Commercial & Landlord Interaction	GBE- Customer Engagement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
125	Employee Support Interaction - Second Release	GBE- Customer Engagement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
126	Customer Interaction - Second Release	GBE- Customer Engagement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
127	Customer Experience Program Leadership-3	GBE- Customer Engagement		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
128	Data Management Implementation (Quality & Cleansing)	GBE- Data Management		$ 1,110,000	16.89%	$ 96,229	$ 187,479	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 5,550,000
129	Data Management & Governance Program Leadership-1	GBE- Data Management		$ 5,889	16.89%	$ 531	$ 995	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 23,556
130	Enable the Data Archive Process	GBE- Data Management		$ 217,948	16.89%	$ 25,095	$ 36,811	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 653,844
131	Data Management & Governance Program Leadership-2	GBE- Data Management		$ 8,795	16.89%	$ 1,013	$ 1,486	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 26,386
132	Data Management & Governance Program Leadership-3	GBE- Data Management		$ 748	16.89%	$ 646	$ 126	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
133	PowerPlan Architecture Enhancements	GBE- Information Services Enabling		$ 608,011	16.89%	$ 52,203	$ 102,693	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 3,040,055
134	Comprehensive Integration Services (Enhancements)	GBE- Information Services Enabling		$ 7,862	16.89%	$ 682	$ 1,328	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 39,312
135	Application (Environment) Infrastructure	GBE- Information Services Enabling		$ 217,441	16.89%	$ 18,851	$ 36,726	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 1,087,205
136	Development Operations & BPA Enablement-1	GBE- Information Services Enabling		$ 290,392	16.89%	$ 26,191	$ 49,047	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 1,161,568
137	SAP and Application Integration Development- Release 1-1	GBE- Information Services Enabling		$ 476,519	16.89%	$ 42,977	$ 80,484	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 1,906,075
138	Mobility CoE & End-User Computing-1	GBE- Information Services Enabling		$ 60,479	16.89%	$ 5,455	$ 10,215	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 241,916
139	Operations/System Monitoring	GBE- Information Services Enabling		$ 105,777	16.89%	$ 11,246	$ 17,866	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 423,107
140	Development Operations & BPA Enablement-2	GBE- Information Services Enabling		$ 256,201	16.89%	$ 29,500	$ 43,272	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 768,603
141	SAP and Application Integration Development- Release 1-2	GBE- Information Services Enabling		$ 454,817	16.89%	$ 52,369	$ 76,819	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 1,364,450
142	SAP and Application Integration Development- Release 2-1	GBE- Information Services Enabling		$ 505,571	16.89%	$ 58,213	$ 85,391	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 1,516,713
143	Mobility CoE & End-User Computing-2	GBE- Information Services Enabling		$ 92,054	16.89%	$ 10,599	$ 15,548	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 276,161
144	Development Operations & BPA Enablement-3	GBE- Information Services Enabling		$ 18,035	16.89%	$ 15,589	$ 3,046	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
145	SAP and Application Integration Development- Release 1-3	GBE- Information Services Enabling		$ 5,000	16.89%	$ 4,322	$ 845	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
146	SAP and Application Integration Development- Release 2-2	GBE- Information Services Enabling		$ 36,642	16.89%	$ 31,673	$ 6,189	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
147	SAP and Application Integration Development- Release 3-1	GBE- Information Services Enabling		$ 716	16.89%	$ 619	$ 121	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
148	Mobility CoE & End-User Computing-3	GBE- Information Services Enabling		$ 8,599	16.89%	$ 7,432	$ 1,452	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
149	Test Automation Implementation	GBE- Information Services Enabling		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
150	Development Operations & BPA Enablement-4	GBE- Information Services Enabling		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
151	SAP and Application Integration Development- Release 1-4	GBE- Information Services Enabling		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
152	SAP and Application Integration Development- Release 3-2	GBE- Information Services Enabling		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
153	Mobility CoE & End-User Computing-4	GBE- Information Services Enabling		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
154	Portfolio Management Leadership-1	GBE- Portfolio Office		$ 164,592	16.89%	$ 14,845	$ 27,800	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 658,368
155	Solution Architects & Agile Coaches-1	GBE- Portfolio Office		$ 195,828	16.89%	$ 17,662	$ 33,075	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 783,311
156	Portfolio Management Leadership-2	GBE- Portfolio Office		$ 214,448	16.89%	$ 24,692	$ 36,220	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 643,345

Exhibit_____(RRP-11CU)
Workpapers to Exhibit RRP-3CU
Schedule 9
Workpaper 6
Page 5 of 8

Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2020

Line	Investment Name	Programs	INVP #	Bill Pool	FY20 Total Spend	In Service Date	Amortization Period	4/1/2019 4/1/2019 Balance	3/31/2020 3/31/2020 Balance	Average Balance	9.9061% Service Co Return	Year Return	Return on Accum Taxes	Total Return
157	Solution Architects & Agile Coaches-2	GBE- Portfolio Office		C210	$ 3,964,632	3/1/2019	120	$ 3,931,593	$ 3,535,130	$ 3,733,362	9.9061%	$ 369,830	$ (99,552)	$ 270,278
158	Portfolio Management Leadership-3	GBE- Portfolio Office		C210	$ 2,161,221	3/1/2020	120	$ -	$ 2,143,211	$ 1,071,605	9.9061%	$ 106,154	$ (13,984)	$ 92,170
159	Solution Architects & Agile Coaches-3	GBE- Portfolio Office		C210	$ 2,824,290	3/1/2020	120	$ -	$ 2,800,755	$ 1,400,377	9.9061%	$ 138,723	$ (18,275)	$ 120,448
160	Portfolio Management Leadership-4	GBE- Portfolio Office		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
161	Regulatory/ Compliance	GBE- Regulatory and Compliance		C210	$ 3,000,000	9/1/2019	120	$ -	$ 2,825,000	$ 1,412,500	9.9061%	$ 139,923	$ (46,292)	$ 93,631
162	Supply Chain Program Leadership	GBE- Supply Chain		C210	$ 565,045	3/1/2019	120	$ 560,336	$ 503,832	$ 532,084	9.9061%	$ 52,709	$ (14,188)	$ 38,520
163	Supply Chain Program Leadership	GBE- Supply Chain		C210	$ 235,258	3/1/2020	120	$ -	$ 233,298	$ 116,649	9.9061%	$ 11,555	$ (1,522)	$ 10,033
164	Business Architecture Design	GBE- Work Management		C210	$ 3,004,085	12/1/2017	120	$ 2,603,540	$ 2,303,132	$ 2,453,336	9.9061%	$ 243,030	$ (88,836)	$ 154,193
165	WMFE Program Leadership-1	GBE- Work Management		C210	$ 234,013	3/1/2018	120	$ 208,662	$ 185,260	$ 196,961	9.9061%	$ 19,511	$ (7,015)	$ 12,496
166	Corrosion and I&R Work	GBE- Work Management		C210	$ 26,479,653	7/1/2018	120	$ 24,493,679	$ 21,845,714	$ 23,169,696	9.9061%	$ 2,295,210	$ (641,475)	$ 1,653,735
167	CU Governance & Library - process	GBE- Work Management		C210	$ 1,658,439	11/1/2018	120	$ 1,589,337	$ 1,423,494	$ 1,506,415	9.9061%	$ 149,227	$ (42,377)	$ 106,849
168	WMFE Program Leadership-2	GBE- Work Management		C210	$ 563,692	3/1/2019	120	$ 558,995	$ 502,625	$ 530,810	9.9061%	$ 52,582	$ (14,154)	$ 38,428
169	Company Driven Work: Collections and non-Appointment Offs - Gas	GBE- Work Management		C210	$ 5,310,645	10/1/2019	120	$ -	$ 5,045,113	$ 2,522,556	9.9061%	$ 249,887	$ (82,828)	$ 167,058
170	Company Driven Work: Collections and non-Appointment Offs- Electric	GBE- Work Management		C198	$ 2,859,577	10/1/2019	120	$ -	$ 2,716,598	$ 1,358,299	9.9061%	$ 134,554	$ (44,600)	$ 89,954
171	Customer, Leak Investigation & Inspections - Gas	GBE- Work Management		C210	$ 20,374,438	10/1/2019	120	$ -	$ 19,355,716	$ 9,677,858	9.9061%	$ 958,697	$ (317,773)	$ 640,924
172	Customer, Leak Investigation & Inspections - Electric	GBE- Work Management		C198	$ 10,970,850	10/1/2019	120	$ -	$ 10,422,308	$ 5,211,154	9.9061%	$ 516,221	$ (171,109)	$ 345,113
173	WMFE Program Leadership-3	GBE- Work Management		C210	$ 595,004	3/1/2020	120	$ -	$ 590,046	$ 295,023	9.9061%	$ 29,225	$ (3,850)	$ 25,375
174	PowerPlan Integration & Enhancements	GBE- Work Management		C210	$ 915,441	6/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
175	Construction Work & Leak Repair	GBE- Work Management		C210	$ 9,000,148	9/1/2020	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
176	WMFE Program Leadership-4	GBE- Work Management		C210	$ -	3/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
177	Work Forecasting & Planning - solution	GBE- Work Management		C210	$ -	5/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
178	Core Projects & Program Management	GBE- Work Management		C210	$ -	6/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
179	WMFE Optimization	GBE- Work Management		C210	$ 346,828	3/1/2022	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
180	Customer Experience Transformation-Communication Preference Management	Growth Play Book-CXT	4426	C175	$ 2,000,000	3/31/2019	84	$ 2,000,000	$ 1,714,286	$ 1,857,143	9.9061%	$ 183,970	$ (36,787)	$ 147,184
181	Customer Experience Transformation-MyAccount Portal	Growth Play Book-CXT	4427	C175	$ 8,500,000	6/1/2019	84	$ -	$ 7,488,095	$ 3,744,048	9.9061%	$ 370,889	$ (120,886)	$ 250,003
182	Governance Risk & Compliance (GRC) Optimization/Upgrade	Growth Play Book-Finance	4222	G020	$ 1,540,000	3/1/2019	84	$ 1,521,667	$ 1,301,667	$ 1,411,667	9.9061%	$ 139,841	$ (37,136)	$ 102,704
183	US SAP: Business Planning	Growth Play Book-Finance	4217	G020	$ 4,643,000	3/31/2019	84	$ 4,643,000	$ 3,979,714	$ 4,311,357	9.9061%	$ 427,087	$ (85,400)	$ 341,687
184	US SAP: FERC on Hana (FOH)	Growth Play Book-Finance	4563	G020	$ 1,315,000	3/31/2019	84	$ 1,315,000	$ 1,127,143	$ 1,221,071	9.9061%	$ 120,960	$ (24,187)	$ 96,773
185	DRMS for C&I Demand Response	NY REV / Grid Mod		5210E	$ 3,429,633	5/1/2017	36	$ 1,238,479	$ 95,268	$ 666,873	9.9061%	$ 66,061	$ (16,440)	$ 49,621
186	Load and DER Forecasting (Acquisition of Remote Sensing Data - NY)	NY REV / Grid Mod	4729	C113	$ 8,632,000	3/31/2018	84	$ 7,398,857	$ 6,165,714	$ 6,782,286	9.9061%	$ 671,859	$ (224,259)	$ 447,600
187	Plant Information Historian	NY REV / Grid Mod	4704K	G198	$ 11,427,818	9/30/2018	84	$ 10,611,545	$ 8,979,000	$ 9,795,272	9.9061%	$ 970,328	$ (268,715)	$ 701,613
188	DG IOAP Phase II (Tactical)	NY REV / Grid Mod	4704P	5210E	$ 1,764,000	3/31/2019	84	$ 1,764,000	$ 1,512,000	$ 1,638,000	9.9061%	$ 162,262	$ (32,446)	$ 129,816
189	E-Commerce Marketplace	NY REV / Grid Mod	4704D	5210E	$ 915,837	3/31/2019	84	$ 915,837	$ 785,003	$ 850,420	9.9061%	$ 84,243	$ (16,845)	$ 67,398
190	AMI - Telecoms	NY REV / Grid Mod	4704I	5210E	$ 1,580,151	3/31/2019	84	$ 1,580,151	$ 1,354,415	$ 1,467,283	9.9061%	$ 145,350	$ (29,064)	$ 116,286
191	AMI - CSS Enhancements	NY REV / Grid Mod	4704A	C113	$ 8,075,538	3/31/2020	84	$ -	$ 8,075,538	$ 4,037,769	9.9061%	$ 399,985	$ -	$ 399,985
192	Green Button Connect	NY REV / Grid Mod	4704C	C113	$ 3,072,759	3/31/2020	84	$ -	$ 3,072,759	$ 1,536,380	9.9061%	$ 152,195	$ -	$ 152,195
193	DSP - DG IOAP	NY REV / Grid Mod	4704F	5210E	$ 14,835,271	3/31/2020	84	$ -	$ 14,835,271	$ 7,417,636	9.9061%	$ 734,797	$ -	$ 734,797
194	AMI - Telecoms	NY REV / Grid Mod	4704I	5210E	$ 1,409,719	3/31/2020	84	$ -	$ 1,409,719	$ 704,860	9.9061%	$ 69,824	$ -	$ 69,824
195	Outdoor Lighting Inventory Portal	NY REV / Grid Mod	4704O	5210E	$ 1,600,000	3/31/2020	84	$ -	$ 1,600,000	$ 800,000	9.9061%	$ 79,249	$ -	$ 79,249
196	DRMS for C&I Demand Response (Renewal)	NY REV / Grid Mod		5210E	$ -	5/1/2020	12	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
197	Grid MOD - ABB/ADMS & D-SCADA	NY REV / Grid Mod	4704G	5210E	$ 22,311,797	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
198	AMI - Telecoms	NY REV / Grid Mod	4704I	5210E	$ -	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
199	AMI - Enterprise Service Bus & API Integration	NY REV / Grid Mod	4704J	C113	$ 4,455,614	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
200	AMI - Enterprise Service Bus & API Integration	NY REV / Grid Mod	4704J	5210E	$ 9,917,333	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
201	AMI - Info Mgt & Advanced Analytics	NY REV / Grid Mod	4704L	C113	$ 2,729,722	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
202	AMI - Info Mgt & Advanced Analytics	NY REV / Grid Mod	4704L	5210E	$ 13,327,464	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
203	IS-Cloud Computing & Data Lake	NY REV / Grid Mod	4704M	C113	$ 744,430	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
204	IS-Cloud Computing & Data Lake	NY REV / Grid Mod	4704M	5210E	$ 3,634,571	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
205	Cyber Security	NY REV / Grid Mod	4704N	C113	$ 9,709,632	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
206	Cyber Security	NY REV / Grid Mod	4704N	5210E	$ 14,564,448	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
207	Residential Solar Marketplace	NY REV / Grid Mod		5210E	$ 54,350	3/31/2018	36	$ 36,233	$ 18,117	$ 27,175	9.9061%	$ 2,692	$ (794)	$ 1,898
208	INVP 3882 NYS Pipeline Safety CMS	Other Mandates	3882	G207	$ 1,308,000	3/17/2017	84	$ 918,714	$ 731,857	$ 825,286	9.9061%	$ 81,754	$ (30,935)	$ 50,818
209	INVP 3851 Consolidated Voice Recorder for US Electric Control Rooms	Other Mandates	3851	G181	$ 1,234,000	3/31/2017	84	$ 881,429	$ 705,143	$ 793,286	9.9061%	$ 78,584	$ (29,770)	$ 48,814
210	Annual HR & Payroll Mandatory Service Pack Upgrade (HRSP) - FY18	Other Mandates	4400	G020	$ 1,126,000	12/31/2017	84	$ 924,929	$ 764,071	$ 844,500	9.9061%	$ 83,657	$ (30,309)	$ 53,348
211	Regulatory Mandates - FY18	Other Mandates		G020	$ 5,071,622	3/31/2018	84	$ 4,347,105	$ 3,622,587	$ 3,984,846	9.9061%	$ 394,742	$ (131,760)	$ 262,982
212	US Control-Gas Electronic Bulletin Board (EBB) Upgrade	Other Mandates	4479	G210	$ 3,000,000	5/1/2018	84	$ 2,607,143	$ 2,178,571	$ 2,392,857	9.9061%	$ 237,038	$ (63,431)	$ 173,607
213	Regulatory Mandates - FY19	Other Mandates		G020	$ 18,595,000	3/31/2019	84	$ 18,595,000	$ 15,938,571	$ 17,266,786	9.9061%	$ 1,710,463	$ (342,023)	$ 1,368,440
214	Regulatory Mandates - FY20	Other Mandates		G020	$ 20,000,000	3/31/2020	84	$ -	$ 20,000,000	$ 10,000,000	9.9061%	$ 990,609	$ -	$ 990,609
215	Regulatory Mandates - FY21	Other Mandates		G020	$ -	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
218	Physical Security Replacements - FY17	Physical Security		G423	$ 165,620	3/31/2017	84	$ 118,300	$ 94,640	$ 106,470	9.9061%	$ 10,547	$ (3,996)	$ 6,551
219	Physical Security Replacements - FY18	Physical Security		G020	$ 950,000	3/31/2018	84	$ 814,286	$ 678,571	$ 746,429	9.9061%	$ 73,942	$ (24,681)	$ 49,261
222	Physical Security Replacements - FY18	Physical Security		G423	$ 35,000	3/31/2018	84	$ 30,000	$ 25,000	$ 27,500	9.9061%	$ 2,724	$ (909)	$ 1,815
223	Physical Security Replacements - FY19	Physical Security		G020	$ 825,000	3/31/2019	84	$ 825,000	$ 707,143	$ 766,071	9.9061%	$ 75,888	$ (15,174)	$ 60,713
226	Physical Security Replacements - FY19	Physical Security		G423	$ 55,000	3/31/2019	84	$ 55,000	$ 47,143	$ 51,071	9.9061%	$ 5,059	$ (1,012)	$ 4,048
227	Physical Security Replacements - FY20	Physical Security		G020	$ 835,000	3/31/2020	84	$ -	$ 835,000	$ 417,500	9.9061%	$ 41,358	$ -	$ 41,358
230	Physical Security Replacements - FY20	Physical Security		G423	$ 65,000	3/31/2020	84	$ -	$ 65,000	$ 32,500	9.9061%	$ 3,219	$ -	$ 3,219
231	Physical Security Replacements - FY21	Physical Security		G020	$ -	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
236	INVP 4347 NYC Leave on for Landlord Program	PSC Mandate	4347	5220G	$ 870,095	7/31/2017	84	$ 662,930	$ 538,630	$ 600,780	9.9061%	$ 59,514	$ (21,358)	$ 38,156
237	INVP 4124 Auto Remote Net Meter	PSC Mandate	4124	C198	$ 3,584,165	8/31/2017	84	$ 2,773,461	$ 2,261,438	$ 2,517,449	9.9061%	$ 249,381	$ (89,678)	$ 159,702
238	INVP 3839A NY Retail Access Ph2	PSC Mandate	3839A	C170	$ 5,356,231	10/31/2017	84	$ 4,272,232	$ 3,507,056	$ 3,889,644	9.9061%	$ 385,312	$ (139,095)	$ 246,216
239	INVP 4411AB Distributed Generation Portal	PSC Mandate	4411A+B	C198	$ 3,347,611	11/30/2017	84	$ 2,709,971	$ 2,231,740	$ 2,470,856	9.9061%	$ 244,765	$ (88,521)	$ 156,244
241	INVP 4448 Low Income Order CRIS	PSC Mandate	4448	5220G	$ 2,207,590	12/31/2017	84	$ 1,813,378	$ 1,498,008	$ 1,655,693	9.9061%	$ 164,014	$ (59,422)	$ 104,593
242	INVP 4448 Low Income Order CSS	PSC Mandate	4448	C195	$ 2,489,410	12/31/2017	84	$ 2,044,873	$ 1,689,243	$ 1,867,058	9.9061%	$ 184,952	$ (67,007)	$ 117,945
243	INVP 4411C New Electric Connections	PSC Mandate	4411C	C198	$ 698,000	4/30/2018	84	$ 606,595	$ 506,881	$ 556,738	9.9061%	$ 55,151	$ (14,758)	$ 40,393
244	INVP 4411D New Gas Connections	PSC Mandate	4411D	C210	$ 896,000	10/31/2018	84	$ 842,667	$ 714,667	$ 778,667	9.9061%	$ 77,135	$ (21,493)	$ 55,642
245	CPE Buyback	Tech. Modernization	4684	G020	$ 5,140,000	3/31/2017	84	$ 3,671,429	$ 2,937,143	$ 3,304,286	9.9061%	$ 327,325	$ (124,001)	$ 203,324
246	Active Directory Improvements	Tech. Modernization	4489	G020	$ 275,000	11/30/2017	84	$ 222,619	$ 183,333	$ 202,976	9.9061%	$ 20,107	$ (7,272)	$ 12,835
247	Application Performance Management (APM)	Tech. Modernization	4490	G020	$ 375,000	1/31/2018	84	$ 312,500	$ 258,929	$ 285,714	9.9061%	$ 28,303	$ (10,050)	$ 18,253
248	RAS/VPN Re-Platform/Mobile	Tech. Modernization	4269	G020	$ 600,000	3/16/2018	84	$ 507,143	$ 421,429	$ 464,286	9.9061%	$ 45,993	$ (16,365)	$ 29,627
249	US Network Programme	Tech. Modernization	4496	G020	$ 3,025,000	3/31/2018	84	$ 2,592,857	$ 2,160,714	$ 2,376,786	9.9061%	$ 235,446	$ (78,589)	$ 156,857

Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2020

Line	Investment Name	Programs	INVP #	Year Amortization	5210G NIMO G Allocation	NIMO G Rent-Return	NIMO G Rent - Depn	5210E NIMO E Allocation	NIMO E Rent-Return	NIMO E Rent - Depn	5210T NIMO T Allocation	NIMO T Rent-Return	NIMO T Rent - Depn	Amortization Period	Bonus Rate	Bonus Depreciation
157	Solution Architects & Agile Coaches-2	GBE- Portfolio Office		$ 396,463	16.89%	$ 45,650	$ 66,963	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 1,189,390
158	Portfolio Management Leadership-3	GBE- Portfolio Office		$ 18,010	16.89%	$ 15,568	$ 3,042	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
159	Solution Architects & Agile Coaches-3	GBE- Portfolio Office		$ 23,536	16.89%	$ 20,344	$ 3,975	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
160	Portfolio Management Leadership-4	GBE- Portfolio Office		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
161	Regulatory/ Compliance	GBE- Regulatory and Compliance		$ 175,000	16.89%	$ 15,814	$ 29,558	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 900,000
162	Supply Chain Program Leadership	GBE- Supply Chain		$ 56,504	16.89%	$ 6,506	$ 9,544	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 169,514
163	Supply Chain Program Leadership	GBE- Supply Chain		$ 1,960	16.89%	$ 1,695	$ 331	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
164	Business Architecture Design	GBE- Work Management		$ 300,408	16.89%	$ 26,043	$ 50,739	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 1,502,042
165	WMFE Program Leadership-1	GBE- Work Management		$ 23,401	16.89%	$ 2,111	$ 3,952	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 93,605
166	Corrosion and I&R Work	GBE- Work Management		$ 2,647,965	16.89%	$ 279,316	$ 447,241	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 10,591,861
167	CU Governance & Library - process	GBE- Work Management		$ 165,844	16.89%	$ 18,047	$ 28,011	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 663,376
168	WMFE Program Leadership-2	GBE- Work Management		$ 56,369	16.89%	$ 6,491	$ 9,521	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 169,108
169	Company Driven Work: Collections and non-Appointment Offs - Gas	GBE- Work Management		$ 265,532	16.89%	$ 28,216	$ 44,848	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 1,593,194
170	Company Driven Work: Collections and non-Appointment Offs- Electric	GBE- Work Management		$ 142,979	0.00%	$ -	$ -	47.71%	$ 42,917	$ 68,215	0.00%	$ -	$ -	36	30%	$ 857,873
171	Customer, Leak Investigation & Inspections - Gas	GBE- Work Management		$ 1,018,722	16.89%	$ 108,252	$ 172,062	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 6,112,331
172	Customer, Leak Investigation & Inspections - Electric	GBE- Work Management		$ 548,543	0.00%	$ -	$ -	47.71%	$ 164,653	$ 261,710	0.00%	$ -	$ -	36	30%	$ 3,291,255
173	WMFE Program Leadership-3	GBE- Work Management		$ 4,958	16.89%	$ 4,286	$ 837	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
174	PowerPlan Integration & Enhancements	GBE- Work Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
175	Construction Work & Leak Repair	GBE- Work Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
176	WMFE Program Leadership-4	GBE- Work Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
177	Work Forecasting & Planning - solution	GBE- Work Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
178	Core Projects & Program Management	GBE- Work Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
179	WMFE Optimization	GBE- Work Management		$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
180	Customer Experience Transformation-Communication Preference Management	Growth Play Book-CXT	4426	$ 285,714	8.65%	$ 12,732	$ 24,716	23.28%	$ 34,263	$ 66,512	0.00%	$ -	$ -	36	30%	$ 600,000
181	Customer Experience Transformation-MyAccount Portal	Growth Play Book-CXT	4427	$ 1,011,905	8.65%	$ 21,627	$ 87,537	23.28%	$ 58,199	$ 235,563	0.00%	$ -	$ -	36	30%	$ 2,550,000
182	Governance Risk & Compliance (GRC) Optimization/Upgrade	Growth Play Book-Finance	4222	$ 220,000	4.58%	$ 4,704	$ 10,076	17.76%	$ 18,240	$ 39,072	6.11%	$ 6,275	$ 13,442	36	30%	$ 462,000
183	US SAP: Business Planning	Growth Play Book-Finance	4217	$ 663,286	4.58%	$ 15,649	$ 30,378	17.76%	$ 60,684	$ 117,800	6.11%	$ 20,877	$ 40,527	36	30%	$ 1,392,900
184	US SAP: FERC on Hana (FOH)	Growth Play Book-Finance	4563	$ 187,857	4.58%	$ 4,432	$ 8,604	17.76%	$ 17,187	$ 33,363	6.11%	$ 5,913	$ 11,478	36	30%	$ 394,500
185	DRMS for C&I Demand Response	NY REV / Grid Mod		$ 1,143,211	0.00%	$ -	$ -	100.00%	$ 49,621	$ 1,143,211	0.00%	$ -	$ -	36	50%	$ 1,714,817
186	Load and DER Forecasting (Acquisition of Remote Sensing Data - NY)	NY REV / Grid Mod	4729	$ 1,233,143	27.09%	$ 121,255	$ 334,058	72.91%	$ 326,345	$ 899,084	0.00%	$ -	$ -	36	40%	$ 3,452,800
187	Plant Information Historian	NY REV / Grid Mod	4704K	$ 1,632,545	0.00%	$ -	$ -	41.93%	$ 294,187	$ 684,526	0.00%	$ -	$ -	36	40%	$ 4,571,127
188	DG IOAP Phase II (Tactical)	NY REV / Grid Mod	4704P	$ 252,000	0.00%	$ -	$ -	100.00%	$ 129,816	$ 252,000	0.00%	$ -	$ -	36	30%	$ 529,200
189	E-Commerce Marketplace	NY REV / Grid Mod	4704D	$ 130,834	0.00%	$ -	$ -	100.00%	$ 67,398	$ 130,834	0.00%	$ -	$ -	36	30%	$ 274,751
190	AMI - Telecoms	NY REV / Grid Mod	4704I	$ 225,736	0.00%	$ -	$ -	100.00%	$ 116,286	$ 225,736	0.00%	$ -	$ -	36	30%	$ 474,045
191	AMI - CSS Enhancements	NY REV / Grid Mod	4704A	$ -	27.09%	$ 108,356	$ -	72.91%	$ 291,629	$ -	0.00%	$ -	$ -	36	0%	$ -
192	Green Button Connect	NY REV / Grid Mod	4704C	$ -	27.09%	$ 41,230	$ -	72.91%	$ 110,965	$ -	0.00%	$ -	$ -	36	0%	$ -
193	DSP - DG IOAP	NY REV / Grid Mod	4704F	$ -	0.00%	$ -	$ -	100.00%	$ 734,797	$ -	0.00%	$ -	$ -	36	0%	$ -
194	AMI - Telecoms	NY REV / Grid Mod	4704I	$ -	0.00%	$ -	$ -	100.00%	$ 69,824	$ -	0.00%	$ -	$ -	36	0%	$ -
195	Outdoor Lighting Inventory Portal	NY REV / Grid Mod	4704O	$ -	0.00%	$ -	$ -	100.00%	$ 79,249	$ -	0.00%	$ -	$ -	36	0%	$ -
196	DRMS for C&I Demand Response (Renewal)	NY REV / Grid Mod		$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	12	0%	$ -
197	Grid MOD - ABB/ADMS & D-SCADA	NY REV / Grid Mod	4704G	$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
198	AMI - Telecoms	NY REV / Grid Mod	4704I	$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
199	AMI - Enterprise Service Bus & API Integration	NY REV / Grid Mod	4704J	$ -	27.09%	$ -	$ -	72.91%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
200	AMI - Enterprise Service Bus & API Integration	NY REV / Grid Mod	4704J	$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
201	AMI - Info Mgt & Advanced Analytics	NY REV / Grid Mod	4704L	$ -	27.09%	$ -	$ -	72.91%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
202	AMI - Info Mgt & Advanced Analytics	NY REV / Grid Mod	4704L	$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
203	IS-Cloud Computing & Data Lake	NY REV / Grid Mod	4704M	$ -	27.09%	$ -	$ -	72.91%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
204	IS-Cloud Computing & Data Lake	NY REV / Grid Mod	4704M	$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
205	Cyber Security	NY REV / Grid Mod	4704N	$ -	27.09%	$ -	$ -	72.91%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
206	Cyber Security	NY REV / Grid Mod	4704N	$ -	0.00%	$ -	$ -	100.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
207	Residential Solar Marketplace	NY REV / Grid Mod		$ 18,117	0.00%	$ -	$ -	100.00%	$ 1,898	$ 18,117	0.00%	$ -	$ -	36	40%	$ 21,740
208	INVP 3882 NYS Pipeline Safety CMS	Other Mandates	3882	$ 186,857	19.47%	$ 9,894	$ 36,381	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 654,000
209	INVP 3851 Consolidated Voice Recorder for US Electric Control Rooms	Other Mandates	3851	$ 176,286	0.00%	$ -	$ -	74.79%	$ 36,508	$ 131,844	25.21%	$ 12,306	$ 44,442	36	50%	$ 617,000
210	Annual HR & Payroll Mandatory Service Pack Upgrade (HRSP) - FY18	Other Mandates	4400	$ 160,857	4.58%	$ 2,443	$ 7,367	17.76%	$ 9,475	$ 28,568	6.11%	$ 3,260	$ 9,828	36	50%	$ 563,000
211	Regulatory Mandates - FY18	Other Mandates		$ 724,517	4.58%	$ 12,045	$ 33,183	17.76%	$ 46,706	$ 128,674	6.11%	$ 16,068	$ 44,268	36	40%	$ 2,028,649
212	US Control-Gas Electronic Bulletin Board (EBB) Upgrade	Other Mandates	4479	$ 428,571	12.44%	$ 21,597	$ 53,314	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 1,200,000
213	Regulatory Mandates - FY19	Other Mandates		$ 2,656,429	4.58%	$ 62,675	$ 121,664	17.76%	$ 243,035	$ 471,782	6.11%	$ 83,612	$ 162,308	36	30%	$ 5,578,500
214	Regulatory Mandates - FY20	Other Mandates		$ -	4.58%	$ 45,370	$ -	17.76%	$ 175,932	$ -	6.11%	$ 60,526	$ -	36	0%	$ -
215	Regulatory Mandates - FY21	Other Mandates		$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
218	Physical Security Replacements - FY17	Physical Security		$ 23,660	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 82,810
219	Physical Security Replacements - FY18	Physical Security		$ 135,714	4.58%	$ 2,256	$ 6,216	17.76%	$ 8,749	$ 24,103	6.11%	$ 3,010	$ 8,292	36	40%	$ 380,000
222	Physical Security Replacements - FY18	Physical Security		$ 5,000	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 14,000
223	Physical Security Replacements - FY19	Physical Security		$ 117,857	4.58%	$ 2,781	$ 5,398	17.76%	$ 10,783	$ 20,931	6.11%	$ 3,710	$ 7,201	36	30%	$ 247,500
226	Physical Security Replacements - FY19	Physical Security		$ 7,857	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 16,500
227	Physical Security Replacements - FY20	Physical Security		$ -	4.58%	$ 1,894	$ -	17.76%	$ 7,345	$ -	6.11%	$ 2,527	$ -	36	0%	$ -
230	Physical Security Replacements - FY20	Physical Security		$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
231	Physical Security Replacements - FY21	Physical Security		$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
236	INVP 4347 NYC Leave on for Landlord Program	PSC Mandate	4347	$ 124,299	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 435,048
237	INVP 4124 Auto Remote Net Meter	PSC Mandate	4124	$ 512,024	0.00%	$ -	$ -	47.71%	$ 76,194	$ 244,286	0.00%	$ -	$ -	36	50%	$ 1,792,083
238	INVP 3839A NY Retail Access Ph2	PSC Mandate	3839A	$ 765,176	14.88%	$ 36,637	$ 113,858	40.06%	$ 98,634	$ 306,529	0.00%	$ -	$ -	36	50%	$ 2,678,116
239	INVP 4411AB Distributed Generation Portal	PSC Mandate	4411A+B	$ 478,230	0.00%	$ -	$ -	47.71%	$ 74,544	$ 228,164	0.00%	$ -	$ -	36	50%	$ 1,673,805
241	INVP 4448 Low Income Order CRIS	PSC Mandate	4448	$ 315,370	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 1,103,795
242	INVP 4448 Low Income Order CSS	PSC Mandate	4448	$ 355,630	21.56%	$ 25,429	$ 76,674	57.91%	$ 68,302	$ 205,945	0.00%	$ -	$ -	36	50%	$ 1,244,705
243	INVP 4411C New Electric Connections	PSC Mandate	4411C	$ 99,714	0.00%	$ -	$ -	47.71%	$ 19,271	$ 47,574	0.00%	$ -	$ -	36	40%	$ 279,200
244	INVP 4411D New Gas Connections	PSC Mandate	4411D	$ 128,000	16.89%	$ 9,398	$ 21,619	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 358,400
245	CPE Buyback	Tech. Modernization	4684	$ 734,286	4.58%	$ 9,312	$ 33,630	17.76%	$ 36,110	$ 130,409	6.11%	$ 12,423	$ 44,865	36	50%	$ 2,570,000
246	Active Directory Improvements	Tech. Modernization	4489	$ 39,286	4.58%	$ 588	$ 1,799	17.76%	$ 2,280	$ 6,977	6.11%	$ 784	$ 2,400	36	50%	$ 137,500
247	Application Performance Management (APM)	Tech. Modernization	4490	$ 53,571	4.58%	$ 836	$ 2,454	17.76%	$ 3,242	$ 9,514	6.11%	$ 1,115	$ 3,273	36	40%	$ 150,000
248	RAS/VPN Re-Platform/Mobile	Tech. Modernization	4269	$ 85,714	4.58%	$ 1,357	$ 3,926	17.76%	$ 5,262	$ 15,223	6.11%	$ 1,810	$ 5,237	36	40%	$ 240,000
249	US Network Programme	Tech. Modernization	4496	$ 432,143	4.58%	$ 7,184	$ 19,792	17.76%	$ 27,858	$ 76,749	6.11%	$ 9,584	$ 26,404	36	40%	$ 1,210,000

Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2020

Line	Investment Name	Programs	INVP #	Bill Pool	FY20 Total Spend	In Service Date	Amortization Period	4/1/2019 Balance	3/31/2020 Balance	Average Balance	9.9061% Service Co Return	Year Return	Return on Accum Taxes	Total Return
250	US VSTIG Programme	Tech. Modernization	4498	G020	$ 2,700,000	3/31/2018	84	$ 2,314,286	$ 1,928,571	$ 2,121,429	9.9061%	$ 210,151	$ (70,146)	$ 140,005
251	US Wireless Programme	Tech. Modernization	4499	G020	$ 1,950,000	3/31/2018	84	$ 1,671,429	$ 1,392,857	$ 1,532,143	9.9061%	$ 151,775	$ (50,661)	$ 101,114
252	Monitoring and Alerting	Tech. Modernization	4493	G020	$ 450,000	3/31/2018	84	$ 385,714	$ 321,429	$ 353,571	9.9061%	$ 35,025	$ (11,691)	$ 23,334
253	RSA Re-platform	Tech. Modernization	4270	G020	$ 280,000	3/31/2018	84	$ 240,000	$ 200,000	$ 220,000	9.9061%	$ 21,793	$ (7,274)	$ 14,519
254	Cloud Broker - Hybrid Enablement	Tech. Modernization	3899	G020	$ 250,000	3/31/2018	84	$ 214,286	$ 178,571	$ 196,429	9.9061%	$ 19,458	$ (6,495)	$ 12,963
255	Office 2010 Upgrade	Tech. Modernization	4265	G020	$ 800,000	3/31/2018	84	$ 685,714	$ 571,429	$ 628,571	9.9061%	$ 62,267	$ (20,784)	$ 41,483
256	Citrix Infrstructure Upgrade (Xenapp and NetScaler)	Tech. Modernization	4279	G020	$ 500,000	3/31/2018	84	$ 428,571	$ 357,143	$ 392,857	9.9061%	$ 38,917	$ (12,990)	$ 25,927
257	Business Innovation Projects 1	Tech. Modernization	4707	G020	$ 3,368,613	3/31/2018	84	$ 2,887,383	$ 2,406,152	$ 2,646,767	9.9061%	$ 262,191	$ (87,516)	$ 174,675
258	Data Security	Tech. Modernization	4710	G020	$ 1,575,000	3/31/2018	84	$ 1,350,000	$ 1,125,000	$ 1,237,500	9.9061%	$ 122,588	$ (40,918)	$ 81,669
259	Orchestration and Self Service	Tech. Modernization	4726	G020	$ 750,000	3/31/2018	84	$ 642,857	$ 535,714	$ 589,286	9.9061%	$ 58,375	$ (19,485)	$ 38,890
260	Virtual Desktop - DaaS	Tech. Modernization	4727	G020	$ 550,000	3/31/2018	84	$ 471,429	$ 392,857	$ 432,143	9.9061%	$ 42,808	$ (14,289)	$ 28,519
261	SCI connections	Tech. Modernization	4495	G020	$ 100,000	3/31/2018	84	$ 85,714	$ 71,429	$ 78,571	9.9061%	$ 7,783	$ (2,598)	$ 5,185
262	US SAP: Dynamic Storage Tiering	Tech. Modernization	4560	G020	$ 1,355,000	7/5/2018	84	$ 1,209,821	$ 1,016,250	$ 1,113,036	9.9061%	$ 110,258	$ (29,934)	$ 80,324
263	ICE Replacement	Tech. Modernization	4491	G020	$ 3,316,000	10/31/2018	84	$ 3,118,619	$ 2,644,905	$ 2,881,762	9.9061%	$ 285,470	$ (79,545)	$ 205,925
264	US Network Programme	Tech. Modernization	4496	G020	$ 2,075,000	3/31/2019	84	$ 2,075,000	$ 1,778,571	$ 1,926,786	9.9061%	$ 190,869	$ (38,166)	$ 152,703
265	US VSTIG Programme	Tech. Modernization	4498	G020	$ 1,700,000	3/31/2019	84	$ 1,700,000	$ 1,457,143	$ 1,578,571	9.9061%	$ 156,375	$ (31,269)	$ 125,106
266	US Wireless Programme	Tech. Modernization	4499	G020	$ 1,500,000	3/31/2019	84	$ 1,500,000	$ 1,285,714	$ 1,392,857	9.9061%	$ 137,978	$ (27,590)	$ 110,388
267	Data Visualisation Expansion	Tech. Modernization	4606	G020	$ 2,800,000	3/31/2019	84	$ 2,800,000	$ 2,400,000	$ 2,600,000	9.9061%	$ 257,558	$ (51,501)	$ 206,057
268	US SAP: Business Warehouse (BW) Consolidation to HANA Enterprise Cloud (HEC)	Tech. Modernization	4562	G020	$ 2,366,000	3/31/2019	84	$ 2,366,000	$ 2,028,000	$ 2,197,000	9.9061%	$ 217,637	$ (43,518)	$ 174,118
269	Monitoring and Alerting	Tech. Modernization	4493	G020	$ 1,000,000	3/31/2019	84	$ 1,000,000	$ 857,143	$ 928,571	9.9061%	$ 91,985	$ (18,393)	$ 73,592
270	MWORK and Netmotion Risk Avoidance	Tech. Modernization	4725	G020	$ 500,000	3/31/2019	84	$ 500,000	$ 428,571	$ 464,286	9.9061%	$ 45,993	$ (9,197)	$ 36,796
271	Improving End User Experience- Cloud based DMZ Service Platform	Tech. Modernization	4723	G020	$ 300,000	3/31/2019	84	$ 300,000	$ 257,143	$ 278,571	9.9061%	$ 27,596	$ (5,518)	$ 22,078
272	Mobile Broadband POC	Tech. Modernization		G020	$ 100,000	3/31/2019	84	$ 100,000	$ 85,714	$ 92,857	9.9061%	$ 9,199	$ (1,839)	$ 7,359
273	FY19 Edge Projects	Tech. Modernization	4717	G020	$ 1,000,000	3/31/2019	84	$ 1,000,000	$ 857,143	$ 928,571	9.9061%	$ 91,985	$ (18,393)	$ 73,592
274	FY19 Network Projects	Tech. Modernization	4718	G020	$ 1,000,000	3/31/2019	84	$ 1,000,000	$ 857,143	$ 928,571	9.9061%	$ 91,985	$ (18,393)	$ 73,592
275	Digital Asset Management (DAM)	Tech. Modernization	4711	G020	$ 500,000	3/31/2019	84	$ 500,000	$ 428,571	$ 464,286	9.9061%	$ 45,993	$ (9,197)	$ 36,796
276	Business Innovation Projects 1	Tech. Modernization	4707	G020	$ 3,973,236	3/31/2019	84	$ 3,973,236	$ 3,405,631	$ 3,689,433	9.9061%	$ 365,478	$ (73,081)	$ 292,398
277	Business Innovation Projects 2	Tech. Modernization	4708	G020	$ 3,368,613	3/31/2019	84	$ 3,368,613	$ 2,887,383	$ 3,127,998	9.9061%	$ 309,862	$ (61,960)	$ 247,902
278	Business Innovation Projects 3	Tech. Modernization	4728	G020	$ 3,368,613	3/31/2019	84	$ 3,368,613	$ 2,887,383	$ 3,127,998	9.9061%	$ 309,862	$ (61,960)	$ 247,902
279	EUC, network, and data center strategy	Tech. Modernization	4715	G020	$ 1,542,858	3/31/2019	84	$ 1,542,858	$ 1,322,450	$ 1,432,654	9.9061%	$ 141,920	$ (28,378)	$ 113,542
280	Data Security	Tech. Modernization	4710	G020	$ 1,575,000	3/31/2019	84	$ 1,575,000	$ 1,350,000	$ 1,462,500	9.9061%	$ 144,877	$ (28,969)	$ 115,907
281	FY19 Data Centre Projects	Tech. Modernization	4716	G020	$ 2,000,000	3/31/2019	84	$ 2,000,000	$ 1,714,286	$ 1,857,143	9.9061%	$ 183,970	$ (36,787)	$ 147,184
282	1327 Interfaces - 523 FTS, 340 RDX, 245 MQSI, 253 JCAPS, 44 PM4D, 7 VB	Tech. Modernization	4706	G020	$ 3,300,000	3/31/2019	84	$ 3,300,000	$ 2,828,571	$ 3,064,286	9.9061%	$ 303,551	$ (60,698)	$ 242,853
283	US Video Conference Programme	Tech. Modernization	4497	G020	$ 1,650,000	6/1/2019	84	$ -	$ 1,453,571	$ 726,786	9.9061%	$ 71,996	$ (23,466)	$ 48,530
284	US SAP: Enhancement Pack 9 Upgrade	Tech. Modernization	4564	G020	$ 8,821,000	3/31/2020	84	$ -	$ 8,821,000	$ 4,410,500	9.9061%	$ 436,908	$ -	$ 436,908
285	US Network Programme	Tech. Modernization	4496	G020	$ 1,575,000	3/31/2020	84	$ -	$ 1,575,000	$ 787,500	9.9061%	$ 78,010	$ -	$ 78,010
286	US VSTIG Programme	Tech. Modernization	4498	G020	$ 700,000	3/31/2020	84	$ -	$ 700,000	$ 350,000	9.9061%	$ 34,671	$ -	$ 34,671
287	US Wireless Programme	Tech. Modernization	4499	G020	$ 1,500,000	3/31/2020	84	$ -	$ 1,500,000	$ 750,000	9.9061%	$ 74,296	$ -	$ 74,296
288	Monitoring and Alerting	Tech. Modernization	4493	G020	$ 1,000,000	3/31/2020	84	$ -	$ 1,000,000	$ 500,000	9.9061%	$ 49,530	$ -	$ 49,530
289	Service Now - Release 3	Tech. Modernization	4261	G020	$ 3,400,000	3/31/2020	84	$ -	$ 3,400,000	$ 1,700,000	9.9061%	$ 168,403	$ -	$ 168,403
290	IS Tools	Tech. Modernization	4513	G020	$ 400,000	3/31/2020	84	$ -	$ 400,000	$ 200,000	9.9061%	$ 19,812	$ -	$ 19,812
291	FY20 Edge Projects	Tech. Modernization	4720	G020	$ 2,000,000	3/31/2020	84	$ -	$ 2,000,000	$ 1,000,000	9.9061%	$ 99,061	$ -	$ 99,061
292	FY20 Network Projects	Tech. Modernization	4721	G020	$ 4,000,000	3/31/2020	84	$ -	$ 4,000,000	$ 2,000,000	9.9061%	$ 198,122	$ -	$ 198,122
293	EMM Licenses	Tech. Modernization	4713	G020	$ 1,320,000	3/31/2020	84	$ -	$ 1,320,000	$ 660,000	9.9061%	$ 65,380	$ -	$ 65,380
294	Business Innovation Projects 2	Tech. Modernization	4708	G020	$ 3,973,236	3/31/2020	84	$ -	$ 3,973,236	$ 1,986,618	9.9061%	$ 196,796	$ -	$ 196,796
295	Business Innovation Projects 3	Tech. Modernization	4728	G020	$ 3,979,236	3/31/2020	84	$ -	$ 3,979,236	$ 1,989,618	9.9061%	$ 197,093	$ -	$ 197,093
296	Data Security	Tech. Modernization	4710	G020	$ 1,575,000	3/31/2020	84	$ -	$ 1,575,000	$ 787,500	9.9061%	$ 78,010	$ -	$ 78,010
297	Hardware and Software Upgrades	Tech. Modernization	4722	G020	$ 7,500,000	3/31/2020	84	$ -	$ 7,500,000	$ 3,750,000	9.9061%	$ 371,478	$ -	$ 371,478
298	Data Centre Consolidation efforts	Tech. Modernization	4709	G020	$ 3,500,000	3/31/2020	84	$ -	$ 3,500,000	$ 1,750,000	9.9061%	$ 173,357	$ -	$ 173,357
299	FY20 Data Centre Projects	Tech. Modernization	4719	G020	$ 4,000,000	3/31/2020	84	$ -	$ 4,000,000	$ 2,000,000	9.9061%	$ 198,122	$ -	$ 198,122
300	Enterprise Data Management Platform	Tech. Modernization	4582	G020	$ 3,730,000	6/1/2020	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
301	Business Innovation Projects 2	Tech. Modernization	4708	G020	$ -	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
302	Business Innovation Projects 3	Tech. Modernization	4728	G020	$ -	3/31/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
	Total IS				$ 822,659,715			$ 393,276,151	$ 557,162,216	$ 475,219,184		$ 47,075,621	$ (12,023,117)	$ 35,052,504

Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2020

Line	Investment Name	Programs	INVP #	Year Amortization	5210G NIMO G Allocation	NIMO G Rent-Return	NIMO G Rent - Depn	5210E NIMO E Allocation	NIMO E Rent-Return	NIMO E Rent - Depn	5210T NIMO T Allocation	NIMO T Rent-Return	NIMO T Rent - Depn	Amortization Period	Bonus Rate	Bonus Depreciation
250	US VSTIG Programme	Tech. Modernization	4498	$ 385,714	4.58%	$ 6,412	$ 17,666	17.76%	$ 24,865	$ 68,503	6.11%	$ 8,554	$ 23,567	36	40%	$ 1,080,000
251	US Wireless Programme	Tech. Modernization	4499	$ 278,571	4.58%	$ 4,631	$ 12,759	17.76%	$ 17,958	$ 49,474	6.11%	$ 6,178	$ 17,021	36	40%	$ 780,000
252	Monitoring and Alerting	Tech. Modernization	4493	$ 64,286	4.58%	$ 1,069	$ 2,944	17.76%	$ 4,144	$ 11,417	6.11%	$ 1,426	$ 3,928	36	40%	$ 180,000
253	RSA Re-platform	Tech. Modernization	4270	$ 40,000	4.58%	$ 665	$ 1,832	17.76%	$ 2,579	$ 7,104	6.11%	$ 887	$ 2,444	36	40%	$ 112,000
254	Cloud Broker - Hybrid Enablement	Tech. Modernization	3899	$ 35,714	4.58%	$ 594	$ 1,636	17.76%	$ 2,302	$ 6,343	6.11%	$ 792	$ 2,182	36	40%	$ 100,000
255	Office 2010 Upgrade	Tech. Modernization	4265	$ 114,286	4.58%	$ 1,900	$ 5,234	17.76%	$ 7,367	$ 20,297	6.11%	$ 2,535	$ 6,983	36	40%	$ 320,000
256	Citrix Infrstructure Upgrade (Xenapp and NetScaler)	Tech. Modernization	4279	$ 71,429	4.58%	$ 1,187	$ 3,271	17.76%	$ 4,605	$ 12,686	6.11%	$ 1,584	$ 4,364	36	40%	$ 200,000
257	Business Innovation Projects 1	Tech. Modernization	4707	$ 481,230	4.58%	$ 8,000	$ 22,040	17.76%	$ 31,022	$ 85,467	6.11%	$ 10,673	$ 29,403	36	40%	$ 1,347,445
258	Data Security	Tech. Modernization	4710	$ 225,000	4.58%	$ 3,740	$ 10,305	17.76%	$ 14,504	$ 39,960	6.11%	$ 4,990	$ 13,748	36	40%	$ 630,000
259	Orchestration and Self Service	Tech. Modernization	4726	$ 107,143	4.58%	$ 1,781	$ 4,907	17.76%	$ 6,907	$ 19,029	6.11%	$ 2,376	$ 6,546	36	40%	$ 300,000
260	Virtual Desktop - DaaS	Tech. Modernization	4727	$ 78,571	4.58%	$ 1,306	$ 3,599	17.76%	$ 5,065	$ 13,954	6.11%	$ 1,743	$ 4,801	36	40%	$ 220,000
261	SCI connections	Tech. Modernization	4495	$ 14,286	4.58%	$ 237	$ 654	17.76%	$ 921	$ 2,537	6.11%	$ 317	$ 873	36	40%	$ 40,000
262	US SAP: Dynamic Storage Tiering	Tech. Modernization	4560	$ 193,571	4.58%	$ 3,679	$ 8,866	17.76%	$ 14,266	$ 34,378	6.11%	$ 4,908	$ 11,827	36	40%	$ 542,000
263	ICE Replacement	Tech. Modernization	4491	$ 473,714	4.58%	$ 9,431	$ 21,696	17.76%	$ 36,572	$ 84,132	6.11%	$ 12,582	$ 28,944	36	40%	$ 1,326,400
264	US Network Programme	Tech. Modernization	4496	$ 296,429	4.58%	$ 6,994	$ 13,576	17.76%	$ 27,120	$ 52,646	6.11%	$ 9,330	$ 18,112	36	30%	$ 622,500
265	US VSTIG Programme	Tech. Modernization	4498	$ 242,857	4.58%	$ 5,730	$ 11,123	17.76%	$ 22,219	$ 43,131	6.11%	$ 7,644	$ 14,839	36	30%	$ 510,000
266	US Wireless Programme	Tech. Modernization	4499	$ 214,286	4.58%	$ 5,056	$ 9,814	17.76%	$ 19,605	$ 38,057	6.11%	$ 6,745	$ 13,093	36	30%	$ 450,000
267	Data Visualisation Expansion	Tech. Modernization	4606	$ 400,000	4.58%	$ 9,437	$ 18,320	17.76%	$ 36,596	$ 71,040	6.11%	$ 12,590	$ 24,440	36	30%	$ 840,000
268	US SAP: Business Warehouse (BW) Consolidation to HANA Enterprise Cloud (HEC)	Tech. Modernization	4562	$ 338,000	4.58%	$ 7,975	$ 15,480	17.76%	$ 30,923	$ 60,029	6.11%	$ 10,639	$ 20,652	36	30%	$ 709,800
269	Monitoring and Alerting	Tech. Modernization	4493	$ 142,857	4.58%	$ 3,371	$ 6,543	17.76%	$ 13,070	$ 25,371	6.11%	$ 4,496	$ 8,729	36	30%	$ 300,000
270	MWORK and Netmotion Risk Avoidance	Tech. Modernization	4725	$ 71,429	4.58%	$ 1,685	$ 3,271	17.76%	$ 6,535	$ 12,686	6.11%	$ 2,248	$ 4,364	36	30%	$ 150,000
271	Improving End User Experience- Cloud based DMZ Service Platform	Tech. Modernization	4723	$ 42,857	4.58%	$ 1,011	$ 1,963	17.76%	$ 3,921	$ 7,611	6.11%	$ 1,349	$ 2,619	36	30%	$ 90,000
272	Mobile Broadband POC	Tech. Modernization		$ 14,286	4.58%	$ 337	$ 654	17.76%	$ 1,307	$ 2,537	6.11%	$ 450	$ 873	36	30%	$ 30,000
273	FY19 Edge Projects	Tech. Modernization	4717	$ 142,857	4.58%	$ 3,371	$ 6,543	17.76%	$ 13,070	$ 25,371	6.11%	$ 4,496	$ 8,729	36	30%	$ 300,000
274	FY19 Network Projects	Tech. Modernization	4718	$ 142,857	4.58%	$ 3,371	$ 6,543	17.76%	$ 13,070	$ 25,371	6.11%	$ 4,496	$ 8,729	36	30%	$ 300,000
275	Digital Asset Management (DAM)	Tech. Modernization	4711	$ 71,429	4.58%	$ 1,685	$ 3,271	17.76%	$ 6,535	$ 12,686	6.11%	$ 2,248	$ 4,364	36	30%	$ 150,000
276	Business Innovation Projects 1	Tech. Modernization	4707	$ 567,605	4.58%	$ 13,392	$ 25,996	17.76%	$ 51,930	$ 100,807	6.11%	$ 17,865	$ 34,681	36	30%	$ 1,191,971
277	Business Innovation Projects 2	Tech. Modernization	4708	$ 481,230	4.58%	$ 11,354	$ 22,040	17.76%	$ 44,027	$ 85,467	6.11%	$ 15,147	$ 29,403	36	30%	$ 1,010,584
278	Business Innovation Projects 3	Tech. Modernization	4728	$ 481,230	4.58%	$ 11,354	$ 22,040	17.76%	$ 44,027	$ 85,467	6.11%	$ 15,147	$ 29,403	36	30%	$ 1,010,584
279	EUC, network, and data center strategy	Tech. Modernization	4715	$ 220,408	4.58%	$ 5,200	$ 10,095	17.76%	$ 20,165	$ 39,145	6.11%	$ 6,937	$ 13,467	36	30%	$ 462,857
280	Data Security	Tech. Modernization	4710	$ 225,000	4.58%	$ 5,309	$ 10,305	17.76%	$ 20,585	$ 39,960	6.11%	$ 7,082	$ 13,748	36	30%	$ 472,500
281	FY19 Data Centre Projects	Tech. Modernization	4716	$ 285,714	4.58%	$ 6,741	$ 13,086	17.76%	$ 26,140	$ 50,743	6.11%	$ 8,993	$ 17,457	36	30%	$ 600,000
282	1327 Interfaces - 523 FTS, 340 RDX, 245 MQSI, 253 JCAPS, 44 PM4D, 7 VB	Tech. Modernization	4706	$ 471,429	4.58%	$ 11,123	$ 21,591	17.76%	$ 43,131	$ 83,726	6.11%	$ 14,838	$ 28,804	36	30%	$ 990,000
283	US Video Conference Programme	Tech. Modernization	4497	$ 196,429	4.58%	$ 2,223	$ 8,996	17.76%	$ 8,619	$ 34,886	6.11%	$ 2,965	$ 12,002	36	30%	$ 495,000
284	US SAP: Enhancement Pack 9 Upgrade	Tech. Modernization	4564	$ -	4.58%	$ 20,010	$ -	17.76%	$ 77,595	$ -	6.11%	$ 26,695	$ -	36	0%	$ -
285	US Network Programme	Tech. Modernization	4496	$ -	4.58%	$ 3,573	$ -	17.76%	$ 13,855	$ -	6.11%	$ 4,766	$ -	36	0%	$ -
286	US VSTIG Programme	Tech. Modernization	4498	$ -	4.58%	$ 1,588	$ -	17.76%	$ 6,158	$ -	6.11%	$ 2,118	$ -	36	0%	$ -
287	US Wireless Programme	Tech. Modernization	4499	$ -	4.58%	$ 3,403	$ -	17.76%	$ 13,195	$ -	6.11%	$ 4,539	$ -	36	0%	$ -
288	Monitoring and Alerting	Tech. Modernization	4493	$ -	4.58%	$ 2,268	$ -	17.76%	$ 8,797	$ -	6.11%	$ 3,026	$ -	36	0%	$ -
289	Service Now - Release 3	Tech. Modernization	4261	$ -	4.58%	$ 7,713	$ -	17.76%	$ 29,908	$ -	6.11%	$ 10,289	$ -	36	0%	$ -
290	IS Tools	Tech. Modernization	4513	$ -	4.58%	$ 907	$ -	17.76%	$ 3,519	$ -	6.11%	$ 1,211	$ -	36	0%	$ -
291	FY20 Edge Projects	Tech. Modernization	4720	$ -	4.58%	$ 4,537	$ -	17.76%	$ 17,593	$ -	6.11%	$ 6,053	$ -	36	0%	$ -
292	FY20 Network Projects	Tech. Modernization	4721	$ -	4.58%	$ 9,074	$ -	17.76%	$ 35,186	$ -	6.11%	$ 12,105	$ -	36	0%	$ -
293	EMM Licenses	Tech. Modernization	4713	$ -	4.58%	$ 2,994	$ -	17.76%	$ 11,612	$ -	6.11%	$ 3,995	$ -	36	0%	$ -
294	Business Innovation Projects 2	Tech. Modernization	4708	$ -	4.58%	$ 9,013	$ -	17.76%	$ 34,951	$ -	6.11%	$ 12,024	$ -	36	0%	$ -
295	Business Innovation Projects 3	Tech. Modernization	4728	$ -	4.58%	$ 9,027	$ -	17.76%	$ 35,004	$ -	6.11%	$ 12,042	$ -	36	0%	$ -
296	Data Security	Tech. Modernization	4710	$ -	4.58%	$ 3,573	$ -	17.76%	$ 13,855	$ -	6.11%	$ 4,766	$ -	36	0%	$ -
297	Hardware and Software Upgrades	Tech. Modernization	4722	$ -	4.58%	$ 17,014	$ -	17.76%	$ 65,975	$ -	6.11%	$ 22,697	$ -	36	0%	$ -
298	Data Centre Consolidation efforts	Tech. Modernization	4709	$ -	4.58%	$ 7,940	$ -	17.76%	$ 30,788	$ -	6.11%	$ 10,592	$ -	36	0%	$ -
299	FY20 Data Centre Projects	Tech. Modernization	4719	$ -	4.58%	$ 9,074	$ -	17.76%	$ 35,186	$ -	6.11%	$ 12,105	$ -	36	0%	$ -
300	Enterprise Data Management Platform	Tech. Modernization	4582	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
301	Business Innovation Projects 2	Tech. Modernization	4708	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
302	Business Innovation Projects 3	Tech. Modernization	4728	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
	Total IS			$ 65,689,068		$ 3,082,259	$ 5,104,667		$ 6,644,993	$ 12,875,000		$ 1,303,008	$ 2,803,502			$ 208,053,357

NIMO G	$ 8,186,926		NIMO E	$ 23,626,504	
RY19 NIMO G	$ 4,525,867		RY19 NIMO E	$ 15,501,116	
RY20 Adjust	$ 3,661,059		RY20 Adjust	$ 8,125,387	
NIMO		$ 31,813,430			
RY19 NIMO		$ 20,026,983			
RY20 Adjust		$ 11,786,447			

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Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2021

Line	Investment Name	Programs	INVP #	Bill Pool	FY21 Total Spend	In Service Date	Amortization Period	4/1/2020 Balance	3/31/2021 Balance	Average Balance	9.9061% Service Co Return	Year Return	Return on Accum Taxes	Total Return
1	Cloud Security	Cyber Security	3683	G020	$ 1,460,000	5/1/2017	84	$ 851,667	$ 643,095	$ 747,381	9.9061%	$ 74,036	$ (27,608)	$ 46,428
2	Risk Based Authentication - 2FA token alternative	Cyber Security	3683	G020	$ 235,080	6/1/2017	84	$ 139,929	$ 106,346	$ 123,137	9.9061%	$ 12,198	$ (4,557)	$ 7,641
3	INVP 3614D1 Ent Network Security	Cyber Security	3614D1	G020	$ 9,478,590	6/30/2017	84	$ 5,754,858	$ 4,400,774	$ 5,077,816	9.9061%	$ 503,013	$ (188,226)	$ 314,787
4	Threat Behavior Modeling	Cyber Security	3683	G020	$ 800,000	8/1/2017	84	$ 495,238	$ 380,952	$ 438,095	9.9061%	$ 43,398	$ (16,266)	$ 27,132
5	Identity & Access Management :Role Base Access Management (RBAC)	Cyber Security	3683	G020	$ 1,650,000	10/1/2017	84	$ 1,060,714	$ 825,000	$ 942,857	9.9061%	$ 93,400	$ (35,112)	$ 58,288
6	Enhanced DLP Gateway and Endpoint	Cyber Security	3683	G020	$ 2,238,480	12/1/2017	84	$ 1,492,320	$ 1,172,537	$ 1,332,429	9.9061%	$ 131,992	$ (49,758)	$ 82,234
7	INVP 3614B7 CNI Network Security	Cyber Security	3614B7	G020	$ 4,829,586	12/31/2017	84	$ 3,277,219	$ 2,587,278	$ 2,932,249	9.9061%	$ 290,471	$ (109,644)	$ 180,827
8	INVP 3614E4 US CNI Security I&E	Cyber Security	3614E4	G020	$ 1,207,045	12/31/2017	84	$ 819,066	$ 646,631	$ 732,849	9.9061%	$ 72,597	$ (27,403)	$ 45,194
9	US CNI Intrusion Detection/Prevention Phase 1	Cyber Security	3683	G020	$ 550,000	3/31/2018	84	$ 392,857	$ 314,286	$ 353,571	9.9061%	$ 35,025	$ (13,106)	$ 21,919
10	Identity & Access Management: Fine Grain Access Management	Cyber Security	3683	G020	$ 1,650,000	3/31/2018	84	$ 1,178,571	$ 942,857	$ 1,060,714	9.9061%	$ 105,075	$ (39,319)	$ 65,756
11	vStig Scaling Upgrades	Cyber Security	3683	G020	$ 1,000,000	8/1/2018	84	$ 761,905	$ 619,048	$ 690,476	9.9061%	$ 68,399	$ (23,957)	$ 44,443
12	IT/OT Discovery and Implementation Phase 1	Cyber Security	3683	G020	$ 5,500,000	10/1/2018	84	$ 4,321,429	$ 3,535,714	$ 3,928,571	9.9061%	$ 389,168	$ (136,976)	$ 252,191
13	Security Research Lab	Cyber Security	3683	G020	$ 325,000	10/1/2018	84	$ 255,357	$ 208,929	$ 232,143	9.9061%	$ 22,996	$ (8,094)	$ 14,902
14	US CNI Security Enhancements Phase 1	Cyber Security	3683	G020	$ 1,650,000	11/1/2018	84	$ 1,316,071	$ 1,080,357	$ 1,198,214	9.9061%	$ 118,696	$ (41,875)	$ 76,821
15	Identity & Access Management: Privileged Access Management	Cyber Security	3683	G020	$ 1,740,000	3/31/2019	84	$ 1,491,429	$ 1,242,857	$ 1,367,143	9.9061%	$ 135,430	$ (43,665)	$ 91,765
16	Domain Based Security Phase 1	Cyber Security	3683	G020	$ 800,000	3/31/2019	84	$ 685,714	$ 571,429	$ 628,571	9.9061%	$ 62,267	$ (20,076)	$ 42,191
17	Security Incident Event Management Phase 4	Cyber Security	3683	G020	$ 1,266,300	5/1/2019	84	$ 1,100,475	$ 919,575	$ 1,010,025	9.9061%	$ 100,054	$ (24,533)	$ 75,521
18	Big Data Security Analytics Phase 1	Cyber Security	3683	G020	$ 4,621,552	5/1/2019	84	$ 4,016,349	$ 3,356,127	$ 3,686,238	9.9061%	$ 365,162	$ (89,537)	$ 275,625
19	US CNI Intrusion Detection/Prevention Phase 2	Cyber Security	3683	G020	$ 800,000	3/31/2020	84	$ 800,000	$ 685,714	$ 742,857	9.9061%	$ 73,588	$ (8,343)	$ 65,245
20	Identity & Access Management: Shared Area Access Management	Cyber Security	3683	G020	$ 1,740,000	3/31/2020	84	$ 1,740,000	$ 1,491,429	$ 1,615,714	9.9061%	$ 160,054	$ (18,145)	$ 141,909
21	Security Incident Event Management Phase 5	Cyber Security	3683	G020	$ 733,150	5/1/2020	84	$ -	$ 637,142	$ 318,571	9.9061%	$ 31,558	$ (2,954)	$ 28,604
22	Domain Based Security Phase 2	Cyber Security	3683	G020	$ 6,000,000	3/31/2021	84	$ -	$ 6,000,000	$ 3,000,000	9.9061%	$ 297,183	$ -	$ 297,183
23	Security Incident Event Management (SIEM) 6	Cyber Security	3683	G020	$ 733,150	5/1/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
24	Big Data Security Analytics - Phase 2	Cyber Security	3683	G020	$ 5,776,940	5/1/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
25	IT/OT Discovery and Implementation: Phase 2	Cyber Security	3683	G020	$ 7,000,000	10/1/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
26	US CNI Security Enhancements - Phase 2	Cyber Security	3683	G020	$ 3,960,000	11/1/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
27	Data Visualization	Cyber Security	3683	G020	$ 1,000,000	12/1/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
29	INVP 4045 Double Pole Mgmt DB	FY18 Plan	4045	G198	$ 482,153	2/18/2017	84	$ 269,776	$ 200,897	$ 235,337	9.9061%	$ 23,313	$ (8,660)	$ 14,652
30	INVP 4373 Contingent Labor Admin Replacement	FY18 Plan	4373	G020	$ 250,692	2/20/2017	84	$ 140,268	$ 104,455	$ 122,362	9.9061%	$ 12,121	$ (4,503)	$ 7,618
32	INVP 4188 Aging System Stabilize	FY18 Plan	4188	G148	$ 782,710	3/31/2017	84	$ 447,263	$ 335,447	$ 391,355	9.9061%	$ 38,768	$ (14,430)	$ 24,338
33	INVP 4280 US VSTIG Bandwidth Ph2	FY18 Plan	4280	G020	$ 1,998,645	3/31/2017	84	$ 1,142,083	$ 856,562	$ 999,323	9.9061%	$ 98,994	$ (36,847)	$ 62,147
34	INVP 4307 US Win 7 Refresh Ph 3	FY18 Plan	4307	G020	$ 11,562,999	3/31/2017	84	$ 6,607,428	$ 4,955,571	$ 5,781,500	9.9061%	$ 572,720	$ (213,173)	$ 359,547
35	INVP 4364 Wireless Network	FY18 Plan	4364	G020	$ 2,303,959	3/31/2017	84	$ 1,316,548	$ 987,411	$ 1,151,979	9.9061%	$ 114,116	$ (42,475)	$ 71,641
36	S005242 M112 Systemic Improvement	FY18 Plan		G020	$ 8,000,000	3/31/2017	120	$ 5,600,000	$ 4,800,000	$ 5,200,000	9.9061%	$ 515,116	$ (195,273)	$ 319,843
37	INVP 4289 US Network Improvement	FY18 Plan	4289	G020	$ 978,717	3/31/2017	84	$ 559,267	$ 419,450	$ 489,358	9.9061%	$ 48,476	$ (18,043)	$ 30,433
38	HANA License Costs	FY18 Plan	4649	G020	$ 3,500,000	3/31/2017	84	$ 2,000,000	$ 1,500,000	$ 1,750,000	9.9061%	$ 173,357	$ (64,525)	$ 108,831
39	Microsoft ELA Renewal	FY18 Plan	4642	G020	$ 1,900,000	3/31/2017	84	$ 1,085,714	$ 814,286	$ 950,000	9.9061%	$ 94,108	$ (35,028)	$ 59,080
40	Mobile Device Refresh - FY17	FY18 Plan	4671	G020	$ 4,546,000	3/31/2017	84	$ 2,597,714	$ 1,948,286	$ 2,273,000	9.9061%	$ 225,165	$ (83,809)	$ 141,356
41	Zscaler	FY18 Plan	4681	G020	$ 2,100,000	3/31/2017	84	$ 1,200,000	$ 900,000	$ 1,050,000	9.9061%	$ 104,014	$ (38,715)	$ 65,299
43	INVP 4631 Box Enablement	FY18 Plan	4631	G020	$ 254,000	4/30/2017	84	$ 148,167	$ 111,881	$ 130,024	9.9061%	$ 12,880	$ (4,803)	$ 8,077
44	INVP 4170 Time Transformation	FY18 Plan	4170	G020	$ 3,917,000	5/1/2017	84	$ 2,284,917	$ 1,725,345	$ 2,005,131	9.9061%	$ 198,630	$ (74,070)	$ 124,560
45	INVP 4420 US CNI OMSFocalPoint Infrastructure Upgrade	FY18 Plan	4420	G198	$ 1,366,563	5/1/2017	84	$ 797,162	$ 601,938	$ 699,550	9.9061%	$ 69,298	$ (25,842)	$ 43,456
46	INVP 4274 VSTIG Hardware Refresh	FY18 Plan	4274	G020	$ 608,000	5/31/2017	84	$ 361,905	$ 275,048	$ 318,476	9.9061%	$ 31,549	$ (11,785)	$ 19,763
47	US Video Conferencing upgrade for RW	FY18 Plan	4632	G020	$ 1,330,000	6/1/2017	84	$ 791,667	$ 601,667	$ 696,667	9.9061%	$ 69,012	$ (25,781)	$ 43,232
48	Hix D/C Improvement Server Refresh	FY18 Plan	4676	G020	$ 1,000,000	7/1/2017	84	$ 607,143	$ 464,286	$ 535,714	9.9061%	$ 53,068	$ (19,858)	$ 33,210
49	INVP 4464 Data Visualization	FY18 Plan	4464	G020	$ 4,440,000	7/31/2017	84	$ 2,748,571	$ 2,114,286	$ 2,431,429	9.9061%	$ 240,859	$ (90,275)	$ 150,585
50	Mobility - (MDM) Mobile Device	FY18 Plan	3430	G020	$ 1,162,000	7/31/2017	84	$ 719,333	$ 553,333	$ 636,333	9.9061%	$ 63,036	$ (23,626)	$ 39,410
51	Changes to ACIS for PMCC Civil Vendor Billing	FY18 Plan	4487	G186	$ 382,000	8/2/2017	84	$ 236,476	$ 181,905	$ 209,190	9.9061%	$ 20,723	$ (7,767)	$ 12,956
52	INVP 4461 Unix51 Interface Migration	FY18 Plan	4461	G020	$ 1,386,701	9/1/2017	84	$ 874,942	$ 676,842	$ 775,892	9.9061%	$ 76,861	$ (28,852)	$ 48,009
53	INVP 4287 Active Directory Upgrade	FY18 Plan	4287	G020	$ 804,825	9/30/2017	84	$ 517,388	$ 402,413	$ 459,900	9.9061%	$ 45,558	$ (17,127)	$ 28,431
54	US Control-Gas System Operating Procedure (SOP) Upgrade	FY18 Plan	4480	G210	$ 542,000	10/2/2017	84	$ 348,429	$ 271,000	$ 309,714	9.9061%	$ 30,681	$ (11,534)	$ 19,147
55	Enterprise Labs	FY18 Plan	4693	G020	$ 668,000	10/30/2017	84	$ 437,381	$ 341,952	$ 389,667	9.9061%	$ 38,601	$ (14,532)	$ 24,069
56	Cascade Electric Application Upgrade Project	FY18 Plan	3986	G198	$ 375,000	10/31/2017	84	$ 245,536	$ 191,964	$ 218,750	9.9061%	$ 21,670	$ (8,158)	$ 13,512
57	INVP 4408 Doc Mgmt Systems Replacement Delivery	FY18 Plan	4408	G149	$ 3,617,542	11/1/2017	84	$ 2,368,629	$ 1,851,837	$ 2,110,233	9.9061%	$ 209,041	$ (78,697)	$ 130,344
58	WIFI for Fleet Services Diagnostic Laptops	FY18 Plan	3956	G352	$ 838,000	11/1/2017	84	$ 548,690	$ 428,976	$ 488,833	9.9061%	$ 48,424	$ (18,230)	$ 30,194
59	Gas Service Database - UNY	FY18 Plan	3949	5210G	$ 325,000	12/1/2017	84	$ 216,667	$ 170,238	$ 193,452	9.9061%	$ 19,164	$ (7,224)	$ 11,939
62	Gas Capital Investment Planning Tool	FY18 Plan	4466	G210	$ 572,000	1/17/2018	84	$ 394,952	$ 313,238	$ 354,095	9.9061%	$ 35,077	$ (13,088)	$ 21,989
63	Computapole Enhancements to Support Inspection Types	FY18 Plan	4462	G186	$ 450,000	3/1/2018	84	$ 316,071	$ 251,786	$ 283,929	9.9061%	$ 28,126	$ (10,510)	$ 17,616
64	Travel & Expense Management (T&E) and Global Master Service Provider (MSP) Strategy	FY18 Plan	4578	G020	$ 1,232,000	3/1/2018	84	$ 865,333	$ 689,333	$ 777,333	9.9061%	$ 77,003	$ (28,774)	$ 48,229
65	Ageing System Stabilization/Upgrades - FY18	FY18 Plan	4389	G148	$ 1,500,000	3/15/2018	84	$ 1,053,571	$ 839,286	$ 946,429	9.9061%	$ 93,754	$ (35,033)	$ 58,721
66	INVP 3486 US MDS-Itron Enterprise Edition (IEE)	FY18 Plan	3486	G186	$ 670,943	3/31/2018	84	$ 479,245	$ 383,396	$ 431,321	9.9061%	$ 42,727	$ (15,988)	$ 26,739
67	INVP 4390 Plastic Fusion II	FY18 Plan	4390	G210	$ 506,000	3/31/2018	84	$ 361,429	$ 289,143	$ 325,286	9.9061%	$ 32,223	$ (12,058)	$ 20,165
68	INVP 4397 Ariba TLS and CI Update	FY18 Plan	4397	G020	$ 1,462,000	3/31/2018	120	$ 1,169,600	$ 1,023,400	$ 1,096,500	9.9061%	$ 108,620	$ (41,077)	$ 67,543
69	US Mobile Device Refresh	FY18 Plan	4395	G020	$ 5,000,000	3/31/2018	84	$ 3,571,429	$ 2,857,143	$ 3,214,286	9.9061%	$ 318,410	$ -	$ 318,410
70	US SAP: Infrastructure Landscape	FY18 Plan	4348	G020	$ 4,603,000	3/31/2018	84	$ 3,287,857	$ 2,630,286	$ 2,959,071	9.9061%	$ 293,128	$ (109,688)	$ 183,440
71	US CNI Tech Services-Network Equipment Lifecycle Replacements	FY18 Plan	4570	G186	$ 250,000	3/31/2018	84	$ 178,571	$ 142,857	$ 160,714	9.9061%	$ 15,920	$ (5,957)	$ 9,963
72	US CNI-EMS Lifecycle Hardware and Software Upgrade	FY18 Plan	4568	U186	$ 13,348,000	3/31/2018	84	$ 9,534,286	$ 7,627,429	$ 8,580,857	9.9061%	$ 850,027	$ (318,078)	$ 531,949
73	Network Transformation Completion - CEMS	FY18 Plan	4647	G020	$ 250,000	3/31/2018	84	$ 178,571	$ 142,857	$ 160,714	9.9061%	$ 15,920	$ (5,957)	$ 9,963
74	Application monitoring, Network/IDS, Operations monitoring	FY18 Plan	4677	G020	$ 750,000	3/31/2018	84	$ 535,714	$ 428,571	$ 482,143	9.9061%	$ 47,761	$ (17,872)	$ 29,889
75	Aged Printer refresh	FY18 Plan	4689	G020	$ 50,000	3/31/2018	84	$ 35,714	$ 28,571	$ 32,143	9.9061%	$ 3,184	$ (1,191)	$ 1,993
76	RSA Token refresh	FY18 Plan	4683	G020	$ 200,000	3/31/2018	84	$ 142,857	$ 114,286	$ 128,571	9.9061%	$ 12,736	$ (4,766)	$ 7,970

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Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2021

Line	Investment Name	Programs	Year Amortization	5210G NIMO G Allocation	NIMO G Rent-Return	NIMO G Rent - Depn	5210E NIMO E Allocation	NIMO E Rent-Return	NIMO E Rent - Depn	5210T NIMO T Allocation	NIMO T Rent-Return	NIMO T Rent - Depn	Amortization Period	Bonus Rate	Bonus Depreciation
1	Cloud Security	Cyber Security	$ 208,571	4.58%	$ 2,126	$ 9,553	17.76%	$ 8,246	$ 37,042	6.11%	$ 2,837	$ 12,744	36	50%	$ 730,000
2	Risk Based Authentication - 2FA token alternative	Cyber Security	$ 33,583	4.58%	$ 350	$ 1,538	17.76%	$ 1,357	$ 5,964	6.11%	$ 467	$ 2,052	36	50%	$ 117,540
3	INVP 3614Dl Ent Network Security	Cyber Security	$ 1,354,084	4.58%	$ 14,417	$ 62,017	17.76%	$ 55,906	$ 240,485	6.11%	$ 19,233	$ 82,735	36	50%	$ 4,739,295
4	Threat Behavior Modeling	Cyber Security	$ 114,286	4.58%	$ 1,243	$ 5,234	17.76%	$ 4,819	$ 20,297	6.11%	$ 1,658	$ 6,983	36	50%	$ 400,000
5	Identity & Access Management :Role Base Access Management (RBAC)	Cyber Security	$ 235,714	4.58%	$ 2,670	$ 10,796	17.76%	$ 10,352	$ 41,863	6.11%	$ 3,561	$ 14,402	36	50%	$ 825,000
6	Enhanced DLP Gateway and Endpoint	Cyber Security	$ 319,783	4.58%	$ 3,766	$ 14,646	17.76%	$ 14,605	$ 56,793	6.11%	$ 5,024	$ 19,539	36	50%	$ 1,119,240
7	INVP 3614B7 CNI Network Security	Cyber Security	$ 689,941	4.58%	$ 8,282	$ 31,599	17.76%	$ 32,115	$ 122,533	6.11%	$ 11,049	$ 42,155	36	50%	$ 2,414,793
8	INVP 3614E4 US CNI Security I&E	Cyber Security	$ 172,435	4.58%	$ 2,070	$ 7,898	17.76%	$ 8,026	$ 30,624	6.11%	$ 2,761	$ 10,536	36	50%	$ 603,522
9	US CNI Intrusion Detection/Prevention Phase 1	Cyber Security	$ 78,571	4.58%	$ 1,004	$ 3,599	17.76%	$ 3,893	$ 13,954	6.11%	$ 1,339	$ 4,801	36	40%	$ 220,000
10	Identity & Access Management: Fine Grain Access Management	Cyber Security	$ 235,714	4.58%	$ 3,012	$ 10,796	17.76%	$ 11,678	$ 41,863	6.11%	$ 4,018	$ 14,402	36	40%	$ 660,000
11	vStig Scaling Upgrades	Cyber Security	$ 142,857	4.58%	$ 2,035	$ 6,543	17.76%	$ 7,893	$ 25,371	6.11%	$ 2,715	$ 8,729	36	40%	$ 400,000
12	IT/OT Discovery and Implementation Phase 1	Cyber Security	$ 785,714	4.58%	$ 11,550	$ 35,986	17.76%	$ 44,789	$ 139,543	6.11%	$ 15,409	$ 48,007	36	40%	$ 2,200,000
13	Security Research Lab	Cyber Security	$ 46,429	4.58%	$ 683	$ 2,126	17.76%	$ 2,647	$ 8,246	6.11%	$ 911	$ 2,837	36	40%	$ 130,000
14	US CNI Security Enhancements Phase 1	Cyber Security	$ 235,714	4.58%	$ 3,518	$ 10,796	17.76%	$ 13,643	$ 41,863	6.11%	$ 4,694	$ 14,402	36	40%	$ 660,000
15	Identity & Access Management: Privileged Access Management	Cyber Security	$ 248,571	4.58%	$ 4,203	$ 11,385	17.76%	$ 16,297	$ 44,146	6.11%	$ 5,607	$ 15,188	36	30%	$ 522,000
16	Domain Based Security Phase 1	Cyber Security	$ 114,286	4.58%	$ 1,932	$ 5,234	17.76%	$ 7,493	$ 20,297	6.11%	$ 2,578	$ 6,983	36	30%	$ 240,000
17	Security Incident Event Management Phase 4	Cyber Security	$ 180,900	4.58%	$ 3,459	$ 8,285	17.76%	$ 13,413	$ 32,128	6.11%	$ 4,614	$ 11,053	36	30%	$ 379,890
18	Big Data Security Analytics Phase 1	Cyber Security	$ 660,222	4.58%	$ 12,624	$ 30,238	17.76%	$ 48,951	$ 117,255	6.11%	$ 16,841	$ 40,340	36	30%	$ 1,386,466
19	US CNI Intrusion Detection/Prevention Phase 2	Cyber Security	$ 114,286	4.58%	$ 2,988	$ 5,234	17.76%	$ 11,588	$ 20,297	6.11%	$ 3,986	$ 6,983	36	0%	$ -
20	Identity & Access Management: Shared Area Access Management	Cyber Security	$ 248,571	4.58%	$ 6,499	$ 11,385	17.76%	$ 25,203	$ 44,146	6.11%	$ 8,671	$ 15,188	36	0%	$ -
21	Security Incident Event Management Phase 5	Cyber Security	$ 96,008	4.58%	$ 1,310	$ 4,397	17.76%	$ 5,080	$ 17,051	6.11%	$ 1,748	$ 5,866	36	0%	$ -
22	Domain Based Security Phase 2	Cyber Security	$ -	4.58%	$ 13,611	$ -	17.76%	$ 52,780	$ -	6.11%	$ 18,158	$ -	36	0%	$ -
23	Security Incident Event Management (SIEM) 6	Cyber Security	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
24	Big Data Security Analytics - Phase 2	Cyber Security	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
25	IT/OT Discovery and Implementation: Phase 2	Cyber Security	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
26	US CNI Security Enhancements - Phase 2	Cyber Security	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
27	Data Visualization	Cyber Security	$ -	4.58%	$ -	$ -	17.76%	$ -	$ -	6.11%	$ -	$ -	36	0%	$ -
29	INVP 4045 Double Pole Mgmt DB	FY18 Plan	$ 68,879	0.00%	$ -	$ -	41.93%	$ 6,144	$ 28,881	0.00%	$ -	$ -	36	50%	$ 241,077
30	INVP 4373 Contingent Labor Admin Replacement	FY18 Plan	$ 35,813	4.58%	$ 349	$ 1,640	17.76%	$ 1,353	$ 6,360	6.11%	$ 465	$ 2,188	36	50%	$ 125,346
32	INVP 4188 Aging System Stabilize	FY18 Plan	$ 111,816	4.83%	$ 1,176	$ 5,401	18.77%	$ 4,568	$ 20,988	6.43%	$ 1,565	$ 7,190	36	50%	$ 391,355
33	INVP 4280 US VSTIG Bandwidth Ph2	FY18 Plan	$ 285,521	4.58%	$ 2,846	$ 13,077	17.76%	$ 11,037	$ 50,708	6.11%	$ 3,797	$ 17,445	36	50%	$ 999,323
34	INVP 4307 US Win 7 Refresh Ph 3	FY18 Plan	$ 1,651,857	4.58%	$ 16,467	$ 75,655	17.76%	$ 63,856	$ 293,370	6.11%	$ 21,968	$ 100,928	36	50%	$ 5,781,500
35	INVP 4364 Wireless Network	FY18 Plan	$ 329,137	4.58%	$ 3,281	$ 15,074	17.76%	$ 12,723	$ 58,455	6.11%	$ 4,377	$ 20,110	36	50%	$ 1,151,979
36	S005242 M112 Systemic Improvement	FY18 Plan	$ 800,000	4.58%	$ 14,649	$ 36,640	17.76%	$ 56,804	$ 142,080	6.11%	$ 19,542	$ 48,880	36	50%	$ 4,000,000
37	INVP 4289 US Network Improvement	FY18 Plan	$ 139,817	4.58%	$ 1,394	$ 6,404	17.76%	$ 5,405	$ 24,831	6.11%	$ 1,859	$ 8,543	36	50%	$ 489,358
38	HANA License Costs	FY18 Plan	$ 500,000	4.58%	$ 4,984	$ 22,900	17.76%	$ 19,328	$ 88,800	6.11%	$ 6,650	$ 30,550	36	50%	$ 1,750,000
39	Microsoft ELA Renewal	FY18 Plan	$ 271,429	4.58%	$ 2,706	$ 12,431	17.76%	$ 10,493	$ 48,206	6.11%	$ 3,610	$ 16,584	36	50%	$ 950,000
40	Mobile Device Refresh - FY17	FY18 Plan	$ 649,429	4.58%	$ 6,474	$ 29,744	17.76%	$ 25,105	$ 115,339	6.11%	$ 8,637	$ 39,680	36	50%	$ 2,273,000
41	Zscaler	FY18 Plan	$ 300,000	4.58%	$ 2,991	$ 13,740	17.76%	$ 11,597	$ 53,280	6.11%	$ 3,990	$ 18,330	36	50%	$ 1,050,000
43	INVP 4631 Box Enablement	FY18 Plan	$ 36,286	4.58%	$ 370	$ 1,662	17.76%	$ 1,435	$ 6,444	6.11%	$ 494	$ 2,217	36	50%	$ 127,000
44	INVP 4170 Time Transformation	FY18 Plan	$ 559,571	4.58%	$ 5,705	$ 25,628	17.76%	$ 22,122	$ 99,380	6.11%	$ 7,611	$ 34,190	36	50%	$ 1,958,500
45	INVP 4420 US CNI OMSFocalPoint Infrastructure Upgrade	FY18 Plan	$ 195,223	0.00%	$ -	$ -	41.93%	$ 18,221	$ 81,857	0.00%	$ -	$ -	36	50%	$ 683,282
46	INVP 4274 VSTIG Hardware Refresh	FY18 Plan	$ 86,857	4.58%	$ 905	$ 3,978	17.76%	$ 3,510	$ 15,426	6.11%	$ 1,208	$ 5,307	36	50%	$ 304,000
47	US Video Conferencing upgrade for RW	FY18 Plan	$ 190,000	4.58%	$ 1,980	$ 8,702	17.76%	$ 7,678	$ 33,744	6.11%	$ 2,641	$ 11,609	36	50%	$ 665,000
48	Hix D/C Improvement Server Refresh	FY18 Plan	$ 142,857	4.58%	$ 1,521	$ 6,543	17.76%	$ 5,898	$ 25,371	6.11%	$ 2,029	$ 8,729	36	50%	$ 500,000
49	INVP 4464 Data Visualization	FY18 Plan	$ 634,286	4.58%	$ 6,897	$ 29,050	17.76%	$ 26,744	$ 112,649	6.11%	$ 9,201	$ 38,755	36	50%	$ 2,220,000
50	Mobility - (MDM) Mobile Device	FY18 Plan	$ 166,000	4.58%	$ 1,805	$ 7,603	17.76%	$ 6,999	$ 29,482	6.11%	$ 2,408	$ 10,143	36	50%	$ 581,000
51	Changes to ACIS for PMCC Civil Vendor Billing	FY18 Plan	$ 54,571	0.00%	$ -	$ -	30.74%	$ 3,983	$ 16,775	10.99%	$ 1,424	$ 5,997	36	50%	$ 191,000
52	INVP 4461 Unix51 Interface Migration	FY18 Plan	$ 198,100	4.58%	$ 2,199	$ 9,073	17.76%	$ 8,526	$ 35,183	6.11%	$ 2,933	$ 12,104	36	50%	$ 693,351
53	INVP 4287 Active Directory Upgrade	FY18 Plan	$ 114,975	4.58%	$ 1,302	$ 5,266	17.76%	$ 5,049	$ 20,420	6.11%	$ 1,737	$ 7,025	36	50%	$ 402,413
54	US Control-Gas System Operating Procedure (SOP) Upgrade	FY18 Plan	$ 77,429	12.44%	$ 2,382	$ 9,632	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 271,000
55	Enterprise Labs	FY18 Plan	$ 95,429	4.58%	$ 1,102	$ 4,371	17.76%	$ 4,275	$ 16,948	6.11%	$ 1,471	$ 5,831	36	50%	$ 334,000
56	Cascade Electric Application Upgrade Project	FY18 Plan	$ 53,571	0.00%	$ -	$ -	41.93%	$ 5,665	$ 22,463	0.00%	$ -	$ -	36	50%	$ 187,500
57	INVP 4408 Doc Mgmt Systems Replacement Delivery	FY18 Plan	$ 516,792	4.61%	$ 6,009	$ 23,824	17.88%	$ 23,306	$ 92,402	6.15%	$ 8,016	$ 31,783	36	50%	$ 1,808,771
58	WIFI for Fleet Services Diagnostic Laptops	FY18 Plan	$ 119,714	4.63%	$ 1,398	$ 5,543	17.94%	$ 5,417	$ 21,477	6.17%	$ 1,863	$ 7,386	36	50%	$ 419,000
59	Gas Service Database - UNY	FY18 Plan	$ 46,429	100.00%	$ 11,939	$ 46,429	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 162,500
62	Gas Capital Investment Planning Tool	FY18 Plan	$ 81,714	12.44%	$ 2,735	$ 10,165	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 228,800
63	Computapole Enhancements to Support Inspection Types	FY18 Plan	$ 64,286	0.00%	$ -	$ -	30.74%	$ 5,415	$ 19,761	10.99%	$ 1,936	$ 7,065	36	40%	$ 180,000
64	Travel & Expense Management (T&E) and Global Master Service Provider (MSP) Strategy	FY18 Plan	$ 176,000	4.58%	$ 2,209	$ 8,061	17.76%	$ 8,566	$ 31,258	6.11%	$ 2,947	$ 10,754	36	40%	$ 492,800
65	Ageing System Stabilization/Upgrades - FY18	FY18 Plan	$ 214,286	4.83%	$ 2,836	$ 10,350	18.77%	$ 11,022	$ 40,221	6.43%	$ 3,776	$ 13,779	36	40%	$ 600,000
66	INVP 3486 US MDS-Itron Enterprise Edition (IEE)	FY18 Plan	$ 95,849	0.00%	$ -	$ -	30.74%	$ 8,219	$ 29,464	10.99%	$ 2,939	$ 10,534	36	40%	$ 268,377
67	INVP 4390 Plastic Fusion II	FY18 Plan	$ 72,286	12.44%	$ 2,509	$ 8,992	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 202,400
68	INVP 4397 Ariba TLS and CI Update	FY18 Plan	$ 146,200	4.58%	$ 3,093	$ 6,696	17.76%	$ 11,996	$ 25,965	6.11%	$ 4,127	$ 8,933	36	40%	$ 584,800
69	US Mobile Device Refresh	FY18 Plan	$ 714,286	4.58%	$ 14,583	$ 32,714	17.76%	$ 56,550	$ 126,857	6.11%	$ 19,455	$ 43,643	36	40%	$ 2,000,000
70	US SAP: Infrastructure Landscape	FY18 Plan	$ 657,571	4.58%	$ 8,402	$ 30,117	17.76%	$ 32,579	$ 116,785	6.11%	$ 11,208	$ 40,178	36	40%	$ 1,841,200
71	US CNI Tech Services-Network Equipment Lifecycle Replacements	FY18 Plan	$ 35,714	0.00%	$ -	$ -	30.74%	$ 3,063	$ 10,979	10.99%	$ 1,095	$ 3,925	36	40%	$ 100,000
72	US CNI-EMS Lifecycle Hardware and Software Upgrade	FY18 Plan	$ 1,906,857	0.00%	$ -	$ -	26.20%	$ 139,371	$ 499,597	35.42%	$ 188,416	$ 675,409	36	40%	$ 5,339,200
73	Network Transformation Completion - CEMS	FY18 Plan	$ 35,714	4.58%	$ 456	$ 1,636	17.76%	$ 1,769	$ 6,343	6.11%	$ 609	$ 2,182	36	40%	$ 100,000
74	Application monitoring, Network/IDS, Operations monitoring	FY18 Plan	$ 107,143	4.58%	$ 1,369	$ 4,907	17.76%	$ 5,308	$ 19,029	6.11%	$ 1,826	$ 6,546	36	40%	$ 300,000
75	Aged Printer refresh	FY18 Plan	$ 7,143	4.58%	$ 91	$ 327	17.76%	$ 354	$ 1,269	6.11%	$ 122	$ 436	36	40%	$ 20,000
76	RSA Token refresh	FY18 Plan	$ 28,571	4.58%	$ 365	$ 1,309	17.76%	$ 1,416	$ 5,074	6.11%	$ 487	$ 1,746	36	40%	$ 80,000

Exhibit_____(RRP-11CU)
Workpapers to RRP-3CU
Schedule 9
Workpaper 9
Page 3 of 8

Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2021

Line	Investment Name	Programs	INVP #	Bill Pool	FY21 Total Spend	In Service Date	Amortization Period	4/1/2020 Balance	3/31/2021 Balance	Average Balance	Service Co Return	Year Return	Return on Accum Taxes	Total Return
								4/1/2020	3/31/2021		9.9061%			
78	INVP4449 - EPA File	FY18 Plan	4449	C170	$ 700,000	3/31/2018	84	$ 500,000	$ 400,000	$ 450,000	9.9061%	$ 44,577	$ (16,681)	$ 27,897
79	Informatica Upgrade/Microstrategy Replacement Program	FY18 Plan	4469	G020	$ 3,516,000	5/1/2018	84	$ 2,553,286	$ 2,051,000	$ 2,302,143	9.9061%	$ 228,052	$ (79,231)	$ 148,821
80	Call Center Customer Contact Center/SDC Technology Upgrade Implement Solution	FY18 Plan	3932	C175	$ 27,724,719	8/31/2018	84	$ 21,453,652	$ 17,492,977	$ 19,473,315	9.9061%	$ 1,929,043	$ (677,335)	$ 1,251,708
81	US MDS-Energy Accounting System (EAS) migration to Wholesale Settlement Application (WSA)	FY18 Plan	4481	G186	$ 2,160,000	10/1/2018	84	$ 1,697,143	$ 1,388,571	$ 1,542,857	9.9061%	$ 152,837	$ (53,794)	$ 99,042
82	INVP 4398 StormsI Sched Upgrade	FY18 Plan	4398	G160	$ 9,955,867	12/15/2018	84	$ 8,039,511	$ 6,637,244	$ 7,348,378	9.9061%	$ 727,937	$ (257,389)	$ 470,548
84	STORMS Capital Cost Estimates	FY18 Plan	4467	G148	$ 776,000	3/1/2019	84	$ 655,905	$ 545,048	$ 600,476	9.9061%	$ 59,484	$ (20,708)	$ 38,776
86	US CNI Tech Services-Network Equipment Lifecycle Replacements	FY18 Plan	4570	G186	$ 250,000	3/31/2019	84	$ 214,286	$ 178,571	$ 196,429	9.9061%	$ 19,458	$ (6,274)	$ 13,185
87	Inventory Management Handheld Devices	FY18 Plan		G020	$ 75,000	3/31/2019	84	$ 64,286	$ 53,571	$ 58,929	9.9061%	$ 5,838	$ (1,882)	$ 3,955
88	Customer Bill Redesign	FY18 Plan	4704Q	H173	$ 2,108,147	3/31/2019	84	$ 1,806,983	$ 1,505,819	$ 1,656,401	9.9061%	$ 164,085	$ (52,904)	$ 111,180
89	INVP 3737 US CNI GMS SCADA Upgrade &	FY18 Plan	3737	C210	$ 25,930,291	3/31/2020	84	$ 25,930,291	$ 22,225,964	$ 24,078,128	9.9061%	$ 2,385,200	$ (270,411)	$ 2,114,789
90	Cisco Prime	FY18 Plan	4679	G020	$ 648,000	3/31/2021	84	$ -	$ 648,000	$ 324,000	9.9061%	$ 32,096	$ -	$ 32,096
91	Contractor Management Modernization	FY18 Plan	4151	G327	$ 5,910,000	10/15/2021	84	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
92	Risk Management (Tx Mains & Dx Mains)	GBE- Asset Management		C210	$ 2,110,800	12/1/2017	120	$ 1,618,280	$ 1,407,200	$ 1,512,740	9.9061%	$ 149,853	$ (57,127)	$ 92,727
93	AM Program Leadership-1	GBE- Asset Management		C210	$ 277,124	3/1/2018	120	$ 219,390	$ 191,677	$ 205,534	9.9061%	$ 20,360	$ (7,694)	$ 12,666
94	Enhancements	GBE- Asset Management		C210	$ 2,660,875	12/1/2018	120	$ 2,306,092	$ 2,040,004	$ 2,173,048	9.9061%	$ 215,264	$ (77,117)	$ 138,147
95	Additional IM Modules	GBE- Asset Management		C210	$ 716,840	2/1/2019	120	$ 633,208	$ 561,524	$ 597,366	9.9061%	$ 59,176	$ (20,828)	$ 38,347
96	AM Program Leadership-2	GBE- Asset Management		C210	$ 398,676	3/1/2019	120	$ 355,486	$ 315,619	$ 335,552	9.9061%	$ 33,240	$ (11,716)	$ 21,524
97	Data Remediation, GIS Upgrade/ Migration & GIS Mobility	GBE- Asset Management		C210	$ 11,311,759	3/1/2019	120	$ 10,086,318	$ 8,955,142	$ 9,520,730	9.9061%	$ 943,132	$ (332,424)	$ 610,708
98	EAM-FIN Integration	GBE- Asset Management		C210	$ 1,778,102	6/1/2019	120	$ 1,629,927	$ 1,452,117	$ 1,541,022	9.9061%	$ 152,655	$ (39,338)	$ 113,317
99	Integrity Management Integrations	GBE- Asset Management		C210	$ 1,088,112	10/1/2019	120	$ 1,033,706	$ 924,895	$ 979,300	9.9061%	$ 97,010	$ (25,517)	$ 71,493
100	AM Program Leadership-3	GBE- Asset Management		C210	$ 408,336	3/1/2020	120	$ 404,933	$ 364,100	$ 384,516	9.9061%	$ 38,091	$ (8,085)	$ 30,005
101	Design (GWD), Estimating (CU), & Mobility	GBE- Asset Management		C210	$ 9,851,109	9/1/2020	120	$ -	$ 9,276,461	$ 4,638,231	9.9061%	$ 459,467	$ (53,934)	$ 405,533
102	Asset Analytics Integration	GBE- Asset Management		C210	$ 1,764,202	12/1/2020	120	$ -	$ 1,705,395	$ 852,698	9.9061%	$ 84,469	$ (10,537)	$ 73,932
103	GIS (GWD/CU) - PPM Integration	GBE- Asset Management		C210	$ 844,849	12/1/2020	120	$ -	$ 816,687	$ 408,343	9.9061%	$ 40,451	$ (5,046)	$ 35,405
104	GIS-EAM Integration	GBE- Asset Management		C210	$ 7,818,756	12/2/2020	120	$ -	$ 7,558,131	$ 3,779,066	9.9061%	$ 374,357	$ -	$ -
105	AM Program Leadership-4	GBE- Asset Management		C210	$ 103,929	3/1/2021	120	$ -	$ 103,063	$ 51,531	9.9061%	$ 5,105	$ (672)	$ 4,432
106	Use Case No.1 - Asset Risk	GBE- Asset Management		C210	$ 3,591,031	3/1/2021	120	$ -	$ 3,561,106	$ 1,780,553	9.9061%	$ 176,383	$ (23,236)	$ 153,147
107	Complex Design (CAD) & Estimating (ESW)	GBE- Asset Management		C210	$ 2,389,087	3/1/2021	120	$ -	$ 2,369,178	$ 1,184,589	9.9061%	$ 117,346	$ (15,459)	$ 101,888
108	Program Learning Management-1	GBE- Business Enablement		C210	$ 117,297	3/1/2018	120	$ 92,860	$ 81,130	$ 86,995	9.9061%	$ 8,618	$ (3,257)	$ 5,361
109	Program Transformational Change Office-1	GBE- Business Enablement		C210	$ 689,043	3/1/2018	120	$ 545,492	$ 476,588	$ 511,040	9.9061%	$ 50,624	$ (19,131)	$ 31,493
110	Program Business Sustainment-1	GBE- Business Enablement		C210	$ 69,617	3/1/2019	120	$ 62,075	$ 55,113	$ 58,594	9.9061%	$ 5,804	$ (2,046)	$ 3,759
111	Program Learning Management-2	GBE- Business Enablement		C210	$ 130,211	3/1/2019	120	$ 116,105	$ 103,083	$ 109,594	9.9061%	$ 10,856	$ (3,827)	$ 7,030
112	Program Transformational Change Office -2	GBE- Business Enablement		C210	$ 1,516,310	3/1/2019	120	$ 1,352,043	$ 1,200,412	$ 1,276,227	9.9061%	$ 126,424	$ (44,560)	$ 81,864
113	Program Learning Management-3	GBE- Business Enablement		C210	$ 173,060	3/1/2020	120	$ 171,618	$ 154,312	$ 162,965	9.9061%	$ 16,143	$ (3,427)	$ 12,717
114	Program Transformational Change Office-3	GBE- Business Enablement		C210	$ 368,704	3/1/2020	120	$ 365,632	$ 328,761	$ 347,197	9.9061%	$ 34,394	$ (7,300)	$ 27,093
115	Program Business Sustainment-2	GBE- Business Enablement		C210	$ 221,771	3/1/2021	120	$ -	$ 219,923	$ 109,961	9.9061%	$ 10,893	$ (1,435)	$ 9,458
116	Program Learning Management-4	GBE- Business Enablement		C210	$ 195,721	3/1/2021	120	$ -	$ 194,090	$ 97,045	9.9061%	$ 9,613	$ (1,266)	$ 8,347
117	Program Transformational Change Office-4	GBE- Business Enablement		C210	$ 169,648	3/1/2021	120	$ -	$ 168,234	$ 84,117	9.9061%	$ 8,333	$ (1,098)	$ 7,235
118	Customer Experience Program Leadership-1	GBE- Customer Engagement		C210	$ 260,229	3/1/2019	120	$ 232,038	$ 206,015	$ 219,026	9.9061%	$ 21,697	$ (7,647)	$ 14,049
119	CxT Portal & Channel Management	GBE- Customer Engagement		C210	$ 11,875,000	6/1/2019	120	$ 10,885,417	$ 9,697,917	$ 10,291,667	9.9061%	$ 1,019,501	$ (262,716)	$ 756,786
120	Customer Interaction - First Release	GBE- Customer Engagement		C210	$ 4,796,546	10/1/2019	120	$ 4,556,718	$ 4,077,064	$ 4,316,891	9.9061%	$ 427,635	$ (112,483)	$ 315,152
121	Employee Support Interaction - First Release	GBE- Customer Engagement		C210	$ 7,954,131	10/1/2019	120	$ 7,556,424	$ 6,761,011	$ 7,158,718	9.9061%	$ 709,149	$ (186,531)	$ 522,618
122	Customer Experience Program Leadership-2	GBE- Customer Engagement		C210	$ 266,277	3/1/2020	120	$ 264,058	$ 237,430	$ 250,744	9.9061%	$ 24,839	$ (5,272)	$ 19,567
123	CRM / Contact Center	GBE- Customer Engagement		C210	$ 19,000,000	6/1/2020	120	$ -	$ 17,416,667	$ 8,708,333	9.9061%	$ 862,655	$ (94,566)	$ 768,089
124	Large Commercial & Landlord Interaction	GBE- Customer Engagement		C210	$ 1,446,508	7/1/2020	120	$ -	$ 1,338,020	$ 669,010	9.9061%	$ 66,273	$ (7,439)	$ 58,833
125	Employee Support Interaction - Second Release	GBE- Customer Engagement		C210	$ 292,791	7/1/2020	120	$ -	$ 270,832	$ 135,416	9.9061%	$ 13,414	$ (1,506)	$ 11,909
126	Customer Interaction - Second Release	GBE- Customer Engagement		C210	$ 2,010,254	1/1/2021	120	$ -	$ 1,959,998	$ 979,999	9.9061%	$ 97,080	$ (12,340)	$ 84,739
127	Customer Experience Program Leadership-3	GBE- Customer Engagement		C210	$ 203,177	3/1/2021	120	$ -	$ 201,484	$ 100,742	9.9061%	$ 9,980	$ (1,315)	$ 8,665
128	Data Management Implementation (Quality & Cleansing)	GBE- Data Management		C210	$ 11,100,000	12/1/2017	120	$ 8,510,000	$ 7,400,000	$ 7,955,000	9.9061%	$ 788,029	$ (300,411)	$ 487,619
129	Data Management & Governance Program Leadership-1	GBE- Data Management		C210	$ 58,890	3/1/2018	120	$ 46,621	$ 40,732	$ 43,677	9.9061%	$ 4,327	$ (1,635)	$ 2,692
130	Enable the Data Archive Process	GBE- Data Management		C210	$ 2,179,480	3/1/2019	120	$ 1,943,370	$ 1,725,422	$ 1,834,396	9.9061%	$ 181,717	$ (64,049)	$ 117,667
131	Data Management & Governance Program Leadership-2	GBE- Data Management		C210	$ 87,954	3/1/2019	120	$ 78,426	$ 69,630	$ 74,028	9.9061%	$ 7,333	$ (2,585)	$ 4,749
132	Data Management & Governance Program Leadership-3	GBE- Data Management		C210	$ 89,713	3/1/2020	120	$ 88,965	$ 79,994	$ 84,480	9.9061%	$ 8,369	$ (1,776)	$ 6,592
133	PowerPlan Architecture Enhancements	GBE- Information Services Enabling		C210	$ 6,080,111	11/1/2017	120	$ 4,610,751	$ 4,002,740	$ 4,306,745	9.9061%	$ 426,630	$ (162,534)	$ 264,095
134	Comprehensive Integration Services (Enhancements)	GBE- Information Services Enabling		C210	$ 78,624	12/1/2017	120	$ 60,278	$ 52,416	$ 56,347	9.9061%	$ 5,582	$ (2,128)	$ 3,454
135	Application (Environment) Infrastructure	GBE- Information Services Enabling		C210	$ 2,174,410	12/1/2017	120	$ 1,667,048	$ 1,449,607	$ 1,558,327	9.9061%	$ 154,369	$ (58,848)	$ 95,521
136	Development Operations & BPA Enablement-1	GBE- Information Services Enabling		C210	$ 2,903,920	3/1/2018	120	$ 2,298,937	$ 2,008,545	$ 2,153,741	9.9061%	$ 213,351	$ (80,626)	$ 132,726
137	SAP and Application Integration Development- Release 1-1	GBE- Information Services Enabling		C210	$ 4,765,187	3/1/2018	120	$ 3,772,440	$ 3,295,921	$ 3,534,180	9.9061%	$ 350,099	$ (132,303)	$ 217,796
138	Mobility CoE & End-User Computing-1	GBE- Information Services Enabling		C210	$ 604,790	3/1/2018	120	$ 478,792	$ 418,313	$ 448,553	9.9061%	$ 44,434	$ (16,792)	$ 27,642
139	Operations/System Monitoring	GBE- Information Services Enabling		C210	$ 1,057,768	8/1/2018	120	$ 881,474	$ 775,697	$ 828,585	9.9061%	$ 82,080	$ (29,252)	$ 52,828
140	Development Operations & BPA Enablement-2	GBE- Information Services Enabling		C210	$ 2,562,011	3/1/2019	120	$ 2,284,460	$ 2,028,259	$ 2,156,359	9.9061%	$ 213,611	$ (75,291)	$ 138,320
141	SAP and Application Integration Development- Release 1-2	GBE- Information Services Enabling		C210	$ 4,548,168	3/1/2019	120	$ 4,055,449	$ 3,600,633	$ 3,828,041	9.9061%	$ 379,209	$ (133,659)	$ 245,550
142	SAP and Application Integration Development- Release 2-1	GBE- Information Services Enabling		C210	$ 5,055,712	3/1/2019	120	$ 4,508,009	$ 4,002,438	$ 4,255,224	9.9061%	$ 421,526	$ (148,574)	$ 272,952
143	Mobility CoE & End-User Computing-2	GBE- Information Services Enabling		C210	$ 920,536	3/1/2019	120	$ 820,811	$ 728,758	$ 774,785	9.9061%	$ 76,751	$ (27,052)	$ 49,699
144	Development Operations & BPA Enablement-3	GBE- Information Services Enabling		C210	$ 2,164,144	3/1/2020	120	$ 2,146,110	$ 1,929,695	$ 2,037,902	9.9061%	$ 201,876	$ (42,851)	$ 159,025
145	SAP and Application Integration Development- Release 1-3	GBE- Information Services Enabling		C210	$ 600,000	3/1/2020	120	$ 595,000	$ 535,000	$ 565,000	9.9061%	$ 55,969	$ (11,880)	$ 44,089
146	SAP and Application Integration Development- Release 2-2	GBE- Information Services Enabling		C210	$ 4,397,065	3/1/2020	120	$ 4,360,423	$ 3,920,716	$ 4,140,569	9.9061%	$ 410,168	$ (87,064)	$ 323,105
147	SAP and Application Integration Development- Release 3-1	GBE- Information Services Enabling		C210	$ 85,915	3/1/2020	120	$ 85,199	$ 76,607	$ 80,903	9.9061%	$ 8,014	$ (1,701)	$ 6,313
148	Mobility CoE & End-User Computing-3	GBE- Information Services Enabling		C210	$ 1,031,843	3/1/2020	120	$ 1,023,244	$ 920,060	$ 971,652	9.9061%	$ 96,253	$ (20,431)	$ 75,822
149	Test Automation Implementation	GBE- Information Services Enabling		C210	$ 2,577,052	12/1/2020	120	$ -	$ 2,491,150	$ 1,245,575	9.9061%	$ 123,388	$ (15,392)	$ 107,996
150	Development Operations & BPA Enablement-4	GBE- Information Services Enabling		C210	$ 2,176,436	3/1/2021	120	$ -	$ 2,158,299	$ 1,079,149	9.9061%	$ 106,901	$ (14,083)	$ 92,819
151	SAP and Application Integration Development- Release 1-4	GBE- Information Services Enabling		C210	$ 600,000	3/1/2021	120	$ -	$ 595,000	$ 297,500	9.9061%	$ 29,471	$ (3,882)	$ 25,588
152	SAP and Application Integration Development- Release 3-2	GBE- Information Services Enabling		C210	$ 2,326,606	3/1/2021	120	$ -	$ 2,307,217	$ 1,153,609	9.9061%	$ 114,277	$ (15,054)	$ 99,223

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Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2021

Line	Investment Name	Programs	Year Amortization	5210G NIMO G Allocation	NIMO G Rent-Return	NIMO G Rent - Depn	5210E NIMO E Allocation	NIMO E Rent-Return	NIMO E Rent - Depn	5210T NIMO T Allocation	NIMO T Rent-Return	NIMO T Rent - Depn	Amortization Period	Bonus Rate	Bonus Depreciation
78	INVP4449 - EPA File	FY18 Plan	$ 100,000	14.88%	$ 4,151	$ 14,880	40.06%	$ 11,175	$ 40,060	0.00%	$ -	$ -	36	40%	$ 280,000
79	Informatica Upgrade/Microstrategy Replacement Program	FY18 Plan	$ 502,286	4.58%	$ 6,816	$ 23,005	17.76%	$ 26,431	$ 89,206	6.11%	$ 9,093	$ 30,690	36	40%	$ 1,406,400
80	Call Center Customer Contact Center/SDC Technology Upgrade Implement Solution	FY18 Plan	$ 3,960,674	8.65%	$ 108,281	$ 342,625	23.28%	$ 291,387	$ 922,013	0.00%	$ -	$ -	36	40%	$ 11,089,888
81	US MDS-Energy Accounting System (EAS) migration to Wholesale Settlement Application (WSA)	FY18 Plan	$ 308,571	0.00%	$ -	$ -	30.74%	$ 30,446	$ 94,855	10.99%	$ 10,885	$ 33,912	36	40%	$ 864,000
82	INVP 4398 StormsI Sched Upgrade	FY18 Plan	$ 1,422,267	7.15%	$ 33,644	$ 101,692	27.24%	$ 128,177	$ 387,425	9.63%	$ 45,314	$ 136,964	36	40%	$ 3,982,347
84	STORMS Capital Cost Estimates	FY18 Plan	$ 110,857	4.83%	$ 1,873	$ 5,354	18.77%	$ 7,278	$ 20,808	6.43%	$ 2,493	$ 7,128	36	30%	$ 232,800
86	US CNI Tech Services-Network Equipment Lifecycle Replacements	FY18 Plan	$ 35,714	0.00%	$ -	$ -	30.74%	$ 4,053	$ 10,979	10.99%	$ 1,449	$ 3,925	36	30%	$ 75,000
87	Inventory Management Handheld Devices	FY18 Plan	$ 10,714	4.58%	$ 181	$ 491	17.76%	$ 702	$ 1,903	6.11%	$ 242	$ 655	36	30%	$ 22,500
88	Customer Bill Redesign	FY18 Plan	$ 301,164	7.07%	$ 7,860	$ 21,292	19.12%	$ 21,258	$ 57,583	0.00%	$ -	$ -	36	30%	$ 632,444
89	INVP 3737 US CNI GMS SCADA Upgrade &	FY18 Plan	$ 3,704,327	16.89%	$ 357,188	$ 625,661	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
90	Cisco Prime	FY18 Plan	$ -	4.58%	$ 1,470	$ -	17.76%	$ 5,700	$ -	6.11%	$ 1,961	$ -	36	0%	$ -
91	Contractor Management Modernization	FY18 Plan	$ -	4.82%	$ -	$ -	18.70%	$ -	$ -	6.41%	$ -	$ -	36	0%	$ -
92	Risk Management (Tx Mains & Dx Mains)	GBE- Asset Management	$ 211,080	16.89%	$ 15,662	$ 35,651	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 1,055,400
93	AM Program Leadership-1	GBE- Asset Management	$ 27,712	16.89%	$ 2,139	$ 4,681	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 110,850
94	Enhancements	GBE- Asset Management	$ 266,088	16.89%	$ 23,333	$ 44,942	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 1,064,350
95	Additional IM Modules	GBE- Asset Management	$ 71,684	16.89%	$ 6,477	$ 12,107	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 215,052
96	AM Program Leadership-2	GBE- Asset Management	$ 39,868	16.89%	$ 3,635	$ 6,734	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 119,603
97	Data Remediation, GIS Upgrade/ Migration & GIS Mobility	GBE- Asset Management	$ 1,131,176	16.89%	$ 103,149	$ 191,056	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 3,393,528
98	EAM-FIN Integration	GBE- Asset Management	$ 177,810	16.89%	$ 19,139	$ 30,032	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 533,431
99	Integrity Management Integrations	GBE- Asset Management	$ 108,811	16.89%	$ 12,075	$ 18,378	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 326,433
100	AM Program Leadership-3	GBE- Asset Management	$ 40,834	16.89%	$ 5,068	$ 6,897	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
101	Design (GWD), Estimating (CU), & Mobility	GBE- Asset Management	$ 574,648	16.89%	$ 68,495	$ 97,058	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
102	Asset Analytics Integration	GBE- Asset Management	$ 58,807	16.89%	$ 12,487	$ 9,932	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
103	GIS (GWD/CU) - PPM Integration	GBE- Asset Management	$ 28,162	16.89%	$ 5,980	$ 4,756	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
104	GIS-EAM Integration	GBE- Asset Management	$ 260,625	16.89%	$ -	$ 44,020	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
105	AM Program Leadership-4	GBE- Asset Management	$ 866	16.89%	$ 749	$ 146	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
106	Use Case No.1 - Asset Risk	GBE- Asset Management	$ 29,925	16.89%	$ 25,867	$ 5,054	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
107	Complex Design (CAD) & Estimating (ESW)	GBE- Asset Management	$ 19,909	16.89%	$ 17,209	$ 3,363	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
108	Program Learning Management-1	GBE- Business Enablement	$ 11,730	16.89%	$ 905	$ 1,981	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 46,919
109	Program Transformational Change Office-1	GBE- Business Enablement	$ 68,904	16.89%	$ 5,319	$ 11,638	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 275,617
110	Program Business Sustainment-1	GBE- Business Enablement	$ 6,962	16.89%	$ 635	$ 1,176	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 20,885
111	Program Learning Management-2	GBE- Business Enablement	$ 13,021	16.89%	$ 1,187	$ 2,199	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 39,063
112	Program Transformational Change Office -2	GBE- Business Enablement	$ 151,631	16.89%	$ 13,827	$ 25,610	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 454,893
113	Program Learning Management-3	GBE- Business Enablement	$ 17,306	16.89%	$ 2,148	$ 2,923	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
114	Program Transformational Change Office-3	GBE- Business Enablement	$ 36,870	16.89%	$ 4,576	$ 6,227	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
115	Program Business Sustainment-2	GBE- Business Enablement	$ 1,848	16.89%	$ 1,597	$ 312	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
116	Program Learning Management-4	GBE- Business Enablement	$ 1,631	16.89%	$ 1,410	$ 275	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
117	Program Transformational Change Office-4	GBE- Business Enablement	$ 1,414	16.89%	$ 1,222	$ 239	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
118	Customer Experience Program Leadership-1	GBE- Customer Engagement	$ 26,023	16.89%	$ 2,373	$ 4,395	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 78,069
119	CxT Portal & Channel Management	GBE- Customer Engagement	$ 1,187,500	16.89%	$ 127,821	$ 200,569	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 3,562,500
120	Customer Interaction - First Release	GBE- Customer Engagement	$ 479,655	16.89%	$ 53,229	$ 81,014	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 1,438,964
121	Employee Support Interaction - First Release	GBE- Customer Engagement	$ 795,413	16.89%	$ 88,270	$ 134,345	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 2,386,239
122	Customer Experience Program Leadership-2	GBE- Customer Engagement	$ 26,628	16.89%	$ 3,305	$ 4,497	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
123	CRM / Contact Center	GBE- Customer Engagement	$ 1,583,333	16.89%	$ 129,730	$ 267,425	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
124	Large Commercial & Landlord Interaction	GBE- Customer Engagement	$ 108,488	16.89%	$ 9,937	$ 18,324	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
125	Employee Support Interaction - Second Release	GBE- Customer Engagement	$ 21,959	16.89%	$ 2,011	$ 3,709	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
126	Customer Interaction - Second Release	GBE- Customer Engagement	$ 50,256	16.89%	$ 14,312	$ 8,488	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
127	Customer Experience Program Leadership-3	GBE- Customer Engagement	$ 1,693	16.89%	$ 1,464	$ 286	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
128	Data Management Implementation (Quality & Cleansing)	GBE- Data Management	$ 1,110,000	16.89%	$ 82,359	$ 187,479	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 5,550,000
129	Data Management & Governance Program Leadership-1	GBE- Data Management	$ 5,889	16.89%	$ 455	$ 995	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 23,556
130	Enable the Data Archive Process	GBE- Data Management	$ 217,948	16.89%	$ 19,874	$ 36,811	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 653,844
131	Data Management & Governance Program Leadership-2	GBE- Data Management	$ 8,795	16.89%	$ 802	$ 1,486	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 26,386
132	Data Management & Governance Program Leadership-3	GBE- Data Management	$ 8,971	16.89%	$ 1,113	$ 1,515	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
133	PowerPlan Architecture Enhancements	GBE- Information Services Enabling	$ 608,011	16.89%	$ 44,606	$ 102,693	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 3,040,055
134	Comprehensive Integration Services (Enhancements)	GBE- Information Services Enabling	$ 7,862	16.89%	$ 583	$ 1,328	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 39,312
135	Application (Environment) Infrastructure	GBE- Information Services Enabling	$ 217,441	16.89%	$ 16,133	$ 36,726	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 1,087,205
136	Development Operations & BPA Enablement-1	GBE- Information Services Enabling	$ 290,392	16.89%	$ 22,417	$ 49,047	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 1,161,568
137	SAP and Application Integration Development- Release 1-1	GBE- Information Services Enabling	$ 476,519	16.89%	$ 36,786	$ 80,484	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 1,906,075
138	Mobility CoE & End-User Computing-1	GBE- Information Services Enabling	$ 60,479	16.89%	$ 4,669	$ 10,215	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 241,916
139	Operations/System Monitoring	GBE- Information Services Enabling	$ 105,777	16.89%	$ 8,923	$ 17,866	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 423,107
140	Development Operations & BPA Enablement-2	GBE- Information Services Enabling	$ 256,201	16.89%	$ 23,362	$ 43,272	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 768,603
141	SAP and Application Integration Development- Release 1-2	GBE- Information Services Enabling	$ 454,817	16.89%	$ 41,473	$ 76,819	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 1,364,450
142	SAP and Application Integration Development- Release 2-1	GBE- Information Services Enabling	$ 505,571	16.89%	$ 46,102	$ 85,391	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 1,516,713
143	Mobility CoE & End-User Computing-2	GBE- Information Services Enabling	$ 92,054	16.89%	$ 8,394	$ 15,548	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 276,161
144	Development Operations & BPA Enablement-3	GBE- Information Services Enabling	$ 216,414	16.89%	$ 26,859	$ 36,552	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
145	SAP and Application Integration Development- Release 1-3	GBE- Information Services Enabling	$ 60,000	16.89%	$ 7,447	$ 10,134	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
146	SAP and Application Integration Development- Release 2-2	GBE- Information Services Enabling	$ 439,706	16.89%	$ 54,572	$ 74,266	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
147	SAP and Application Integration Development- Release 3-1	GBE- Information Services Enabling	$ 8,591	16.89%	$ 1,066	$ 1,451	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
148	Mobility CoE & End-User Computing-3	GBE- Information Services Enabling	$ 103,184	16.89%	$ 12,806	$ 17,428	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
149	Test Automation Implementation	GBE- Information Services Enabling	$ 85,902	16.89%	$ 18,240	$ 14,509	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
150	Development Operations & BPA Enablement-4	GBE- Information Services Enabling	$ 18,137	16.89%	$ 15,677	$ 3,063	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
151	SAP and Application Integration Development- Release 1-4	GBE- Information Services Enabling	$ 5,000	16.89%	$ 4,322	$ 845	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
152	SAP and Application Integration Development- Release 3-2	GBE- Information Services Enabling	$ 19,388	16.89%	$ 16,759	$ 3,275	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -

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Workpapers to RRP-3CU
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Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2021

Line	Investment Name	Programs	INVP #	Bill Pool	FY21 Total Spend	In Service Date	Amortization Period	4/1/2020 Balance (4/1/2020)	3/31/2021 Balance (3/31/2021)	Average Balance	Service Co Return (9.9061%)	Year Return	Return on Accum Taxes	Total Return
153	Mobility CoE & End-User Computing-4	GBE- Information Services Enabling		C210	$ 952,793	3/1/2021	120	$ -	$ 944,853	$ 472,426	9.9061%	$ 46,799	$ (6,165)	$ 40,634
154	Portfolio Management Leadership-1	GBE- Portfolio Office		C210	$ 1,645,919	3/1/2018	120	$ 1,303,019	$ 1,138,427	$ 1,220,723	9.9061%	$ 120,926	$ (45,698)	$ 75,228
155	Solution Architects & Agile Coaches-1	GBE- Portfolio Office		C210	$ 1,958,277	3/1/2018	120	$ 1,550,303	$ 1,354,475	$ 1,452,389	9.9061%	$ 143,875	$ (54,371)	$ 89,504
156	Portfolio Management Leadership-2	GBE- Portfolio Office		C210	$ 2,144,482	3/1/2019	120	$ 1,912,163	$ 1,697,715	$ 1,804,939	9.9061%	$ 178,799	$ (63,021)	$ 115,778
157	Solution Architects & Agile Coaches-2	GBE- Portfolio Office		C210	$ 3,964,632	3/1/2019	120	$ 3,535,130	$ 3,138,667	$ 3,336,899	9.9061%	$ 330,556	$ (116,510)	$ 214,046
158	Portfolio Management Leadership-3	GBE- Portfolio Office		C210	$ 2,161,221	3/1/2020	120	$ 2,143,211	$ 1,927,089	$ 2,035,150	9.9061%	$ 201,604	$ (42,793)	$ 158,811
159	Solution Architects & Agile Coaches-3	GBE- Portfolio Office		C210	$ 2,824,290	3/1/2020	120	$ 2,800,755	$ 2,518,326	$ 2,659,540	9.9061%	$ 263,456	$ (55,922)	$ 207,534
160	Portfolio Management Leadership-4	GBE- Portfolio Office		C210	$ 1,855,901	3/1/2021	120	$ -	$ 1,840,435	$ 920,218	9.9061%	$ 91,158	$ (12,009)	$ 79,149
161	Regulatory/ Compliance	GBE- Regulatory and Compliance		C210	$ 3,000,000	9/1/2019	120	$ 2,825,000	$ 2,525,000	$ 2,675,000	9.9061%	$ 264,988	$ (69,357)	$ 195,631
162	Supply Chain Program Leadership	GBE- Supply Chain		C210	$ 565,045	3/1/2019	120	$ 503,832	$ 447,327	$ 475,580	9.9061%	$ 47,111	$ (16,605)	$ 30,506
163	Supply Chain Program Leadership	GBE- Supply Chain		C210	$ 235,258	3/1/2020	120	$ 233,298	$ 209,772	$ 221,535	9.9061%	$ 21,945	$ (4,658)	$ 17,287
164	Business Architecture Design	GBE- Work Management		C210	$ 3,004,085	12/1/2017	120	$ 2,303,132	$ 2,002,723	$ 2,152,927	9.9061%	$ 213,271	$ (81,303)	$ 131,968
165	WMFE Program Leadership-1	GBE- Work Management		C210	$ 234,013	3/1/2018	120	$ 185,260	$ 161,859	$ 173,560	9.9061%	$ 17,193	$ (6,497)	$ 10,696
166	Corrosion and I&R Work	GBE- Work Management		C210	$ 26,479,653	7/1/2018	120	$ 21,845,714	$ 19,197,748	$ 20,521,731	9.9061%	$ 2,032,900	$ (723,493)	$ 1,309,408
167	CU Governance & Library - process	GBE- Work Management		C210	$ 1,658,439	11/1/2018	120	$ 1,423,494	$ 1,257,650	$ 1,340,572	9.9061%	$ 132,798	$ (47,514)	$ 85,284
168	WMFE Program Leadership-2	GBE- Work Management		C210	$ 563,692	3/1/2019	120	$ 502,625	$ 446,256	$ 474,441	9.9061%	$ 46,999	$ (16,565)	$ 30,433
169	Company Driven Work: Collections and non-Appointment Offs - Gas	GBE- Work Management		C210	$ 5,310,645	10/1/2019	120	$ 5,045,113	$ 4,514,048	$ 4,779,581	9.9061%	$ 473,469	$ (124,539)	$ 348,930
170	Company Driven Work: Collections and non-Appointment Offs- Electric	GBE- Work Management		C198	$ 2,859,577	10/1/2019	120	$ 2,716,598	$ 2,430,640	$ 2,573,619	9.9061%	$ 254,945	$ (67,060)	$ 187,885
171	Customer, Leak Investigation & Inspections - Gas	GBE- Work Management		C210	$ 20,374,438	10/1/2019	120	$ 19,355,716	$ 17,318,272	$ 18,336,994	9.9061%	$ 1,816,478	$ (477,798)	$ 1,338,680
172	Customer, Leak Investigation & Inspections - Electric	GBE- Work Management		C198	$ 10,970,850	10/1/2019	120	$ 10,422,308	$ 9,325,223	$ 9,873,765	9.9061%	$ 978,104	$ (257,276)	$ 720,828
173	WMFE Program Leadership-3	GBE- Work Management		C210	$ 595,004	3/1/2020	120	$ 590,046	$ 530,545	$ 560,295	9.9061%	$ 55,503	$ (11,781)	$ 43,722
174	PowerPlan Integration & Enhancements	GBE- Work Management		C210	$ 1,946,867	6/1/2020	120	$ -	$ 1,784,629	$ 892,314	9.9061%	$ 88,393	$ (9,690)	$ 78,704
175	Construction Work & Leak Repair	GBE- Work Management		C210	$ 19,718,534	9/1/2020	120	$ -	$ 18,568,286	$ 9,284,143	9.9061%	$ 919,695	$ (107,958)	$ 811,738
176	WMFE Program Leadership-4	GBE- Work Management		C210	$ 155,062	3/1/2021	120	$ -	$ 153,770	$ 76,885	9.9061%	$ 7,616	$ (1,003)	$ 6,613
177	Work Forecasting & Planning - solution	GBE- Work Management		C210	$ 1,708,505	5/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
178	Core Projects & Program Management	GBE- Work Management		C210	$ 3,134,061	6/1/2021	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
179	WMFE Optimization	GBE- Work Management		C210	$ 3,331,402	3/1/2022	120	$ -	$ -	$ -	9.9061%	$ -	$ -	$ -
180	Customer Experience Transformation-Communication Preference Management	Growth Play Book-CXT	4426	C175	$ 2,000,000	3/31/2019	84	$ 1,714,286	$ 1,428,571	$ 1,571,429	9.9061%	$ 155,667	$ (50,190)	$ 105,477
181	Customer Experience Transformation-MyAccount Portal	Growth Play Book-CXT	4427	C175	$ 8,500,000	6/1/2019	84	$ 7,488,095	$ 6,273,810	$ 6,880,952	9.9061%	$ 681,633	$ (168,707)	$ 512,926
182	Governance Risk & Compliance (GRC) Optimization/Upgrade	Growth Play Book-Finance	4222	G020	$ 1,540,000	3/1/2019	84	$ 1,301,667	$ 1,081,667	$ 1,191,667	9.9061%	$ 118,048	$ (41,095)	$ 76,952
183	US SAP: Business Planning	Growth Play Book-Finance	4217	G020	$ 4,643,000	3/31/2019	84	$ 3,979,714	$ 3,316,429	$ 3,648,071	9.9061%	$ 361,381	$ (116,517)	$ 244,865
184	US SAP: FERC on Hana (FOH)	Growth Play Book-Finance	4563	G020	$ 1,315,000	3/31/2019	84	$ 1,127,143	$ 939,286	$ 1,033,214	9.9061%	$ 102,351	$ (33,000)	$ 69,351
185	DRMS for C&I Demand Response	NY REV / Grid Mod		5210E	$ 3,429,633	5/1/2017	36	$ 95,268	$ -	$ 47,634	9.9061%	$ 4,719	$ 3,163	$ 7,882
186	Load and DER Forecasting (Acquisition of Remote Sensing Data - NY)	NY REV / Grid Mod	4729	C113	$ 8,632,000	3/31/2018	84	$ 6,165,714	$ 4,932,571	$ 5,549,143	9.9061%	$ 549,703	$ (205,698)	$ 344,005
187	Plant Information Historian	NY REV / Grid Mod	4704K	G198	$ 11,427,818	9/30/2018	84	$ 8,979,000	$ 7,346,454	$ 8,162,727	9.9061%	$ 808,607	$ (284,608)	$ 523,999
188	DG IOAP Phase II (Tactical)	NY REV / Grid Mod	4704P	5210E	$ 1,764,000	3/31/2019	84	$ 1,512,000	$ 1,260,000	$ 1,386,000	9.9061%	$ 137,298	$ (44,268)	$ 93,031
189	E-Commerce Marketplace	NY REV / Grid Mod	4704D	5210E	$ 915,837	3/31/2019	84	$ 785,003	$ 654,169	$ 719,586	9.9061%	$ 71,283	$ (22,983)	$ 48,300
190	AMI - Telecoms	NY REV / Grid Mod	4704I	5210E	$ 1,580,151	3/31/2019	84	$ 1,354,415	$ 1,128,679	$ 1,241,547	9.9061%	$ 122,989	$ (39,654)	$ 83,335
191	AMI - CSS Enhancements	NY REV / Grid Mod	4704A	C113	$ 8,075,538	3/31/2020	84	$ 8,075,538	$ 6,921,890	$ 7,498,714	9.9061%	$ 742,829	$ (84,215)	$ 658,614
192	Green Button Connect	NY REV / Grid Mod	4704C	C113	$ 3,072,759	3/31/2020	84	$ 3,072,759	$ 2,633,793	$ 2,853,276	9.9061%	$ 282,648	$ (32,044)	$ 250,604
193	DSP - DG IOAP	NY REV / Grid Mod	4704F	5210E	$ 14,835,271	3/31/2020	84	$ 14,835,271	$ 12,715,947	$ 13,775,609	9.9061%	$ 1,364,624	$ (154,708)	$ 1,209,916
194	AMI - Telecoms	NY REV / Grid Mod	4704I	5210E	$ 1,409,719	3/31/2020	84	$ 1,409,719	$ 1,208,331	$ 1,309,025	9.9061%	$ 129,673	$ (14,701)	$ 114,972
195	Outdoor Lighting Inventory Portal	NY REV / Grid Mod	4704O	5210E	$ 1,600,000	3/31/2020	84	$ 1,600,000	$ 1,371,429	$ 1,485,714	9.9061%	$ 147,176	$ (16,685)	$ 130,491
196	DRMS for C&I Demand Response (Renewal)	NY REV / Grid Mod		5210E	$ 1,200,000	5/1/2020	12	$ -	$ 100,000	$ 50,000	9.9061%	$ 4,953	$ -	$ 4,953
197	Grid MOD - ABB/ADMS & D-SCADA	NY REV / Grid Mod	4704G	5210E	$ 29,229,298	3/31/2021	84	$ -	$ 29,229,298	$ 14,614,649	9.9061%	$ 1,447,740	$ -	$ 1,447,740
198	AMI - Telecoms	NY REV / Grid Mod	4704I	5210E	$ 1,962,336	3/31/2021	84	$ -	$ 1,962,336	$ 981,168	9.9061%	$ 97,195	$ -	$ 97,195
199	AMI - Enterprise Service Bus & API Integration	NY REV / Grid Mod	4704J	C113	$ 4,946,371	3/31/2021	84	$ -	$ 4,946,371	$ 2,473,185	9.9061%	$ 244,996	$ -	$ 244,996
200	AMI - Enterprise Service Bus & API Integration	NY REV / Grid Mod	4704J	5210E	$ 11,009,664	3/31/2021	84	$ -	$ 11,009,664	$ 5,504,832	9.9061%	$ 545,313	$ -	$ 545,313
201	AMI - Info Mgt & Advanced Analytics	NY REV / Grid Mod	4704L	C113	$ 3,378,822	3/31/2021	84	$ -	$ 3,378,822	$ 1,689,411	9.9061%	$ 167,354	$ -	$ 167,354
202	AMI - Info Mgt & Advanced Analytics	NY REV / Grid Mod	4704L	5210E	$ 16,496,601	3/31/2021	84	$ -	$ 16,496,601	$ 8,248,300	9.9061%	$ 817,084	$ -	$ 817,084
203	IS-Cloud Computing & Data Lake	NY REV / Grid Mod	4704M	C113	$ 1,178,236	3/31/2021	84	$ -	$ 1,178,236	$ 589,118	9.9061%	$ 58,359	$ -	$ 58,359
204	IS-Cloud Computing & Data Lake	NY REV / Grid Mod	4704M	5210E	$ 5,752,565	3/31/2021	84	$ -	$ 5,752,565	$ 2,876,283	9.9061%	$ 284,927	$ -	$ 284,927
205	Cyber Security	NY REV / Grid Mod	4704N	C113	$ 11,541,052	3/31/2021	84	$ -	$ 11,541,052	$ 5,770,526	9.9061%	$ 571,633	$ -	$ 571,633
206	Cyber Security	NY REV / Grid Mod	4704N	5210E	$ 17,311,579	3/31/2021	84	$ -	$ 17,311,579	$ 8,655,789	9.9061%	$ 857,450	$ -	$ 857,450
207	Residential Solar Marketplace	NY REV / Grid Mod		5210E	$ 54,350	3/31/2018	36	$ 18,117	$ -	$ 9,058	9.9061%	$ 897	$ (264)	$ 633
208	INVP 3882 NYS Pipeline Safety CMS	Other Mandates	3882	G207	$ 1,308,000	3/17/2017	84	$ 731,857	$ 545,000	$ 638,429	9.9061%	$ 63,243	$ (23,494)	$ 39,749
209	INVP 3851 Consolidated Voice Recorder for US Electric Control Rooms	Other Mandates	3851	G181	$ 1,234,000	3/31/2017	84	$ 705,143	$ 528,857	$ 617,000	9.9061%	$ 61,121	$ (22,750)	$ 38,371
210	Annual HR & Payroll Mandatory Service Pack Upgrade (HRSP) - FY18	Other Mandates	4400	G020	$ 1,126,000	12/31/2017	84	$ 764,071	$ 603,214	$ 683,643	9.9061%	$ 67,722	$ (25,563)	$ 42,159
211	Regulatory Mandates - FY18	Other Mandates		G020	$ 5,071,622	3/31/2018	84	$ 3,622,587	$ 2,898,070	$ 3,260,328	9.9061%	$ 322,971	$ (120,855)	$ 202,116
212	US Control-Gas Electronic Bulletin Board (EBB) Upgrade	Other Mandates	4479	G210	$ 3,000,000	5/1/2018	84	$ 2,178,571	$ 1,750,000	$ 1,964,286	9.9061%	$ 194,584	$ (67,603)	$ 126,981
213	Regulatory Mandates - FY19	Other Mandates		G020	$ 18,595,000	3/31/2019	84	$ 15,938,571	$ 13,282,143	$ 14,610,357	9.9061%	$ 1,447,315	$ (466,643)	$ 980,671
214	Regulatory Mandates - FY20	Other Mandates		G020	$ 20,000,000	3/31/2020	84	$ 20,000,000	$ 17,142,857	$ 18,571,429	9.9061%	$ 1,839,702	$ (208,567)	$ 1,631,134
215	Regulatory Mandates - FY21	Other Mandates		G020	$ 20,000,000	3/31/2021	84	$ -	$ 20,000,000	$ 10,000,000	9.9061%	$ 990,609	$ -	$ 990,609
218	Physical Security Replacements - FY17	Physical Security		G423	$ 165,620	3/31/2017	84	$ 94,640	$ 70,980	$ 82,810	9.9061%	$ 8,203	$ (3,053)	$ 5,150
219	Physical Security Replacements - FY18	Physical Security		G020	$ 950,000	3/31/2018	84	$ 678,571	$ 542,857	$ 610,714	9.9061%	$ 60,498	$ (22,638)	$ 37,860
222	Physical Security Replacements - FY18	Physical Security		G423	$ 35,000	3/31/2018	84	$ 25,000	$ 20,000	$ 22,500	9.9061%	$ 2,229	$ (834)	$ 1,395
223	Physical Security Replacements - FY19	Physical Security		G020	$ 825,000	3/31/2019	84	$ 707,143	$ 589,286	$ 648,214	9.9061%	$ 64,213	$ (20,703)	$ 43,509

Exhibit_____(RRP-11CU)
Workpapers to RRP-3CU
Schedule 9
Workpaper 9
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Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2021

Line	Investment Name	Programs	Year Amortization	5210G NIMO G Allocation	NIMO G Rent-Return	NIMO G Rent - Depn	5210E NIMO E Allocation	NIMO E Rent-Return	NIMO E Rent - Depn	5210T NIMO T Allocation	NIMO T Rent-Return	NIMO T Rent - Depn	Amortization Period	Bonus Rate	Bonus Depreciation
153	Mobility CoE & End-User Computing-4	GBE- Information Services Enabling	$ 7,940	16.89%	$ 6,863	$ 1,341	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
154	Portfolio Management Leadership-1	GBE- Portfolio Office	$ 164,592	16.89%	$ 12,706	$ 27,800	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 658,368
155	Solution Architects & Agile Coaches-1	GBE- Portfolio Office	$ 195,828	16.89%	$ 15,117	$ 33,075	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 783,311
156	Portfolio Management Leadership-2	GBE- Portfolio Office	$ 214,448	16.89%	$ 19,555	$ 36,220	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 643,345
157	Solution Architects & Agile Coaches-2	GBE- Portfolio Office	$ 396,463	16.89%	$ 36,152	$ 66,963	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 1,189,390
158	Portfolio Management Leadership-3	GBE- Portfolio Office	$ 216,122	16.89%	$ 26,823	$ 36,503	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
159	Solution Architects & Agile Coaches-3	GBE- Portfolio Office	$ 282,429	16.89%	$ 35,053	$ 47,702	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
160	Portfolio Management Leadership-4	GBE- Portfolio Office	$ 15,466	16.89%	$ 13,368	$ 2,612	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
161	Regulatory/ Compliance	GBE- Regulatory and Compliance	$ 300,000	16.89%	$ 33,042	$ 50,670	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 900,000
162	Supply Chain Program Leadership	GBE- Supply Chain	$ 56,505	16.89%	$ 5,152	$ 9,544	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 169,514
163	Supply Chain Program Leadership	GBE- Supply Chain	$ 23,526	16.89%	$ 2,920	$ 3,974	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
164	Business Architecture Design	GBE- Work Management	$ 300,408	16.89%	$ 22,289	$ 50,739	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 1,502,042
165	WMFE Program Leadership-1	GBE- Work Management	$ 23,401	16.89%	$ 1,807	$ 3,952	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 93,605
166	Corrosion and I&R Work	GBE- Work Management	$ 2,647,965	16.89%	$ 221,159	$ 447,241	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 10,591,861
167	CU Governance & Library - process	GBE- Work Management	$ 165,844	16.89%	$ 14,404	$ 28,011	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 663,376
168	WMFE Program Leadership-2	GBE- Work Management	$ 56,369	16.89%	$ 5,140	$ 9,521	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 169,108
169	Company Driven Work: Collections and non-Appointment Offs - Gas	GBE- Work Management	$ 531,065	16.89%	$ 58,934	$ 89,697	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 1,593,194
170	Company Driven Work: Collections and non-Appointment Offs- Electric	GBE- Work Management	$ 285,958	0.00%	$ -	$ -	47.71%	$ 89,640	$ 136,430	0.00%	$ -	$ -	36	30%	$ 857,873
171	Customer, Leak Investigation & Inspections - Gas	GBE- Work Management	$ 2,037,444	16.89%	$ 226,103	$ 344,124	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 6,112,331
172	Customer, Leak Investigation & Inspections - Electric	GBE- Work Management	$ 1,097,085	0.00%	$ -	$ -	47.71%	$ 343,907	$ 523,419	0.00%	$ -	$ -	36	30%	$ 3,291,255
173	WMFE Program Leadership-3	GBE- Work Management	$ 59,500	16.89%	$ 7,385	$ 10,050	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
174	PowerPlan Integration & Enhancements	GBE- Work Management	$ 162,239	16.89%	$ 13,293	$ 27,402	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
175	Construction Work & Leak Repair	GBE- Work Management	$ 1,150,248	16.89%	$ 137,102	$ 194,277	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
176	WMFE Program Leadership-4	GBE- Work Management	$ 1,292	16.89%	$ 1,117	$ 218	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
177	Work Forecasting & Planning - solution	GBE- Work Management	$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
178	Core Projects & Program Management	GBE- Work Management	$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
179	WMFE Optimization	GBE- Work Management	$ -	16.89%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
180	Customer Experience Transformation-Communication Preference Management	Growth Play Book-CXT	$ 285,714	8.65%	$ 9,124	$ 24,716	23.28%	$ 24,554	$ 66,512	0.00%	$ -	$ -	36	30%	$ 600,000
181	Customer Experience Transformation-MyAccount Portal	Growth Play Book-CXT	$ 1,214,286	8.65%	$ 44,372	$ 105,044	23.28%	$ 119,405	$ 282,676	0.00%	$ -	$ -	36	30%	$ 2,550,000
182	Governance Risk & Compliance (GRC) Optimization/Upgrade	Growth Play Book-Finance	$ 220,000	4.58%	$ 3,524	$ 10,076	17.76%	$ 13,667	$ 39,072	6.11%	$ 4,702	$ 13,442	36	30%	$ 462,000
183	US SAP: Business Planning	Growth Play Book-Finance	$ 663,286	4.58%	$ 11,215	$ 30,378	17.76%	$ 43,488	$ 117,800	6.11%	$ 14,961	$ 40,527	36	30%	$ 1,392,900
184	US SAP: FERC on Hana (FOH)	Growth Play Book-Finance	$ 187,857	4.58%	$ 3,176	$ 8,604	17.76%	$ 12,317	$ 33,363	6.11%	$ 4,237	$ 11,478	36	30%	$ 394,500
185	DRMS for C&I Demand Response	NY REV / Grid Mod	$ 95,268	0.00%	$ -	$ -	100.00%	$ 7,882	$ 95,268	0.00%	$ -	$ -	36	50%	$ 1,714,817
186	Load and DER Forecasting (Acquisition of Remote Sensing Data - NY)	NY REV / Grid Mod	$ 1,233,143	27.09%	$ 93,191	$ 334,058	72.91%	$ 250,814	$ 899,084	0.00%	$ -	$ -	36	40%	$ 3,452,800
187	Plant Information Historian	NY REV / Grid Mod	$ 1,632,545	0.00%	$ -	$ -	41.93%	$ 219,713	$ 684,526	0.00%	$ -	$ -	36	40%	$ 4,571,127
188	DG IOAP Phase II (Tactical)	NY REV / Grid Mod	$ 252,000	0.00%	$ -	$ -	100.00%	$ 93,031	$ 252,000	0.00%	$ -	$ -	36	30%	$ 529,200
189	E-Commerce Marketplace	NY REV / Grid Mod	$ 130,834	0.00%	$ -	$ -	100.00%	$ 48,300	$ 130,834	0.00%	$ -	$ -	36	30%	$ 274,751
190	AMI - Telecoms	NY REV / Grid Mod	$ 225,736	0.00%	$ -	$ -	100.00%	$ 83,335	$ 225,736	0.00%	$ -	$ -	36	30%	$ 474,045
191	AMI - CSS Enhancements	NY REV / Grid Mod	$ 1,153,648	27.09%	$ 178,419	$ 312,523	72.91%	$ 480,196	$ 841,125	0.00%	$ -	$ -	36	0%	$ -
192	Green Button Connect	NY REV / Grid Mod	$ 438,966	27.09%	$ 67,889	$ 118,916	72.91%	$ 182,715	$ 320,050	0.00%	$ -	$ -	36	0%	$ -
193	DSP - DG IOAP	NY REV / Grid Mod	$ 2,119,324	0.00%	$ -	$ -	100.00%	$ 1,209,916	$ 2,119,324	0.00%	$ -	$ -	36	0%	$ -
194	AMI - Telecoms	NY REV / Grid Mod	$ 201,388	0.00%	$ -	$ -	100.00%	$ 114,972	$ 201,388	0.00%	$ -	$ -	36	0%	$ -
195	Outdoor Lighting Inventory Portal	NY REV / Grid Mod	$ 228,571	0.00%	$ -	$ -	100.00%	$ 130,491	$ 228,571	0.00%	$ -	$ -	36	0%	$ -
196	DRMS for C&I Demand Response (Renewal)	NY REV / Grid Mod	$ 1,100,000	0.00%	$ -	$ -	100.00%	$ -	$ 1,100,000	0.00%	$ -	$ -	12	0%	$ -
197	Grid MOD - ABB/ADMS & D-SCADA	NY REV / Grid Mod	$ -	0.00%	$ -	$ -	100.00%	$ 1,447,740	$ -	0.00%	$ -	$ -	36	0%	$ -
198	AMI - Telecoms	NY REV / Grid Mod	$ -	0.00%	$ -	$ -	100.00%	$ 97,195	$ -	0.00%	$ -	$ -	36	0%	$ -
199	AMI - Enterprise Service Bus & API Integration	NY REV / Grid Mod	$ -	27.09%	$ 66,369	$ -	72.91%	$ 178,626	$ -	0.00%	$ -	$ -	36	0%	$ -
200	AMI - Enterprise Service Bus & API Integration	NY REV / Grid Mod	$ -	0.00%	$ -	$ -	100.00%	$ 545,313	$ -	0.00%	$ -	$ -	36	0%	$ -
201	AMI - Info Mgt & Advanced Analytics	NY REV / Grid Mod	$ -	27.09%	$ 45,336	$ -	72.91%	$ 122,018	$ -	0.00%	$ -	$ -	36	0%	$ -
202	AMI - Info Mgt & Advanced Analytics	NY REV / Grid Mod	$ -	0.00%	$ -	$ -	100.00%	$ 817,084	$ -	0.00%	$ -	$ -	36	0%	$ -
203	IS-Cloud Computing & Data Lake	NY REV / Grid Mod	$ -	27.09%	$ 15,809	$ -	72.91%	$ 42,549	$ -	0.00%	$ -	$ -	36	0%	$ -
204	IS-Cloud Computing & Data Lake	NY REV / Grid Mod	$ -	0.00%	$ -	$ -	100.00%	$ 284,927	$ -	0.00%	$ -	$ -	36	0%	$ -
205	Cyber Security	NY REV / Grid Mod	$ -	27.09%	$ 154,855	$ -	72.91%	$ 416,778	$ -	0.00%	$ -	$ -	36	0%	$ -
206	Cyber Security	NY REV / Grid Mod	$ -	0.00%	$ -	$ -	100.00%	$ 857,450	$ -	0.00%	$ -	$ -	36	0%	$ -
207	Residential Solar Marketplace	NY REV / Grid Mod	$ 18,117	0.00%	$ -	$ -	100.00%	$ 633	$ 18,117	0.00%	$ -	$ -	36	40%	$ 21,740
208	INVP 3882 NYS Pipeline Safety CMS	Other Mandates	$ 186,857	19.47%	$ 7,739	$ 36,381	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 654,000
209	INVP 3851 Consolidated Voice Recorder for US Electric Control Rooms	Other Mandates	$ 176,286	0.00%	$ -	$ -	74.79%	$ 28,697	$ 131,844	25.21%	$ 9,673	$ 44,442	36	50%	$ 617,000
210	Annual HR & Payroll Mandatory Service Pack Upgrade (HRSP) - FY18	Other Mandates	$ 160,857	4.58%	$ 1,931	$ 7,367	17.76%	$ 7,487	$ 28,568	6.11%	$ 2,576	$ 9,828	36	50%	$ 563,000
211	Regulatory Mandates - FY18	Other Mandates	$ 724,517	4.58%	$ 9,257	$ 33,183	17.76%	$ 35,896	$ 128,674	6.11%	$ 12,349	$ 44,268	36	40%	$ 2,028,649
212	US Control-Gas Electronic Bulletin Board (EBB) Upgrade	Other Mandates	$ 428,571	12.44%	$ 15,796	$ 53,314	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 1,200,000
213	Regulatory Mandates - FY19	Other Mandates	$ 2,656,429	4.58%	$ 44,915	$ 121,664	17.76%	$ 174,167	$ 471,782	6.11%	$ 59,919	$ 162,308	36	30%	$ 5,578,500
214	Regulatory Mandates - FY20	Other Mandates	$ 2,857,143	4.58%	$ 74,706	$ 130,857	17.76%	$ 289,689	$ 507,429	6.11%	$ 99,662	$ 174,571	36	0%	$ -
215	Regulatory Mandates - FY21	Other Mandates	$ -	4.58%	$ 45,370	$ -	17.76%	$ 175,932	$ -	6.11%	$ 60,526	$ -	36	0%	$ -
218	Physical Security Replacements - FY17	Physical Security	$ 23,660	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 82,810
219	Physical Security Replacements - FY18	Physical Security	$ 135,714	4.58%	$ 1,734	$ 6,216	17.76%	$ 6,724	$ 24,103	6.11%	$ 2,313	$ 8,292	36	40%	$ 380,000
222	Physical Security Replacements - FY18	Physical Security	$ 5,000	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 14,000
223	Physical Security Replacements - FY19	Physical Security	$ 117,857	4.58%	$ 1,993	$ 5,398	17.76%	$ 7,727	$ 20,931	6.11%	$ 2,658	$ 7,201	36	30%	$ 247,500

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Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2021

Line	Investment Name	Programs	INVP #	Bill Pool	FY21 Total Spend	In Service Date	Amortization Period	4/1/2020 Balance (4/1/2020)	3/31/2021 Balance (3/31/2021)	Average Balance	Service Co Return (9.9061%)	Year Return	Return on Accum Taxes	Total Return
226	Physical Security Replacements - FY19	Physical Security		G423	$ 55,000	3/31/2019	84	$ 47,143	$ 39,286	$ 43,214	9.9061%	$ 4,281	$ (1,380)	$ 2,901
227	Physical Security Replacements - FY20	Physical Security		G020	$ 835,000	3/31/2020	84	$ 835,000	$ 715,714	$ 775,357	9.9061%	$ 76,808	$ (8,708)	$ 68,100
230	Physical Security Replacements - FY20	Physical Security		G423	$ 65,000	3/31/2020	84	$ 65,000	$ 55,714	$ 60,357	9.9061%	$ 5,979	$ (678)	$ 5,301
231	Physical Security Replacements - FY21	Physical Security		G020	$ 860,000	3/31/2021	84	$ -	$ 860,000	$ 430,000	9.9061%	$ 42,596	$ -	$ 42,596
236	INVP 4347 NYC Leave on for Landlord Program	PSC Mandate	4347	5220G	$ 870,095	7/31/2017	84	$ 538,630	$ 414,331	$ 476,481	9.9061%	$ 47,201	$ (17,691)	$ 29,510
237	INVP 4124 Auto Remote Net Meter	PSC Mandate	4124	C198	$ 3,584,165	8/31/2017	84	$ 2,261,438	$ 1,749,414	$ 2,005,426	9.9061%	$ 198,659	$ (74,573)	$ 124,086
238	INVP 3839A NY Retail Access Ph2	PSC Mandate	3839A	C170	$ 5,356,231	10/31/2017	84	$ 3,507,056	$ 2,741,880	$ 3,124,468	9.9061%	$ 309,513	$ (116,521)	$ 192,991
239	INVP 4411AB Distributed Generation Portal	PSC Mandate	4411A+B	C198	$ 3,347,611	11/30/2017	84	$ 2,231,740	$ 1,753,510	$ 1,992,625	9.9061%	$ 197,391	$ (74,412)	$ 122,979
241	INVP 4448 Low Income Order CRIS	PSC Mandate	4448	5220G	$ 2,207,590	12/31/2017	84	$ 1,498,008	$ 1,182,638	$ 1,340,323	9.9061%	$ 132,774	$ (50,118)	$ 82,656
242	INVP 4448 Low Income Order CSS	PSC Mandate	4448	C195	$ 2,489,410	12/31/2017	84	$ 1,689,243	$ 1,333,613	$ 1,511,428	9.9061%	$ 149,723	$ (56,516)	$ 93,207
243	INVP 4411C New Electric Connections	PSC Mandate	4411C	C198	$ 698,000	4/30/2018	84	$ 506,881	$ 407,167	$ 457,024	9.9061%	$ 45,273	$ (15,729)	$ 29,544
244	INVP 4411D New Gas Connections	PSC Mandate	4411D	C210	$ 896,000	10/31/2018	84	$ 714,667	$ 586,667	$ 650,667	9.9061%	$ 64,456	$ (22,739)	$ 41,716
245	CPE Buyback	Tech. Modernization	4684	G020	$ 5,140,000	3/31/2017	84	$ 2,937,143	$ 2,202,857	$ 2,570,000	9.9061%	$ 254,586	$ (94,760)	$ 159,826
246	Active Directory Improvements	Tech. Modernization	4489	G020	$ 275,000	11/30/2017	84	$ 183,333	$ 144,048	$ 163,690	9.9061%	$ 16,215	$ (6,113)	$ 10,103
247	Application Performance Management (APM)	Tech. Modernization	4490	G020	$ 375,000	1/31/2018	84	$ 258,929	$ 205,357	$ 232,143	9.9061%	$ 22,996	$ (8,581)	$ 14,416
248	RAS/VPN Re-Platform/Mobile	Tech. Modernization	4269	G020	$ 600,000	3/16/2018	84	$ 421,429	$ 335,714	$ 378,571	9.9061%	$ 37,502	$ (14,013)	$ 23,488
249	US Network Programme	Tech. Modernization	4496	G020	$ 3,025,000	3/31/2018	84	$ 2,160,714	$ 1,728,571	$ 1,944,643	9.9061%	$ 192,638	$ (72,085)	$ 120,553
250	US VSTIG Programme	Tech. Modernization	4498	G020	$ 2,700,000	3/31/2018	84	$ 1,928,571	$ 1,542,857	$ 1,735,714	9.9061%	$ 171,941	$ (64,340)	$ 107,601
251	US Wireless Programme	Tech. Modernization	4499	G020	$ 1,950,000	3/31/2018	84	$ 1,392,857	$ 1,114,286	$ 1,253,571	9.9061%	$ 124,180	$ (46,468)	$ 77,712
252	Monitoring and Alerting	Tech. Modernization	4493	G020	$ 450,000	3/31/2018	84	$ 321,429	$ 257,143	$ 289,286	9.9061%	$ 28,657	$ (10,723)	$ 17,934
253	RSA Re-platform	Tech. Modernization	4270	G020	$ 280,000	3/31/2018	84	$ 200,000	$ 160,000	$ 180,000	9.9061%	$ 17,831	$ (6,672)	$ 11,159
254	Cloud Broker - Hybrid Enablement	Tech. Modernization	3899	G020	$ 250,000	3/31/2018	84	$ 178,571	$ 142,857	$ 160,714	9.9061%	$ 15,920	$ (5,957)	$ 9,963
255	Office 2010 Upgrade	Tech. Modernization	4265	G020	$ 800,000	3/31/2018	84	$ 571,429	$ 457,143	$ 514,286	9.9061%	$ 50,946	$ (19,064)	$ 31,882
256	Citrix Infrstructure Upgrade (Xenapp and NetScaler)	Tech. Modernization	4279	G020	$ 500,000	3/31/2018	84	$ 357,143	$ 285,714	$ 321,429	9.9061%	$ 31,841	$ (11,915)	$ 19,926
257	Business Innovation Projects 1	Tech. Modernization	4707	G020	$ 3,368,613	3/31/2018	84	$ 2,406,152	$ 1,924,922	$ 2,165,537	9.9061%	$ 214,520	$ (80,273)	$ 134,247
258	Data Security	Tech. Modernization	4710	G020	$ 1,575,000	3/31/2018	84	$ 1,125,000	$ 900,000	$ 1,012,500	9.9061%	$ 100,299	$ (37,532)	$ 62,767
259	Orchestration and Self Service	Tech. Modernization	4726	G020	$ 750,000	3/31/2018	84	$ 535,714	$ 428,571	$ 482,143	9.9061%	$ 47,761	$ (17,872)	$ 29,889
260	Virtual Desktop - DaaS	Tech. Modernization	4727	G020	$ 550,000	3/31/2018	84	$ 392,857	$ 314,286	$ 353,571	9.9061%	$ 35,025	$ (13,106)	$ 21,919
261	SCI connections	Tech. Modernization	4495	G020	$ 100,000	3/31/2018	84	$ 71,429	$ 57,143	$ 64,286	9.9061%	$ 6,368	$ (2,383)	$ 3,985
262	US SAP: Dynamic Storage Tiering	Tech. Modernization	4560	G020	$ 1,355,000	7/5/2018	84	$ 1,016,250	$ 822,679	$ 919,464	9.9061%	$ 91,083	$ (31,819)	$ 59,264
263	ICE Replacement	Tech. Modernization	4491	G020	$ 3,316,000	10/31/2018	84	$ 2,644,905	$ 2,171,190	$ 2,408,048	9.9061%	$ 238,543	$ (84,156)	$ 154,387
264	US Network Programme	Tech. Modernization	4496	G020	$ 2,075,000	3/31/2019	84	$ 1,778,571	$ 1,482,143	$ 1,630,357	9.9061%	$ 161,505	$ (52,072)	$ 109,432
265	US VSTIG Programme	Tech. Modernization	4498	G020	$ 1,700,000	3/31/2019	84	$ 1,457,143	$ 1,214,286	$ 1,335,714	9.9061%	$ 132,317	$ (42,662)	$ 89,655
266	US Wireless Programme	Tech. Modernization	4499	G020	$ 1,500,000	3/31/2019	84	$ 1,285,714	$ 1,071,429	$ 1,178,571	9.9061%	$ 116,750	$ (37,643)	$ 79,108
267	Data Visualisation Expansion	Tech. Modernization	4606	G020	$ 2,800,000	3/31/2019	84	$ 2,400,000	$ 2,000,000	$ 2,200,000	9.9061%	$ 217,934	$ (70,266)	$ 147,668
268	US SAP: Business Warehouse (BW) Consolidation to HANA Enterprise Cloud (HEC)	Tech. Modernization	4562	G020	$ 2,366,000	3/31/2019	84	$ 2,028,000	$ 1,690,000	$ 1,859,000	9.9061%	$ 184,154	$ (59,375)	$ 124,779
269	Monitoring and Alerting	Tech. Modernization	4493	G020	$ 1,000,000	3/31/2019	84	$ 857,143	$ 714,286	$ 785,714	9.9061%	$ 77,834	$ (25,095)	$ 52,738
270	MWORK and Netmotion Risk Avoidance	Tech. Modernization	4725	G020	$ 500,000	3/31/2019	84	$ 428,571	$ 357,143	$ 392,857	9.9061%	$ 38,917	$ (12,548)	$ 26,369
271	Improving End User Experience- Cloud based DMZ Service Platform	Tech. Modernization	4723	G020	$ 300,000	3/31/2019	84	$ 257,143	$ 214,286	$ 235,714	9.9061%	$ 23,350	$ (7,529)	$ 15,822
272	Mobile Broadband POC	Tech. Modernization		G020	$ 100,000	3/31/2019	84	$ 85,714	$ 71,429	$ 78,571	9.9061%	$ 7,783	$ (2,510)	$ 5,274
273	FY19 Edge Projects	Tech. Modernization	4717	G020	$ 1,000,000	3/31/2019	84	$ 857,143	$ 714,286	$ 785,714	9.9061%	$ 77,834	$ (25,095)	$ 52,738
274	FY19 Network Projects	Tech. Modernization	4718	G020	$ 1,000,000	3/31/2019	84	$ 857,143	$ 714,286	$ 785,714	9.9061%	$ 77,834	$ (25,095)	$ 52,738
275	Digital Asset Management (DAM)	Tech. Modernization	4711	G020	$ 500,000	3/31/2019	84	$ 428,571	$ 357,143	$ 392,857	9.9061%	$ 38,917	$ (12,548)	$ 26,369
276	Business Innovation Projects 1	Tech. Modernization	4707	G020	$ 3,973,236	3/31/2019	84	$ 3,405,631	$ 2,838,026	$ 3,121,828	9.9061%	$ 309,251	$ (99,709)	$ 209,542
277	Business Innovation Projects 2	Tech. Modernization	4708	G020	$ 3,368,613	3/31/2019	84	$ 2,887,383	$ 2,406,152	$ 2,646,767	9.9061%	$ 262,191	$ (84,536)	$ 177,655
278	Business Innovation Projects 3	Tech. Modernization	4728	G020	$ 3,368,613	3/31/2019	84	$ 2,887,383	$ 2,406,152	$ 2,646,767	9.9061%	$ 262,191	$ (84,536)	$ 177,655
279	EUC, network, and data center strategy	Tech. Modernization	4715	G020	$ 1,542,858	3/31/2019	84	$ 1,322,450	$ 1,102,041	$ 1,212,246	9.9061%	$ 120,086	$ (38,718)	$ 81,368
280	Data Security	Tech. Modernization	4710	G020	$ 1,575,000	3/31/2019	84	$ 1,350,000	$ 1,125,000	$ 1,237,500	9.9061%	$ 122,588	$ (39,525)	$ 83,063
281	FY19 Data Centre Projects	Tech. Modernization	4716	G020	$ 2,000,000	3/31/2019	84	$ 1,714,286	$ 1,428,571	$ 1,571,429	9.9061%	$ 155,667	$ (50,190)	$ 105,477
282	1327 Interfaces - 523 FTS, 340 RDX, 245 MQSI, 253 JCAPS, 44 PM4D, 7 VB	Tech. Modernization	4706	G020	$ 3,300,000	3/31/2019	84	$ 2,828,571	$ 2,357,143	$ 2,592,857	9.9061%	$ 256,851	$ (82,814)	$ 174,037
283	US Video Conference Programme	Tech. Modernization	4497	G020	$ 1,650,000	6/1/2019	84	$ 1,453,571	$ 1,217,857	$ 1,335,714	9.9061%	$ 132,317	$ (32,749)	$ 99,568
284	US SAP: Enhancement Pack 9 Upgrade	Tech. Modernization	4564	G020	$ 8,821,000	3/31/2020	84	$ 8,821,000	$ 7,560,857	$ 8,190,929	9.9061%	$ 811,400	$ (91,989)	$ 719,412
285	US Network Programme	Tech. Modernization	4496	G020	$ 1,575,000	3/31/2020	84	$ 1,575,000	$ 1,350,000	$ 1,462,500	9.9061%	$ 144,877	$ (16,425)	$ 128,452
286	US VSTIG Programme	Tech. Modernization	4498	G020	$ 700,000	3/31/2020	84	$ 700,000	$ 600,000	$ 650,000	9.9061%	$ 64,390	$ (7,300)	$ 57,090
287	US Wireless Programme	Tech. Modernization	4499	G020	$ 1,500,000	3/31/2020	84	$ 1,500,000	$ 1,285,714	$ 1,392,857	9.9061%	$ 137,978	$ (15,643)	$ 122,335
288	Monitoring and Alerting	Tech. Modernization	4493	G020	$ 1,000,000	3/31/2020	84	$ 1,000,000	$ 857,143	$ 928,571	9.9061%	$ 91,985	$ (10,428)	$ 81,557
289	Service Now - Release 3	Tech. Modernization	4261	G020	$ 3,400,000	3/31/2020	84	$ 3,400,000	$ 2,914,286	$ 3,157,143	9.9061%	$ 312,749	$ (35,456)	$ 277,293
290	IS Tools	Tech. Modernization	4513	G020	$ 400,000	3/31/2020	84	$ 400,000	$ 342,857	$ 371,429	9.9061%	$ 36,794	$ (4,171)	$ 32,623
291	FY20 Edge Projects	Tech. Modernization	4720	G020	$ 2,000,000	3/31/2020	84	$ 2,000,000	$ 1,714,286	$ 1,857,143	9.9061%	$ 183,970	$ (20,857)	$ 163,113
292	FY20 Network Projects	Tech. Modernization	4721	G020	$ 4,000,000	3/31/2020	84	$ 4,000,000	$ 3,428,571	$ 3,714,286	9.9061%	$ 367,940	$ (41,713)	$ 326,227
293	EMM Licenses	Tech. Modernization	4713	G020	$ 1,320,000	3/31/2020	84	$ 1,320,000	$ 1,131,429	$ 1,225,714	9.9061%	$ 121,420	$ (13,765)	$ 107,655
294	Business Innovation Projects 2	Tech. Modernization	4708	G020	$ 3,973,236	3/31/2020	84	$ 3,973,236	$ 3,405,631	$ 3,689,433	9.9061%	$ 365,478	$ (41,434)	$ 324,044
295	Business Innovation Projects 3	Tech. Modernization	4728	G020	$ 3,979,236	3/31/2020	84	$ 3,979,236	$ 3,410,774	$ 3,695,005	9.9061%	$ 366,030	$ (41,497)	$ 324,533
296	Data Security	Tech. Modernization	4710	G020	$ 1,575,000	3/31/2020	84	$ 1,575,000	$ 1,350,000	$ 1,462,500	9.9061%	$ 144,877	$ (16,425)	$ 128,452
297	Hardware and Software Upgrades	Tech. Modernization	4722	G020	$ 7,500,000	3/31/2020	84	$ 7,500,000	$ 6,428,571	$ 6,964,286	9.9061%	$ 689,888	$ (78,213)	$ 611,675
298	Data Centre Consolidation efforts	Tech. Modernization	4709	G020	$ 3,500,000	3/31/2020	84	$ 3,500,000	$ 3,000,000	$ 3,250,000	9.9061%	$ 321,948	$ (36,499)	$ 285,449
299	FY20 Data Centre Projects	Tech. Modernization	4719	G020	$ 4,000,000	3/31/2020	84	$ 4,000,000	$ 3,428,571	$ 3,714,286	9.9061%	$ 367,940	$ (41,713)	$ 326,227
300	Enterprise Data Management Platform	Tech. Modernization	4582	G020	$ 4,730,000	6/1/2020	84	$ -	$ 4,166,905	$ 2,083,452	9.9061%	$ 206,389	$ (20,178)	$ 186,210
301	Business Innovation Projects 2	Tech. Modernization	4708	G020	$ 4,491,484	3/31/2021	84	$ -	$ 4,491,484	$ 2,245,742	9.9061%	$ 222,465	$ -	$ 222,465
302	Business Innovation Projects 3	Tech. Modernization	4728	G020	$ 4,491,484	3/31/2021	84	$ -	$ 4,491,484	$ 2,245,742	9.9061%	$ 222,465	$ -	$ 222,465
	Total IS				$ 938,320,827			$ 557,162,216	$ 692,300,617	$ 624,731,417		$ 61,886,432	$ (14,670,418)	$ 46,841,657

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Niagara Mohawk Power Corporation d/b/a National Grid
Service Company Rents
Forecasted Service Company Capital Software allocated to Operating Companies as Rent Expense
For the Data Year ended March 31, 2021

Line	Investment Name	Programs	Year Amortization	5210G NIMO G Allocation	NIMO G Rent-Return	NIMO G Rent - Depn	5210E NIMO E Allocation	NIMO E Rent-Return	NIMO E Rent - Depn	5210T NIMO T Allocation	NIMO T Rent-Return	NIMO T Rent - Depn	Amortization Period	Bonus Rate	Bonus Depreciation
226	Physical Security Replacements - FY19	Physical Security	$ 7,857	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	30%	$ 16,500
227	Physical Security Replacements - FY20	Physical Security	$ 119,286	4.58%	$ 3,119	$ 5,463	17.76%	$ 12,095	$ 21,185	6.11%	$ 4,161	$ 7,288	36	0%	$ -
230	Physical Security Replacements - FY20	Physical Security	$ 9,286	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	0%	$ -
231	Physical Security Replacements - FY21	Physical Security	$ -	4.58%	$ 1,951	$ -	17.76%	$ 7,565	$ -	6.11%	$ 2,603	$ -	36	0%	$ -
236	INVP 4347 NYC Leave on for Landlord Program	PSC Mandate	$ 124,299	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 435,048
237	INVP 4124 Auto Remote Net Meter	PSC Mandate	$ 512,024	0.00%	$ -	$ -	47.71%	$ 59,202	$ 244,286	0.00%	$ -	$ -	36	50%	$ 1,792,083
238	INVP 3839A NY Retail Access Ph2	PSC Mandate	$ 765,176	14.88%	$ 28,717	$ 113,858	40.06%	$ 77,312	$ 306,529	0.00%	$ -	$ -	36	50%	$ 2,678,116
239	INVP 4411AB Distributed Generation Portal	PSC Mandate	$ 478,230	0.00%	$ -	$ -	47.71%	$ 58,673	$ 228,164	0.00%	$ -	$ -	36	50%	$ 1,673,805
241	INVP 4448 Low Income Order CRIS	PSC Mandate	$ 315,370	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	36	50%	$ 1,103,795
242	INVP 4448 Low Income Order CSS	PSC Mandate	$ 355,630	21.56%	$ 20,096	$ 76,674	57.91%	$ 53,976	$ 205,945	0.00%	$ -	$ -	36	50%	$ 1,244,705
243	INVP 4411C New Electric Connections	PSC Mandate	$ 99,714	0.00%	$ -	$ -	47.71%	$ 14,096	$ 47,574	0.00%	$ -	$ -	36	40%	$ 279,200
244	INVP 4411D New Gas Connections	PSC Mandate	$ 128,000	16.89%	$ 7,046	$ 21,619	0.00%	$ -	$ -	0.00%	$ -	$ -	36	40%	$ 358,400
245	CPE Buyback	Tech. Modernization	$ 734,286	4.58%	$ 7,320	$ 33,630	17.76%	$ 28,385	$ 130,409	6.11%	$ 9,765	$ 44,865	36	50%	$ 2,570,000
246	Active Directory Improvements	Tech. Modernization	$ 39,286	4.58%	$ 463	$ 1,799	17.76%	$ 1,794	$ 6,977	6.11%	$ 617	$ 2,400	36	50%	$ 137,500
247	Application Performance Management (APM)	Tech. Modernization	$ 53,571	4.58%	$ 660	$ 2,454	17.76%	$ 2,560	$ 9,514	6.11%	$ 881	$ 3,273	36	40%	$ 150,000
248	RAS/VPN Re-Platform/Mobile	Tech. Modernization	$ 85,714	4.58%	$ 1,076	$ 3,926	17.76%	$ 4,172	$ 15,223	6.11%	$ 1,435	$ 5,237	36	40%	$ 240,000
249	US Network Programme	Tech. Modernization	$ 432,143	4.58%	$ 5,521	$ 19,792	17.76%	$ 21,410	$ 76,749	6.11%	$ 7,366	$ 26,404	36	40%	$ 1,210,000
250	US VSTIG Programme	Tech. Modernization	$ 385,714	4.58%	$ 4,928	$ 17,666	17.76%	$ 19,110	$ 68,503	6.11%	$ 6,574	$ 23,567	36	40%	$ 1,080,000
251	US Wireless Programme	Tech. Modernization	$ 278,571	4.58%	$ 3,559	$ 12,759	17.76%	$ 13,802	$ 49,474	6.11%	$ 4,748	$ 17,021	36	40%	$ 780,000
252	Monitoring and Alerting	Tech. Modernization	$ 64,286	4.58%	$ 821	$ 2,944	17.76%	$ 3,185	$ 11,417	6.11%	$ 1,096	$ 3,928	36	40%	$ 180,000
253	RSA Re-platform	Tech. Modernization	$ 40,000	4.58%	$ 511	$ 1,832	17.76%	$ 1,982	$ 7,104	6.11%	$ 682	$ 2,444	36	40%	$ 112,000
254	Cloud Broker - Hybrid Enablement	Tech. Modernization	$ 35,714	4.58%	$ 456	$ 1,636	17.76%	$ 1,769	$ 6,343	6.11%	$ 609	$ 2,182	36	40%	$ 100,000
255	Office 2010 Upgrade	Tech. Modernization	$ 114,286	4.58%	$ 1,460	$ 5,234	17.76%	$ 5,662	$ 20,297	6.11%	$ 1,948	$ 6,983	36	40%	$ 320,000
256	Citrix Infrstructure Upgrade (Xenapp and NetScaler)	Tech. Modernization	$ 71,429	4.58%	$ 913	$ 3,271	17.76%	$ 3,539	$ 12,686	6.11%	$ 1,217	$ 4,364	36	40%	$ 200,000
257	Business Innovation Projects 1	Tech. Modernization	$ 481,230	4.58%	$ 6,149	$ 22,040	17.76%	$ 23,842	$ 85,467	6.11%	$ 8,202	$ 29,403	36	40%	$ 1,347,445
258	Data Security	Tech. Modernization	$ 225,000	4.58%	$ 2,875	$ 10,305	17.76%	$ 11,147	$ 39,960	6.11%	$ 3,835	$ 13,748	36	40%	$ 630,000
259	Orchestration and Self Service	Tech. Modernization	$ 107,143	4.58%	$ 1,369	$ 4,907	17.76%	$ 5,308	$ 19,029	6.11%	$ 1,826	$ 6,546	36	40%	$ 300,000
260	Virtual Desktop - DaaS	Tech. Modernization	$ 78,571	4.58%	$ 1,004	$ 3,599	17.76%	$ 3,893	$ 13,954	6.11%	$ 1,339	$ 4,801	36	40%	$ 220,000
261	SCI connections	Tech. Modernization	$ 14,286	4.58%	$ 183	$ 654	17.76%	$ 708	$ 2,537	6.11%	$ 243	$ 873	36	40%	$ 40,000
262	US SAP: Dynamic Storage Tiering	Tech. Modernization	$ 193,571	4.58%	$ 2,714	$ 8,866	17.76%	$ 10,525	$ 34,378	6.11%	$ 3,621	$ 11,827	36	40%	$ 542,000
263	ICE Replacement	Tech. Modernization	$ 473,714	4.58%	$ 7,071	$ 21,696	17.76%	$ 27,419	$ 84,132	6.11%	$ 9,433	$ 28,944	36	40%	$ 1,326,400
264	US Network Programme	Tech. Modernization	$ 296,429	4.58%	$ 5,012	$ 13,576	17.76%	$ 19,435	$ 52,646	6.11%	$ 6,686	$ 18,112	36	30%	$ 622,500
265	US VSTIG Programme	Tech. Modernization	$ 242,857	4.58%	$ 4,106	$ 11,123	17.76%	$ 15,923	$ 43,131	6.11%	$ 5,478	$ 14,839	36	30%	$ 510,000
266	US Wireless Programme	Tech. Modernization	$ 214,286	4.58%	$ 3,623	$ 9,814	17.76%	$ 14,050	$ 38,057	6.11%	$ 4,833	$ 13,093	36	30%	$ 450,000
267	Data Visualisation Expansion	Tech. Modernization	$ 400,000	4.58%	$ 6,763	$ 18,320	17.76%	$ 26,226	$ 71,040	6.11%	$ 9,022	$ 24,440	36	30%	$ 840,000
268	US SAP: Business Warehouse (BW) Consolidation to HANA Enterprise Cloud (HEC)	Tech. Modernization	$ 338,000	4.58%	$ 5,715	$ 15,480	17.76%	$ 22,161	$ 60,029	6.11%	$ 7,624	$ 20,652	36	30%	$ 709,800
269	Monitoring and Alerting	Tech. Modernization	$ 142,857	4.58%	$ 2,415	$ 6,543	17.76%	$ 9,366	$ 25,371	6.11%	$ 3,222	$ 8,729	36	30%	$ 300,000
270	MWORK and Netmotion Risk Avoidance	Tech. Modernization	$ 71,429	4.58%	$ 1,208	$ 3,271	17.76%	$ 4,683	$ 12,686	6.11%	$ 1,611	$ 4,364	36	30%	$ 150,000
271	Improving End User Experience- Cloud based DMZ Service Platform	Tech. Modernization	$ 42,857	4.58%	$ 725	$ 1,963	17.76%	$ 2,810	$ 7,611	6.11%	$ 967	$ 2,619	36	30%	$ 90,000
272	Mobile Broadband POC	Tech. Modernization	$ 14,286	4.58%	$ 242	$ 654	17.76%	$ 937	$ 2,537	6.11%	$ 322	$ 873	36	30%	$ 30,000
273	FY19 Edge Projects	Tech. Modernization	$ 142,857	4.58%	$ 2,415	$ 6,543	17.76%	$ 9,366	$ 25,371	6.11%	$ 3,222	$ 8,729	36	30%	$ 300,000
274	FY19 Network Projects	Tech. Modernization	$ 142,857	4.58%	$ 2,415	$ 6,543	17.76%	$ 9,366	$ 25,371	6.11%	$ 3,222	$ 8,729	36	30%	$ 300,000
275	Digital Asset Management (DAM)	Tech. Modernization	$ 71,429	4.58%	$ 1,208	$ 3,271	17.76%	$ 4,683	$ 12,686	6.11%	$ 1,611	$ 4,364	36	30%	$ 150,000
276	Business Innovation Projects 1	Tech. Modernization	$ 567,605	4.58%	$ 9,597	$ 25,996	17.76%	$ 37,215	$ 100,807	6.11%	$ 12,803	$ 34,681	36	30%	$ 1,191,971
277	Business Innovation Projects 2	Tech. Modernization	$ 481,230	4.58%	$ 8,137	$ 22,040	17.76%	$ 31,552	$ 85,467	6.11%	$ 10,855	$ 29,403	36	30%	$ 1,010,384
278	Business Innovation Projects 3	Tech. Modernization	$ 481,230	4.58%	$ 8,137	$ 22,040	17.76%	$ 31,552	$ 85,467	6.11%	$ 10,855	$ 29,403	36	30%	$ 1,010,384
279	EUC, network, and data center strategy	Tech. Modernization	$ 220,408	4.58%	$ 3,727	$ 10,095	17.76%	$ 14,451	$ 39,145	6.11%	$ 4,972	$ 13,467	36	30%	$ 462,857
280	Data Security	Tech. Modernization	$ 225,000	4.58%	$ 3,804	$ 10,305	17.76%	$ 14,752	$ 39,960	6.11%	$ 5,075	$ 13,748	36	30%	$ 472,500
281	FY19 Data Centre Projects	Tech. Modernization	$ 285,714	4.58%	$ 4,831	$ 13,086	17.76%	$ 18,733	$ 50,743	6.11%	$ 6,445	$ 17,457	36	30%	$ 600,000
282	1327 Interfaces - 523 FTS, 340 RDX, 245 MQSI, 253 JCAPS, 44 PM4D, 7 VB	Tech. Modernization	$ 471,429	4.58%	$ 7,971	$ 21,591	17.76%	$ 30,909	$ 83,726	6.11%	$ 10,634	$ 28,804	36	30%	$ 990,000
283	US Video Conference Programme	Tech. Modernization	$ 235,714	4.58%	$ 4,560	$ 10,796	17.76%	$ 17,683	$ 41,863	6.11%	$ 6,084	$ 14,402	36	30%	$ 495,000
284	US SAP: Enhancement Pack 9 Upgrade	Tech. Modernization	$ 1,260,143	4.58%	$ 32,949	$ 57,715	17.76%	$ 127,768	$ 223,801	6.11%	$ 43,956	$ 76,995	36	0%	$ -
285	US Network Programme	Tech. Modernization	$ 225,000	4.58%	$ 5,883	$ 10,305	17.76%	$ 22,813	$ 39,960	6.11%	$ 7,848	$ 13,748	36	0%	$ -
286	US VSTIG Programme	Tech. Modernization	$ 100,000	4.58%	$ 2,615	$ 4,580	17.76%	$ 10,139	$ 17,760	6.11%	$ 3,488	$ 6,110	36	0%	$ -
287	US Wireless Programme	Tech. Modernization	$ 214,286	4.58%	$ 5,603	$ 9,814	17.76%	$ 21,727	$ 38,057	6.11%	$ 7,475	$ 13,093	36	0%	$ -
288	Monitoring and Alerting	Tech. Modernization	$ 142,857	4.58%	$ 3,735	$ 6,543	17.76%	$ 14,484	$ 25,371	6.11%	$ 4,983	$ 8,729	36	0%	$ -
289	Service Now - Release 3	Tech. Modernization	$ 485,714	4.58%	$ 12,700	$ 22,246	17.76%	$ 49,247	$ 86,263	6.11%	$ 16,943	$ 29,677	36	0%	$ -
290	IS Tools	Tech. Modernization	$ 57,143	4.58%	$ 1,494	$ 2,617	17.76%	$ 5,794	$ 10,149	6.11%	$ 1,993	$ 3,491	36	0%	$ -
291	FY20 Edge Projects	Tech. Modernization	$ 285,714	4.58%	$ 7,471	$ 13,086	17.76%	$ 28,969	$ 50,743	6.11%	$ 9,966	$ 17,457	36	0%	$ -
292	FY20 Network Projects	Tech. Modernization	$ 571,429	4.58%	$ 14,941	$ 26,171	17.76%	$ 57,938	$ 101,486	6.11%	$ 19,932	$ 34,914	36	0%	$ -
293	EMM Licenses	Tech. Modernization	$ 188,571	4.58%	$ 4,931	$ 8,637	17.76%	$ 19,120	$ 33,490	6.11%	$ 6,578	$ 11,522	36	0%	$ -
294	Business Innovation Projects 2	Tech. Modernization	$ 567,605	4.58%	$ 14,841	$ 25,996	17.76%	$ 57,550	$ 100,807	6.11%	$ 19,799	$ 34,681	36	0%	$ -
295	Business Innovation Projects 3	Tech. Modernization	$ 568,462	4.58%	$ 14,864	$ 26,036	17.76%	$ 57,637	$ 100,959	6.11%	$ 19,829	$ 34,733	36	0%	$ -
296	Data Security	Tech. Modernization	$ 225,000	4.58%	$ 5,883	$ 10,305	17.76%	$ 22,813	$ 39,960	6.11%	$ 7,848	$ 13,748	36	0%	$ -
297	Hardware and Software Upgrades	Tech. Modernization	$ 1,071,429	4.58%	$ 28,015	$ 49,071	17.76%	$ 108,634	$ 190,286	6.11%	$ 37,373	$ 65,464	36	0%	$ -
298	Data Centre Consolidation efforts	Tech. Modernization	$ 500,000	4.58%	$ 13,074	$ 22,900	17.76%	$ 50,696	$ 88,800	6.11%	$ 17,441	$ 30,550	36	0%	$ -
299	FY20 Data Centre Projects	Tech. Modernization	$ 571,429	4.58%	$ 14,941	$ 26,171	17.76%	$ 57,938	$ 101,486	6.11%	$ 19,932	$ 34,914	36	0%	$ -
300	Enterprise Data Management Platform	Tech. Modernization	$ 563,095	4.58%	$ 8,528	$ 25,790	17.76%	$ 33,071	$ 100,006	6.11%	$ 11,377	$ 34,405	36	0%	$ -
301	Business Innovation Projects 2	Tech. Modernization	$ -	4.58%	$ 10,189	$ -	17.76%	$ 39,510	$ -	6.11%	$ 13,593	$ -	36	0%	$ -
302	Business Innovation Projects 3	Tech. Modernization	$ -	4.58%	$ 10,189	$ -	17.76%	$ 39,510	$ -	6.11%	$ 13,593	$ -	36	0%	$ -
	Total IS		$ 93,657,324		$ 4,306,248	$ 8,038,735		$ 12,287,818	$ 19,018,850		$ 1,329,762	$ 3,492,784			$ 208,053,357

NIMO G	$ 12,344,983	NIMO E	$ 36,129,214
RY20 NIMO G	$ 8,186,926	RY20 NIMO E	$ 23,626,504
RY21 Adjust	$ 4,158,057	RY21 Adjust	$ 12,502,710
NIMO	$ 48,474,197		
RY20 NIMO	$ 31,813,430		
RY21 Adjust	$ 16,660,767		

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Niagara Mohawk Power Corporation d/b/a National Grid for Electric Service.	Case 17-E-0238
Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Niagara Mohawk Power Corporation d/b/a National Grid for Gas Service.	Case 17-G-0239

DIRECT TESTIMONY

OF

UIU RATE PANEL

Dated: August 25, 2017
Albany, New York

UTILITY INTERVENTION UNIT
DIVISION OF CONSUMER PROTECTION
NYS DEPARTMENT OF STATE
99 WASHINGTON AVENUE
SUITE 640
ALBANY, NY 12231-0001
www.dos.ny.gov

category has experienced exponential growth over the last few years. If there is reason to anticipate that these customers are atypical, particularly in their contribution to peak demand, then a different rate structure may be merited for these customers in the future. However, more load research is needed before that can be determined.

Gas

We agree with the Company's proposal to keep customer charges unchanged. However, depending on the final revenue requirement, there might be an opportunity to modestly reduce this rate element. Furthermore, we propose forming a collaborative to discuss how residential SC-1 gas rates can encourage energy efficiency in the winter while mitigating bill volatility under unusually cold weather conditions. For the residential customers with the highest monthly gas usage (including low income customers), we recommend that the Company take additional action to help these customers reduce their usage through weatherization efforts, installing programmable thermostats, etc.

III. BACKGROUND

Q. Please provide background information concerning the Company's electric and gas rate filings as it relates to your testimony.

A. The Company initially proposed to increase delivery rates by $326 million or 22.8% (electric) and $81 million or 22.1% (gas) starting April 2018 (under a one-year rate plan). The major costs drivers include Operations ($25M electric and $12M gas);

Information Systems, Reforming the Energy Vision, and Non-Pipe Alternatives Costs ($57M electric and $7M gas), Pension/OPEB Costs ($42M electric and $5M gas), Gas Enablement Costs ($13M gas only), and Commission approved changes to the Low Income Programs ($46M electric and $6M gas).

The Company proposed deployment of Advanced Metering Infrastructure (AMI), which includes installing 1.6 million electric meters, enhancing 640,000 gas meters to make them AMI compatible, and implementing a mesh communication network within the next 5.5 years. This AMI plan coincides with replacing the Company's Advanced Meter Reading (AMR) electric meters and gas Electric Meter Equipment (ERT) meters, which are approaching the end of their economic life. Under the proposed phase in and gradual rolling out of AMI meters and technology, most costs are not allocated to the first Rate Year, 2018-2019.

Although the Company filed a one-year rate plan, it is willing to phase in new delivery prices. A phase in might reduce some of the rate increase over a 3-year period, but it will also incorporate the impact of some additional cost increases, particularly with respect to AMI.

As originally filed, the Company estimates the average electric residential customer would experience an increase of 22% (delivery only) and 14% (total bill) during the first Rate Year. For gas, residential bills would increase by 25% (delivery only) and 15% (total bill). The Company subsequently filed various corrections and updates in July 2017, which result in somewhat different increases, as referenced later in our testimony.

Before the Public Service Commission

NIAGARA MOHAWK POWER CORPORATION d/b/a NATIONAL GRID

Rebuttal Testimony

of

The Gas Safety Panel

Date: September 15, 2017

(iii) The SGSP's proposals with regard to the Company's safety programs, including: inactive accounts, residential methane detection, and inspections associated with the new definition of a gas service line; and

(iv) The SGSP's proposal to enhance gas safety reporting.

Q. Does the Panel sponsor any exhibits as part of its rebuttal testimony?

A. Yes. The Panel sponsors Exhibit ___ (GSP-1R), which is Staff's response to the Company's Information Request No. NMPC-51.

II. <u>Staff's Recommended Gas Safety Metrics</u>

Q. Before discussing the SGSP's specific recommendations on safety performance measures, would the Panel like to address the SGSP's comment regarding the Company's commitment to safety and compliance?

A. Yes. The Company has worked diligently to develop a culture where safety and compliance are paramount. The Company has focused on people, process, systems, and technology to reinforce the National Grid commitment to safety and compliance, including: (i) an employee training "Thinking Beyond the Word Compliance" program, (ii) expanding the damage prevention, quality assurance, and compliance analyst programs, (iii) engaging employees in compliance

discussions at every level through the use of performance hubs that provide visibility to compliance performance, (iv) participation in industry best practice and peer-to-peer reviews and (v) enhancing Customer Meter Services ("CMS") field units to track and document compliance requirements. In addition, as discussed by the SGSP (at 78-79), National Grid retained an independent third party compliance assessor to provide a comprehensive review of the Company's programs to improve compliance going forward.

The Company's efforts have resulted in improvements as recognized by the SGSP (at 57-58) and the Company is committed to further progress. To that end, the Company is executing its Gas Business Enablement Program, as discussed in the Company's GIOP direct testimony, and is also enhancing its pipeline safety management system.

Q. Does the Company agree with Staff's recommendation to implement all elements of the American Pipeline Institute Recommended Practice 1173 ("API RP 1173")?

A. Yes. The Company's first priority is the safety of our customers, communities, and employees and we are continuously seeking opportunities to enhance our pipeline safety management processes. To that end, a comprehensive effort is underway to implement the API RP 1173 framework that will enhance the Company's pipeline

Niagara Mohawk Power Corporation d/b/a National Grid

PROCEEDING ON MOTION OF THE COMMISSION AS TO THE RATES, CHARGES, RULES AND REGULATIONS OF NIAGARA MOHAWK POWER CORPORATION FOR ELECTRIC AND GAS SERVICE

Rebuttal Testimony and Exhibits of:

Information Services Panel

Book 8

September 15, 2017

Submitted to:
New York State Public Service Commission
Case 17-E-0238
Case 17-G-0239

Submitted by:
Niagara Mohawk Power Corporation

nationalgrid

Rebuttal Testimony of
ISP

Before the Public Service Commission

NIAGARA MOHAWK POWER CORPORATION d/b/a NATIONAL GRID

Rebuttal Testimony

of

The Information Services Panel

Dated: September 15, 2017

Q. Does the Panel sponsor any exhibits?

A. Yes. The Panel sponsors the following exhibits that were prepared by or under the supervision and direction of one or all members of the Panel:

- Exhibit ___ (ISP-1R) Fourth Quarter FY17 Spend on Licenses/Computer Equipment Purchases to Advance Investments;
- Exhibit ___ (ISP-2R) Major Projects Comprising Significant Percentages of Rate Year IS Total Capital Investment;
- Exhibit ___ (ISP-3R) Procedures on "Accounting for the Costs of Computer Software Developed or Obtained for Internal Use;"
- Exhibit ___ (ISP-4R) FY15-FY18 Software as a Service Spend; and
- Exhibit ___ (ISP-5R) Referenced Information Requests.

II. <u>Summary of Staff's IS Adjustments</u>

Q. Please summarize the SISP's adjustments to the Company's IS costs.

A. The SISP proposes several adjustments (at 6-7) to the Company's revenue requirement to (i) remove a number of discrete IS projects; (ii) apply a blanket 37 percent slippage adjustment to capital and RTB costs; (iii) decrease the operating expense-to-capital expenditures ratio to 17 percent; and (iv) decrease the pre-tax weighted average cost of capital to 8.74 percent for Service Company assets. Collectively, these adjustments result in a nearly

$30 million decrease in total funding for the Company's IS programs in the Rate Year through reductions to:

- Service Company IS rent expense by $6.535 million and $1.327 million for electric and gas, respectively;
- project, or upfront, operating expenses by $14.427 million and $0.710 million for electric and gas, respectively; and
- RTB expenses by $1.927 million and $0.620 million for electric and gas, respectively.

These adjustments do not include the SISP and the SGBEP's further recommendations regarding the Gas Business Enablement ("GBE") Program, which are addressed in the rebuttal testimony of Company witness Johnny Johnston.

Q. What is the impact of Staff's proposed adjustments to IS's ability to deliver its investment plan?

A. Staff's proposed adjustments would prevent the Company from recovering its reasonable costs of prudent IS investments needed to provide safe and reliable service to customers, while at the same time frustrating the Company's efforts to (i) address aged infrastructure and application issues that present

consideration given whatsoever to each project's customer benefits or the operational needs of the Company. Finally, contrary to the SISP's suggestion otherwise, the Company has indeed demonstrated its ability and readiness to deliver the proposed level of IS investment in the Rate Year and Data Years.

A. <u>Staff's Calculation of the Slippage Adjustment is Flawed</u>

Q. Please explain how the SISP calculated the 37 percent slippage adjustment.

A. As shown in Exhibit ___ (SISP-3), the SISP calculated its slippage adjustment by averaging the variance between actual and budgeted IS capital spend for FY13 to FY17 after removing FY13 and FY17 as outliers.

The SISP removed FY13 from the average noting that a large portion of U.S. Foundation Program ("USFP") costs occurred in FY13, and concluding that projects of the cost and scope of USFP are not common. Finding that the capital expenditures on one project (INVP 2547 – USFP PMO) represented 43 percent of the actual spending that year, the SISP decided to treat FY13 as an outlier for purposes of the multi-year average. The SISP also removed FY17 from the calculation solely on the basis that a significant percentage of costs were incurred in a single month, March 2017, which Staff suggests was an

anomaly when compared to the spending in any other month of the fiscal year (or in prior years for March).

Q. Does the Panel agree with the SISP's calculation of the slippage adjustment?

A. No. The SISP's calculation is flawed in several respects. First, in calculating its slippage adjustment, the SISP ignores the fact that in the last full year considered, FY17, the Company not only did not underspend its capital budget, it was able to accelerate capital spending by more than $62.5 million as shown in the Company's response to Information Request No. DPS-077 (IS-2). The increased spending in the fourth quarter of FY17 was the result of the culmination of the Company's end-to-end IS process of investment planning, estimating, sanctioning, and competitively bidding projects in the FY17 investment plan (many of which will be in-service in the Rate Year). The acceleration of IS spending in FY17 is a reflection of the Company's increasing investments in replacing aging infrastructure and applications. Indeed, IS incurred additional costs in March of nearly $59.979 million to acquire licenses and purchase equipment to advance various programs as shown in Exhibit ___ (ISP-1R).

The SISP's proposed slippage adjustment is fatally flawed because it ignores the Company's recent experience without any justification whatsoever. The Company's FY17 experience is far more informative and indicative of the type and level of spending expected in the Rate Year and Data Years than the unreasonably attenuated FY14-FY16 average used by Staff to calculate the slippage adjustment.

Q. Please explain why.

A. In FY14 and FY15 the Company underspent its IS budget because IS resources were shifted from delivering the annual investment plan to addressing post-implementation issues with USFP. In addition, the Company instituted a hiring freeze during this period, which limited the IS function's ability to hire additional Program Delivery staff to implement the annual investment plan. Both of these factors contributed to underspending of the capital budgets in FY14 and FY15, but there is no reason to believe that any of the circumstances that affected the Company's ability to spend its IS budget in FY14 and FY15 will recur in the Rate Years and Data Years.

The SISP's calculation of the slippage adjustment is inappropriate because it removes the one fiscal year that provides the recent and best evidence of the

Company's ability to spend its IS budget and substitutes a three year period that has not been shown to be indicative of the Company's current capabilities in any way. The SISP relies on a three-year average that includes two years where IS resources were diverted away from delivering the IS investment plan; a circumstance that shows no likelihood of recurring.

Q. Are there other flaws in the logic of the SISP's slippage adjustment?

A. Yes. As we noted above, the SISP not only removed FY17 from the calculation of its slippage adjustment, it also removed FY13 because that year included a large USFP project. While the Company does not believe that its ability to spend its IS capital budget in the Rate Year is any way affected by the circumstances of FY13, it is worth noting that, as shown on Exhibit __ (ISP-2R), Technology Modernization, NY REV/Grid Modernization and GBE are 17 percent, 26 percent, and 37 percent, respectively, of the total proposed IS capital investment amounts in the Rate Year. Thus, to the extent that the existence of large projects makes it more likely that the Company will spend its full IS budget in any particular year, such projects are planned for the Rate Year.

direct testimony (at 49), National Grid is dedicating additional resources and focus to strategically manage the IS sanctioning process to accommodate increased demand for IS services; conduct program assurance activities to implement common and best practices; and manage projects and oversee development of applications.

IV. <u>Adjustment to IS Operating Expenses as a Percentage of Capital Spending</u>

Q. Do you agree with the SISP's adjustment (at 46-50) to upfront operating expenses on IS projects excluding GBE and Grid Modernization?

A. No. The SISP calculated a three-year average operating expense-to-capital expenditures ratio of 17 percent based on the operating and capital spending amounts the Company provided in response to Information Request No. DPS-631 (AAM-32) (*see* Exhibit ___ (ISP-5R)). The SISP applied this ratio to their total recommended capital expenditures (net of Staff's individual project adjustments and slippage adjustment), and then removed GBE and Grid Modernization capital costs.

The SISP's methodology of calculating a three-year average operating expense-to-capital expense ratio is unreasonable because it fails to consider:

(i) the trend of increasing levels of operating expenses to capital expenditures as demonstrated in the Company's response to Information Request No. DPS-631 (AAM-32); (ii) the effect of the increased level of capital investment expected for the Rate Year and Data Years on operating expenses; and (iii) the impact on operating expense of the increased use of Software as a Service.

First, as acknowledged by the SISP in their testimony (at 49) and reflected in Exhibit ___ (SISP-3) and in Information Request No. DPS-631 (AAM-32), the Company has experienced an increasing percentage of operating expenses related to capital expenditures. The SISP bases their Rate Year forecast on the historical average because they are not aware of any reason why operating costs should exceed historic expenses by a significant margin. This argument fails to consider the fact that a larger volume of the Company's proposed IS projects in the Rate Year require significant operating expenses related to start up and post implementation costs, which must be expensed under U.S. Generally Accepted Accounting Principles ASC 350-40 (Accounting for the Costs of Computer Software Developed or Obtained for Internal Use), provided as Exhibit ___ (ISP-3R). In addition, increased use of Software, Infrastructure and Platform as a Service means a shift from traditional capitalization of IS investments, and recovery through rent expense over a

seven year amortization, to a cost recognized as operating expense. Exhibit ___ (ISP-4R) demonstrates the Company's increasing investments in SaaS.

As a result,and as reflected in the Company's response to Information Request No. DPS-631 (AAM-32), the Company's operating expenses are increasing relative to capital expenditures. Therefore, the SISP's adjustment is unsupported and should be rejected.

V. <u>Adjustment to Service Company Return on All IS investment</u>

Q. Do you agree with the SISP's recommendation to use the pre-tax weighted average cost of capital of 8.74 percent, consistent with Staff's proposed stand-alone Niagara Mohawk rate of return, rather than the Company's proposed 9.91 percent?

A. No. The Company's objections to this proposal are discussed in the rebuttal testimony of Joshua Nowak.

VI. <u>Downward-Only Reconciliation of Capital Expenditures</u>

Q. Do you agree with the SISP's proposed reconciliation mechanism for IS capital expenditures?

IX. Reporting and Documentation Improvements

Q. Do you agree with Staff's recommended reporting requirements for IS?

A. In part. As explained in the rebuttal testimony of Johnny Johnston, the GBE Program's budgeting and governance is handled separately from that of IS. As a result, the Company proposes to provide separate reports for the GBE Program. The Company further proposes to file quarterly reports within 60 days after the end of each quarter. In addition, the Company proposes to provide the latest sanction paper in the annual reports to avoid duplication of production of the papers provided in prior years as a project progresses from IRS to partial sanction to full sanction.

The Company will work with Staff to develop a mutually agreeable reporting format that addresses Staff's recommendations. Ideally, the reporting format would incorporate aspects of the Company's internal reporting practices to minimize the incremental administrative burden.

Q. Do you agree with Staff's recommendations for the Service Company's IRS, sanction documents, and other supporting documentation?

A. The Company is supportive of working collaboratively with Staff to show that cost estimates included in sanction papers are reasonable. Staff recommends that the sanction paper or IRS document should state if the solution chosen

Niagara Mohawk Power Corporation d/b/a National Grid

Forecast (US Total) Information Services Program Costs
as a Percentage of the Annual Investment Plan

Programs	FY19 CAPEX	Percentage of FY 19 Capex	FY20 CAPEX	Percentage of FY20 Capex	FY21 CAPEX	Percentage of FY 21 Capex
GBE	$ 104,639,135.31	36.60%	$ 73,693,003.46	35.96%	$ 47,612,935.67	41.28%
NY REV/grid modern	$ 74,374,388.55	26.01%	$ 51,701,715.03	25.23%	$ 22,611,512.48	19.61%
Tech Modernization	$ 47,655,891.00	16.67%	$ 34,820,472.00	16.99%	$ 9,982,968.00	8.66%
Mandates	$ 20,000,000.00	6.99%	$ 20,000,000.00	9.76%	$ 20,000,000.00	17.34%
FY 18 Plan	$ 15,875,668.00	5.55%	$ 6,237,000.00	3.04%	$ 2,376,000.00	2.06%
Growth Playbook	$ 14,298,000.00	5.00%	$ 1,500,000.00	0.73%	$ -	0.00%
Cyber Security	$ 7,983,926.00	2.79%	$ 15,848,544.00	7.73%	$ 11,594,696.00	10.05%
Physical Security	$ 1,100,000.00	0.38%	$ 1,117,000.00	0.55%	$ 1,150,000.00	1.00%
Total	**$ 285,927,008.86**	**100.00%**	**$ 204,917,734.48**	**100.00%**	**$ 115,328,112.15**	**100.00%**

Date of Request: June 7, 2019 Request No. DPS-275 IS-4
Due Date: June 19, 2017 NMPC Req. No. NM-738

NIAGARA MOHAWK POWER CORPORATION d/b/a NATIONAL GRID
Case No. 17-E-0238 and 17-G-0239 –
Niagara Mohawk Power Corporation d/b/a National Grid – Electric and Gas Rates

Request for Information

FROM: DPS Staff, Andy Timbrook

TO: National Grid, Information Services Panel

SUBJECT: **IS PROJECT JUSTIFICATIONS**

Request:

In this interrogatory, all requests for data, workpapers or supporting calculations should be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact.

Provide the following information for each proposed project listed in Exhibit__(ISP-3):

1. A full description of the project.

2. All whitepapers and/or sanction papers associated with the project. This should include a cost/benefit analysis and a list of alternatives considered, with the reasoning as to why those alternatives were not selected. Include all management presentations, business case analysis, budget presentations and actual management approvals as they relate to the approved project.

3. The analysis for selecting an in-house solution or lease/software-as-a-service solution, where applicable.

Response:

1. Please see Attachment 1 for the reference to the sanction papers or investment request summary that includes a full description of the project. The documents themselves are included in Attachments 2-7.

2. Please see Attachments 1-7.. Information Services ("IS") projects are undertaken for a number of reasons such as meeting legal or regulatory requirements, maintaining IS system reliability, addressing loss of vendor or version support, or providing service enhancements. Although IS projects can enable economic benefits, many projects are selected for other

factors. Discussion of benefits and project costs, and the reasoning behind the alternatives considered and selected are standard elements of IS sanction papers. The Physical Security projects did not have a sanction paper as they are facilities-related and the governance process of National Grid's Facilities department does not require a sanction paper for projects under $1 million. Physical security work typically consists of a number of small capital replacement projects that are approved under the Delegation of Authority process. A summary of the specific physical security work covered in each project was provided in Attachment 1 to DPS-115. With respect to other analysis and presentations, please see the following attachments for steering group and budget presentations.

INVP 4397	Ariba Status	Attachment 8 - pgs. 1-10
INVP 4395	Mobile Device Refresh	Attachment 8 - pgs. 23-37
INVP 4408	DMS Replacement	Attachment 8 - pgs. 38-51
INVP 3737	CNI GMS SCADA Upgrade	Attachment 8 - pgs. 52-65
INVP 4398	Storms IScheduler Stabilization Project	Attachment 8 - pgs. 66-79
INVP 3932	IVR Replacement and Call Center Technology Upgrade	Attachment 8 - pgs. 80-93
	FY18 US Investment Plan Budget Presentation	Attachment 8 - pgs. 11-22
INVP 4572	Gas Business Enablement (GBE) – Steering Group Presentations	Attachment 5a - REDACTED
INVP 4572	Gas Business Enablement – Steering Group Presentations	Attachment 5b - CONFIDENTIAL
INVP 4572	Gas Business Enablement – Steering Group Presentations	Attachment 5c
INVP 4572	GBE – Business Case	Attachment 9
INVP 4572	GBE – Group Executive Paper	Attachment 10

3. The IS Project Manager ("PM") makes an evaluation as to whether off the shelf, market ready applications are available that meet National Grid's business requirements and specifications or whether the application must be built in-house or purchased and then heavily configured and customized to meet National Grid's needs. To facilitate this evaluation, the PM gathers business requirements and specifications and then, using standard Procurement department processes, solicits RFI and/or RFPs to test the market response. An evaluation of the proposals is made taking into consideration the best fit of meeting needs, cost and other considerations and a decision is rendered which could lead to entering into a Software as a Service ("SaaS") contract, licensing software or internally building the application or a combination thereof. This information is then incorporated into the sanction papers noted above

   With respect to the Gas Business Enablement ("GBE") Program, as noted in the initial testimony of the Gas Infrastructure and Operations Panel, the Company is in the process of evaluating the potential use of on-premise versus cloud-based offerings like SaaS for a number of core systems to determine the best option for functional and technical requirements and total cost. In addition to the benefits discussed in the initial testimony, a number of factors are evaluated in an analysis of selecting an on-premise or SaaS solution including but not limited to:

- functional/technical (including security) requirement fit and customization necessary (requirement fit becomes easier to achieve as cloud computing becomes more commonplace);
- total cost;
- predictability of costs (*i.e.*, regular subscription fees under SaaS);
- economies of scale resulting from traditional costs (*e.g.* data center, computing storage, network infrastructure, and software upgrade and maintenance costs) which are borne by the supplier and spread across multiple customers; and
- cash flow and accounting treatment options resulting from variations of cloud offerings (*e.g.* Infrastructure as a Service or IaaS, Platform as a Service or PaaS).

Name of Respondent:
Thomas Gill

Date of Reply:
June 19, 2017

Date of Request: June 7, 2019 Request No. DPS-278 IS-7
Due Date: June 19, 2017 NMPC Req. No. NM-741

NIAGARA MOHAWK POWER CORPORATION d/b/a NATIONAL GRID
Case No. 17-E-0238 and 17-G-0239 –
Niagara Mohawk Power Corporation d/b/a National Grid – Electric and Gas Rates

Request for Information

FROM: DPS Staff, Andy Timbrook

TO: National Grid, Information Services Panel

SUBJECT: **IS PROJECTS**

Request:

In this interrogatory, all requests for data, workpapers or supporting calculations should be construed as requesting any Word, Excel, or other computer spreadsheet models in original electronic format with all formulae intact.

Provide the following information for each proposed project listed in Exhibit__(ISP-3): For all program categories, identify each proposed capital project that is partly or fully dependent on implementation of this project. Describe how eliminating or substantially reducing this project will affect the feasibility, costs, benefits, and schedule of each dependent project.

Response:

Please see Attachment 1 for project dependencies for each project listed in Exhibit__ (ISP-3). The effect of eliminating or substantially reducing the projects listed in Exhibit__ (ISP-3) is described below for each program.

Cyber Security

Every project listed on Exhibit__ (ISP-3) to some extent is dependent on the protections provided by the Cyber Security Program. Individual cyber security project investments benefit all business functions, such as electric and gas Operations, Shared Services, Customer, and Finance. Eliminating or substantially reducing these projects will substantially increase the risks of cyberattacks and the Company's ability to monitor, prevent, detect, and react to such events. It would also have ramifications to the safeguarding of customer and Company data, the operation of critical network infrastructure, and many other critical services.

Physical Security

There are no projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Physical Security Program. However, as discussed in the testimony of the IS Panel, the individual physical security projects represent investments in security monitoring, access management, and intrusion detection to prevent malicious damage to critical facilities and threats to public safety.

PSC and Other Mandates

Regulatory mandates generally do not have project dependencies because mandates are not discretionary investments. Rather, projects in this category are required by orders, laws, and agreements promulgated by federal, state, or municipal government agencies.

Gas Business Enablement Program

There are no projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). As stated in the testimony of the Gas Infrastructure and Operations Panel, GBE is primarily an asset replacement program. The US Gas Business is facing significant challenges, particularly because most of the information systems currently in use are nearing their end of life, and posing the potential of unacceptable risks to core operations. It is essential that GBE focus on replacing these systems as quickly as possible to mitigate that risk.

Because the implementation of GBE will span a number of years, certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures to mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade.

If GBE was eliminated or substantially reduced, the Company would need to re-think the entire IS portfolio to evaluate how to address the risks and required capabilities, including continuous improvement in gas safety performance, effective delivery of operational performance, and customer interaction improvements, that GBE has been designed to address.

Technology Modernization

Each project listed on Exhibit__(ISP-3) to some extent has a dependency on the Technology Modernization investments. Specifically, the Technology Modernization program addresses required investments in the infrastructure and networks that are used to compute, store and transfer data and the business applications used to generate information and complete business processes. System modernization/NY REV and GBE programs would not be feasible or delivered on the proposed schedules or projected costs without these foundational investments. The Company's aging infrastructure, which includes parts that can no longer be sourced and vendors that can only support this infrastructure on a "best efforts" basis, places existing operations and future initiatives such as system modernization/NY REV and GBE at risk. Aging

applications that are no longer vendor supported create a risk of sustained outages of increasing frequency that affect utility operations.

System Modernization/NY REV

The system modernization/NY REV investments have a dependency on the foundational investments of the Technology Modernization Program and data protections from investments in the Cyber Security Program. If the system modernization/NY REV program investments are curtailed or deferred, the underlying investments in Technology Modernization would still be required to replace aging infrastructure and applications. The Cyber Security 1 and 2 programs would also still need to move forward. However, the system modernization/NY REV specific investments in cyber security would have to be evaluated depending on the elements within the DSIP and AMI that were curtailed or deferred.

FY 18 Investment Plan

The FY 18 investment plan is made up of dozens of individual project investments. The plan is comprised of critical investments, such as the Customer Contact Center project to replace aging telephony and IVR equipment that is no longer manufacturer-supported and with replacement parts that are becoming harder to source. The customer experience improvement initiatives in the plan have a project dependency on the successful completion of the Customer Contact Center project. Other critical investments in this program are the US CNI GMS-SCADA Upgrade and Consolidation, STORMS/I Scheduler Upgrade, Windows 7 Refresh Phase 3 and the US CNI-EMS Lifecycle Hardware and Software Upgrade. These are all critical initiatives for NMPC that have dependencies on technology modernization and cyber security protections.

Name of Respondent:
Daniel J. DeMauro, Jr

Date of Reply:
June 19, 2017

Investment Name	Programs	INVP #	Bill Pool	In Service Date	Total US CapEx Spend	IS Project Dependencies
Customer Bill Redesign	FY18 Plan	4704Q	H173	3/31/19	$2,108,147	Project Description: The last major bill redesign at National Grid concluded in 2007. The newer "blue bar" bill has several variants and supports many special programs and billing requirements including Standard and Summary, and Streetlight / Traffic Signal formats including Budget billing, demand and time-of-use, payment plans, net metering, and marketer supply.
Cisco Prime	FY18 Plan	4679	G020	3/31/21	$648,000	Project Description: Cisco Prime is a management and analytics toolset that supports the management and analytics/reporting of the call manager and connected devices including hard phones, soft phones and video conferencing units. Project Rationale: The primary driver for this toolset is to provide proactive and reactive reporting for Video Conferencing to improve services and customer satisfaction.
Contractor Management Modernization	FY18 Plan	4151	G327	10/15/21	$5,910,000	Project Dependencies: This project will require an alignment with the Gas Enablement project. Project Rationale: Currently, National Grid uses a suite of home-grown unconnected systems to facilitate each contract management process. These systems were created on an as-needed basis, resulting in a patchwork of silo applications loosely connected through a manual process of printing and uploading documents. Information does not transfer from system to system requiring large scale data entry by the contractors and manual processing by National Grid. Our systems also do not support a fundamental fact that the vast majority of the work is completed by field based individuals. Under the current way of doing things, everything is printed, given to the field forces, they then write down what they do, and hand it off to someone in the office to input into a system. . Our contractors and Construction Supervisors have the tools (mobile devices) to improve these interactions but they lack the software (an app) to facilitate the process. This software will allow to streamline the process to have construction supervisors complete their tasks in the field without the need to visit office.
Risk Management (Tx Mains & Dx Mains)	GBE- Asset Management	4572	G210	12/1/17	$2,110,800	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
AM Program Leadership-1	GBE- Asset Management	4572	G210	3/1/18	$277,124	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Enhancements	GBE- Asset Management	4572	G210	12/1/18	$2,660,875	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Additional IM Modules	GBE- Asset Management	4572	G210	2/1/19	$716,840	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
AM Program Leadership-2	GBE- Asset Management	4572	G210	3/1/19	$398,676	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade

Investment Name	Programs	INVP #	Bill Pool	In Service Date	Total US CapEx Spend	IS Project Dependencies
Data Remediation, GIS Upgrade/ Migration & GIS Mobility	GBE- Asset Management	4572	G210	3/1/19	$11,311,759	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
EAM-FIN Integration	GBE- Asset Management	4572	G210	6/1/19	$1,778,102	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Integrity Management Integrations	GBE- Asset Management	4572	G210	10/1/19	$1,088,112	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
AM Program Leadership-3	GBE- Asset Management	4572	G210	3/1/20	$408,336	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Design (GWD), Estimating (CU), & Mobility	GBE- Asset Management	4572	G210	9/1/20	$9,851,109	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Asset Analytics Integration	GBE- Asset Management	4572	G210	12/1/20	$1,764,202	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
GIS (GWD/CU) - PPM Integration	GBE- Asset Management	4572	G210	12/1/20	$844,849	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
GIS-EAM Integration	GBE- Asset Management	4572	G210	12/2/20	$7,818,756	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
AM Program Leadership-4	GBE- Asset Management	4572	G210	3/1/21	$103,929	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Use Case No.1 - Asset Risk	GBE- Asset Management	4572	G210	3/1/21	$3,591,031	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Complex Design (CAD) & Estimating (ESW)	GBE- Asset Management	4572	G210	3/1/21	$2,389,087	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade

Investment Name	Programs	INVP #	Bill Pool	In Service Date	Total US CapEx Spend	IS Project Dependencies
Program Learning Management-1	GBE- Business Enablement	4572	G210	3/1/18	$117,297	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Program Transformational Change Office-1	GBE- Business Enablement	4572	G210	3/1/18	$689,043	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Program Business Sustainment-1	GBE- Business Enablement	4572	G210	3/1/19	$69,617	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Program Learning Management-2	GBE- Business Enablement	4572	G210	3/1/19	$130,211	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Program Transformational Change Office -2	GBE- Business Enablement	4572	G210	3/1/19	$1,516,310	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Program Learning Management-3	GBE- Business Enablement	4572	G210	3/1/20	$173,060	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Program Transformational Change Office-3	GBE- Business Enablement	4572	G210	3/1/20	$368,704	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Program Business Sustainment-2	GBE- Business Enablement	4572	G210	3/1/21	$221,771	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Program Learning Management-4	GBE- Business Enablement	4572	G210	3/1/21	$195,721	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Program Transformational Change Office-4	GBE- Business Enablement	4572	G210	3/1/21	$169,648	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Customer Experience Program Leadership-1	GBE- Customer Engagement	4572	G210	3/1/19	$260,229	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade

Investment Name	Programs	INVP #	Bill Pool	In Service Date	Total US CapEx Spend	IS Project Dependencies
CxT Portal & Channel Management	GBE- Customer Engagement	4572	G210	6/1/19	$11,875,000	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Customer Interaction - First Release	GBE- Customer Engagement	4572	G210	10/1/19	$4,796,546	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Employee Support Interaction - First Release	GBE- Customer Engagement	4572	G210	10/1/19	$7,954,131	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Customer Experience Program Leadership-2	GBE- Customer Engagement	4572	G210	3/1/20	$266,277	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
CRM / Contact Center	GBE- Customer Engagement	4572	G210	6/1/20	$19,000,000	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Large Commercial & Landlord Interaction	GBE- Customer Engagement	4572	G210	7/1/20	$1,446,508	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Employee Support Interaction - Second Release	GBE- Customer Engagement	4572	G210	7/1/20	$292,791	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Customer Interaction - Second Release	GBE- Customer Engagement	4572	G210	1/1/21	$2,010,254	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Customer Experience Program Leadership-3	GBE- Customer Engagement	4572	G210	3/1/21	$203,177	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Data Management Implementation (Quality & Cleansing)	GBE- Data Management	4572	G210	12/1/17	$11,100,000	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Data Management & Governance Program Leadership-1	GBE- Data Management	4572	G210	3/1/18	$58,890	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade

Investment Name	Programs	INVP #	Bill Pool	In Service Date	Total US CapEx Spend	IS Project Dependencies
Enable the Data Archive Process	GBE- Data Management	4572	G210	3/1/19	$2,179,480	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Data Management & Governance Program Leadership-2	GBE- Data Management	4572	G210	3/1/19	$87,954	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Data Management & Governance Program Leadership-3	GBE- Data Management	4572	G210	3/1/20	$89,713	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Powerplan Remediation	GBE- Information Services Enabling	4572	G210	11/1/17	$6,080,111	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Comprehensive Integration Services (Enhancements)	GBE- Information Services Enabling	4572	G210	12/1/17	$78,624	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Application (Environment) Infrastructure	GBE- Information Services Enabling	4572	G210	12/1/17	$2,174,410	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Development Operations & BPA Enablement-1	GBE- Information Services Enabling	4572	G210	3/1/18	$2,903,920	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
SAP and Application Integration Development- Release 1-1	GBE- Information Services Enabling	4572	G210	3/1/18	$4,765,187	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Mobility CoE & End-User Computing-1	GBE- Information Services Enabling	4572	G210	3/1/18	$604,790	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Operations/System Monitoring	GBE- Information Services Enabling	4572	G210	8/1/18	$1,057,768	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Development Operations & BPA Enablement-2	GBE- Information Services Enabling	4572	G210	3/1/19	$2,562,011	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade

Investment Name	Programs	INVP #	Bill Pool	In Service Date	Total US CapEx Spend	IS Project Dependencies
SAP and Application Integration Development- Release 1-2	GBE- Information Services Enabling	4572	G210	3/1/19	$4,548,168	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
SAP and Application Integration Development- Release 2-1	GBE- Information Services Enabling	4572	G210	3/1/19	$5,055,712	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Mobility CoE & End-User Computing-2	GBE- Information Services Enabling	4572	G210	3/1/19	$920,536	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Development Operations & BPA Enablement-3	GBE- Information Services Enabling	4572	G210	3/1/20	$2,164,144	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
SAP and Application Integration Development- Release 1-3	GBE- Information Services Enabling	4572	G210	3/1/20	$600,000	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
SAP and Application Integration Development- Release 2-2	GBE- Information Services Enabling	4572	G210	3/1/20	$4,397,065	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade

Investment Name	Programs	INVP #	Bill Pool	In Service Date	Total US CapEx Spend	IS Project Dependencies
SAP and Application Integration Development- Release 3-1	GBE- Information Services Enabling	4572	G210	3/1/20	$85,915	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Mobility CoE & End-User Computing-3	GBE- Information Services Enabling	4572	G210	3/1/20	$1,031,843	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Test Automation Implementation	GBE- Information Services Enabling	4572	G210	12/1/20	$2,577,052	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Development Operations & BPA Enablement-4	GBE- Information Services Enabling	4572	G210	3/1/21	$2,176,436	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
SAP and Application Integration Development- Release 1-4	GBE- Information Services Enabling	4572	G210	3/1/21	$600,000	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
SAP and Application Integration Development- Release 3-2	GBE- Information Services Enabling	4572	G210	3/1/21	$2,326,606	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Mobility CoE & End-User Computing-4	GBE- Information Services Enabling	4572	G210	3/1/21	$952,793	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Portfolio Management Leadership-1	GBE- Portfolio Office	4572	G210	3/1/18	$1,645,919	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Solution Architects & Agile Coaches-1	GBE- Portfolio Office	4572	G210	3/1/18	$1,958,277	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Portfolio Management Leadership-2	GBE- Portfolio Office	4572	G210	3/1/19	$2,144,482	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Solution Architects & Agile Coaches-2	GBE- Portfolio Office	4572	G210	3/1/19	$3,964,632	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade

Investment Name	Programs	INVP #	Bill Pool	In Service Date	Total US CapEx Spend	IS Project Dependencies
Portfolio Management Leadership-3	GBE- Portfolio Office	4572	G210	3/1/20	$2,161,221	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Solution Architects & Agile Coaches-3	GBE- Portfolio Office	4572	G210	3/1/20	$2,824,290	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Portfolio Management Leadership-4	GBE- Portfolio Office	4572	G210	3/1/21	$1,855,901	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Regulatory/ Compliance	GBE- Regulatory and Compliance	4572	G210	9/1/19	$3,000,000	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Supply Chain Program Leadership	GBE- Supply Chain	4572	G210	3/1/19	$565,045	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Supply Chain Program Leadership	GBE- Supply Chain	4572	G210	3/1/20	$235,258	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Business Architecture Design	GBE- Work Management	4572	G210	12/1/17	$3,004,085	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
WMFE Program Leadership-1	GBE- Work Management	4572	G210	3/1/18	$234,013	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Corrosion and I&R Work	GBE- Work Management	4572	G210	7/1/18	$26,479,653	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
CU Governance & Library - process	GBE- Work Management	4572	G210	11/1/18	$1,658,439	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
WMFE Program Leadership-2	GBE- Work Management	4572	G210	3/1/19	$563,692	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade

Investment Name	Programs	INVP #	Bill Pool	In Service Date	Total US CapEx Spend	IS Project Dependencies
Company Driven Work: Collections and non-Appointment Offs - Gas	GBE- Work Management	4572	G210	10/1/19	$5,310,645	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Company Driven Work: Collections and non-Appointment Offs- Electric	GBE- Work Management	4572	G198	10/1/19	$2,859,577	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Customer, Leak Investigation & Inspections - Gas	GBE- Work Management	4572	G210	10/1/19	$20,374,438	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Customer, Leak Investigation & Inspections - Electric	GBE- Work Management	4572	G198	10/1/19	$10,970,850	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
WMFE Program Leadership-3	GBE- Work Management	4572	G210	3/1/20	$595,004	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
PowerPlan Integration & Enhancements	GBE- Work Management	4572	G210	6/1/20	$1,946,867	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Construction Work & Leak Repair	GBE- Work Management	4572	G210	9/1/20	$19,718,534	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
WMFE Program Leadership-4	GBE- Work Management	4572	G210	3/1/21	$155,062	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Work Forecasting & Planning - solution	GBE- Work Management	4572	G210	5/1/21	$1,708,505	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
Core Projects & Program Management	GBE- Work Management	4572	G210	6/1/21	$3,134,061	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade
WMFE Optimization	GBE- Work Management	4572	G210	3/1/22	$3,331,402	There are no other projects listed in Exhibit_(ISP-3) that are specifically dependent upon the Gas Business Enablement Program ("GBE"). Certain projects included in Exhibit_(ISP-3) are planned to provide stopgap measures and mitigate operational risk due to aging systems. This is not to say that these projects are dependent upon GBE. Rather, the current GBE schedule is dependent upon them. Those systems include: INVP4188, Aging System Stabilize; INVP2577C, ArcFM Software Upgrade; and 4398, Storms/iScheduler Upgrade

Niagara Mohawk Power Corporation
d/b/a National Grid

PROCEEDING ON MOTION OF THE COMMISSION AS TO THE RATES, CHARGES, RULES AND REGULATIONS OF NIAGARA MOHAWK POWER CORPORATION FOR ELECTRIC AND GAS SERVICE

Corrections and Updates Testimony and Exhibits of:

Gas Infrastructure and Operations Panel
Electric Infrastructure and Operations Panel

Book 2

July 10, 2017

Submitted to:
New York State Public Service Commission
Case 17-E-0238
Case 17-G-0239

Submitted by:
Niagara Mohawk Power Corporation

nationalgrid

Corrections and Updates Testimony of The Gas Infrastructure and Operations Panel

A. Yes. The "Public Awareness Inside Inspections" program, originally forecast to cost $12,000 in non-labor expense per year, has been removed from the Company's O&M forecast. The Company's updated Inside Inspection Program includes public awareness.

IV. Additional Updates to the O&M Forecast

Q. Please describe the updates to the O&M forecast.

A. Incremental funding related to the Service Line Inspection Order, as described above, is included in Exhibit ___ (GIOP-5CU). The other corrections and updates to the O&M forecast are shown in Exhibit ___ (GIOP-5CU), Exhibit ___ (GIOP-6CU), and Exhibit ___ (GIOP-7CU) and are summarized below.

A. GIS Mapping Gas Services Program

Q. Please describe the updates to the GIS Mapping Gas Services Program.

A. The GIS Mapping Gas Services Program has been deferred and will not be implemented during the Rate Year or Data Years. The Company is therefore removing the $7.2 million in program costs and six associated FTEs from the Rate Year and Data Years' O&M forecast.

Q. Why is this project being deferred?

A. The Company determined that the proposed O&M GIS Mapping of Gas Services Program may bring more value following implementation of certain Gas Business Enablement ("GBE") system changes during the Rate Year and Data Years. The O&M GIS Mapping program as proposed was not duplicative of GBE initiatives; however, the

Corrections and Updates Testimony of The Gas Infrastructure and Operations Panel

GBE Program changes will add capabilities that better align with GIS mapping of gas services. The Company will re-evaluate GIS mapping for gas services in FY 2021 to determine whether to move forward with this program in later years.

B. <u>Operator Qualification Test Proctoring</u>

Q. Please describe the Company's updated plan for operator qualification test proctoring.

A. The Company proposes to hire an experienced third-party vendor to proctor the Company's operator qualification testing at the vendor's testing facilities. This solution will best ensure the integrity of the testing process. The Company will implement and incur the start-up costs for this program in FY 2018 prior to the Rate Year. However, there are annual recurring examination delivery and reservations fees in the Rate Year and Data Years. The total annual incremental non-labor O&M costs are $0.142 million, adjusted for inflation consistent with the proposed contract terms beginning in Data Year 1. The program will also require two incremental FTEs, one who will support the central region and one to support the eastern region, to coordinate testing schedules and manage employee records and cyclical testing requirements.

Q. Did the Company evaluate any other solutions for managing operator qualification testing?

A. Yes. At the time of the initial filing, the Company was considering managing its operator qualification testing using its own employees with enhanced proctoring requirements. To ensure the most effective and prudent approach was taken, the Company sought

Before the Public Service Commission

NIAGARA MOHAWK POWER CORPORATION d/b/a NATIONAL GRID

Rebuttal Testimony

of

Johnny Johnston

Dated: September 15, 2017

Case 17-E-0238
Case 17-G-0239

Rebuttal Testimony of Johnny Johnston

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Case 17-E-0238
Case 17-G-0239

Rebuttal Testimony of Johnny Johnston

I. Introduction

Q. Please state your name and business address.

A. My name is Johnny Johnston. My business address is One MetroTech Center, Brooklyn, New York 11201.

Q. Are you the same Johnny Johnston who previously submitted testimony in these proceedings?

A. Yes. I provided direct testimony on the Gas Business Enablement ("GBE") Program as a member of the Gas Infrastructure and Operations Panel ("GIOP"). The defined terms in my direct testimony as part of the GIOP have the same definitions here.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to address certain adjustments and recommendations set forth in the testimony of the Department of Public Service Staff ("Staff") Gas Business Enablement Panel ("SGBEP") and the Staff Information Services Panel ("SISP") concerning the Company's GBE Program. Specifically, my rebuttal testimony will address:

(i) Staff's recommendation to apply cost adjustments to the GBE Program, including a slippage adjustment to capital expenditures and

operating and run the business expenses; and an adjustment to the Service Company return on all IS investments;

(ii) Staff's proposal for downward-only reconciliation of capital expenditure capital expenditure and reporting requirements for the Company's IS investments;

(iii) the SGBEP's recommendations for benchmarks measuring the successful implementation of the GBE Program;

(iv) the SGBEP's proposal for a cap on the costs of the GBE Program; and

(v) the SGBEP's recommendations concerning the Company's financing proposal.

Q. Do you sponsor any exhibits?

A. Yes. I sponsor the following exhibits that were prepared under my direction and supervision.

- Exhibit ___ (JJ-1R) Summary of Differences Between the GBE Program and IS Projects;
- Exhibit ___ (JJ-2R) Proposed Value Framework Metrics as Benchmarks for GBE Program; and
- Exhibit ___ (JJ-3R) Referenced Information Requests.

II. Staff Recommendations for Customer Protections

Q. Do you agree with the SGBEP's proposal (at 38-39) to implement customer protections for the GBE Program?

A. No. The SGBEP proposes customer protections for the GBE Program to address concerns regarding: (i) the Company's implementation plan for the GBE Program; (ii) the inherent difficulty in estimating the costs given the scale of the GBE investment; and (iii) perceived implementation and cost estimation challenges for National Grid IS projects. While I appreciate the SGBEP's concern that the GBE Program be delivered on time and on budget, the Company has addressed each of the concerns identified by the SGBEP and, therefore, the proposed customer protections are not warranted.

Q. The SGBEP contends (at 22-23) that the Company has not built sufficient controls into the GBE program to ensure it remedies the gas safety and compliance issues the program is intended to address. Do you agree with this statement?

A. No, I do not. The Company has taken great care to ensure that appropriate internal controls have been built into the design, implementation approach, and governance of the GBE Program. The Company has paid particular attention to strengthening controls in the area of gas safety and compliance. Specifically, the GBE Program is being designed to deploy systems that will:

(i) improve scheduling and management of gas safety and compliance obligations in a manner that provides greater visibility to due dates for work requirements;

(ii) enable better methods for documenting work activities, such as electronic data capture functionality in field mobile applications, auto-validation of fields and pre-populated drop down lists to improve data capture and quality; and

(iii) enable auto-generation of orders to support follow-up activities, such as leak survey, customer warning tags, and other mandated work.

Applications and systems developed by the GBE Program will put more information in the hands of the Company's employee (*e.g.*, call center representative and field technician) and allow real-time sharing of information to diagnose and solve problems more quickly and effectively. The GBE Program will also enhance internal gas safety controls with field mobile access to process documentation, instructor and video-based training, as well as standardized operations processes and training.

Importantly, in designing the program requirements, National Grid's Vice President for Pipeline Safety & Compliance was an active and key team member. His leadership and expertise during the program's strategic

assessment phase ensured that gas safety compliance and controls were identified and incorporated into the program roadmap.

Q. Please continue.

A. The GBE Program's implementation approach involves a similar focus on internal controls through a strict governance framework. The GBE Steering Group is comprised of various senior subject matter experts, along with the Chief Financial Officer of National Grid and the Group Head of Audit. In addition, in October 2017, the GBE Program will establish a Risk and Controls team to work with the Finance function's Controls Evaluation Team, the gas business Operational Controls team, and other organizations to support alignment of National Grid's operational and finance risk and controls frameworks. At least one subject matter expert on internal controls will also support business process and solution design activities for the GBE Program. Further, as noted in the Company's response to Information Request No. DPS-431(AT-4), PricewaterhouseCoopers ("PwC") was selected as a business assurance partner for National Grid to provide additional confirmation that the business design/roadmap developed for GBE is fit-for-purpose and meets National Grid's requirements for business functionality and deliverability (including risk management) (*see* Exhibit ___ (JJ-3R), Pages 23-35 of 65).

Q. The SGBEP claims (at 26-27) that the Company's capital review and planning process does not focus on identifying drivers of spending variances. Do you agree?

A. No. As noted on page 26 of the SGBEP's testimony, the GBE Program utilized zero-based budgeting to forecast both capital and O&M budgets. This, combined with fixed price vendor contracts and oversight by the GBE Steering Committee, will enable the Company to have clear visibility on drivers of capital spending variances.

It is also important to note that the GBE Program will enable the gas business to identify underlying capital spending variances. In its response to Information Request No. DPS-433(4) (AT-6), the Company explained and identified the specific GBE initiatives that will enable the Company to more accurately estimate capital spending, including: graphic work design tool and compatible unit libraries, the Asset Investment Planning and Management tool, asset integrity management tools, and enterprise asset system and financial system integrations (*see* Exhibit ___ (JJ-3R), Pages 41-42 of 65). Many of the same tools can be leveraged to provide greater insight into project spending variances to identify the underlying drivers of those variances. For example, implementing a compatible unit library for standard work will allow the Company to gain greater insights and visibility for project

change orders, specifically with more detail regarding third-party contractors' mains and services bid units. The work management system will allow field supervisors to document change orders and support more robust governance for the change order control process. Overall, GBE's work management and mobile tools will enable back office and field personnel to access and capture more information to provide better explanations of variances.

Q. Please address the SGBEP's concerns (at 29-30, 36-38) regarding the perceived difficulty in estimating GBE Program costs.

A. As explained in my direct testimony and the Company's response to Information Request DPS-431 (AT-4), GBE Program costs were developed with Accenture, one of the top system integrators, utilizing a bottom-up approach, validated by comparison to actual experience on other programs of similar size and scope (*see* Exhibit ___ (JJ-3R), Pages 23-35 of 65). PwC was selected as a business assurance partner for National Grid to validate that GBE meets National Grid's requirements for cost efficiency. PwC's Report on the strategic assessment and roadmap concluded that the cost estimate for GBE (i) was appropriate compared with the total costs of other industry benchmarks of similar scale projects and (ii) that the 4.5 year deployment duration in the roadmap is achievable.

In the response to Information Request No. DPS-433(1) (AT-6), the Company also addressed how it would deliver its GBE proposal on budget and on time including:

(i) adopting various best practices in program governance and management with a framework of eight Critical Success Factors (CSFs) to ensure the successful delivery of the GBE Program, such as a GBE Program Steering Group exercising oversight on budget, timing, and resources; change management and business engagement activities throughout the Program; and rigorous stage gating and established governance documents with independent reviewers;

(ii) selected deployment strategies and development methodologies, such as phased implementation to manage risks and improve outcomes; and

(iii) retaining a third party value assurance partner to evaluate program direction and deliverables

(*see* Exhibit ___ (JJ-3R), Pages 36-45 of 65).

The Company has addressed all of the SGBEP's concerns underlying its proposal for customer protections; as such, application of the proposed customer protections is not appropriate for the GBE Program and should not be adopted.

III. <u>Information Services Adjustments/Customer Protections</u>

A. <u>Application of Information Services Adjustments Generally to GBE</u>

Q. Please describe the IS spending protections proposed by the SISP and the SGBEP for the GBE Program.

A. The SGBEP recommends that the cost adjustments and customer protections proposed by the SISP for IS investments, generally, apply to the GBE Program as well because it is part of the overall IS investment. This includes the 37 percent slippage adjustment to account for historical IS underspending; adjustment to the Service Company return on all IS investments; the downward-only reconciliation for IS capital expenditures; and expanded reporting requirements.

Q. Do you agree with the application of Information Services cost adjustments to GBE?

A. No. As discussed above, the GBE Program has incorporated a number of best practices and controls including working with two of the top system integrators in the U.S., Accenture and PwC, to ensure that implementation or cost estimation issues previously experienced by the Company for large scale projects do not occur with GBE. A separate GBE Steering Committee, comprised of senior business executives, oversees the program, including with regard to the deployment timeline and costs. Delivery of the systems solutions is occurring with separate competitively bid delivery partners dedicated to the program. For all of these reasons, the application of the cost adjustments and customer protections for IS projects suggested by the SISP and SGBEP should not be applied to the GBE Program.

In addition, an adjustment should not be applied to the GBE Program simply because it includes an IS component as the SISP and SGBEP seem to suggest. GBE is a stand-alone, single, business-led and separately resourced program, apart from the other IS-sponsored initiatives that are delivered in a separately prioritized IS portfolio. Indeed, as shown in the Company's response to Information Request No. DPS-730 (AAM-45), FY18 GBE costs are not included in the IS investment plan (*see* Exhibit ___ (JJ-3R), Pages 55-59 of 65). The GBE Program is a separately managed effort with its own cost center and a dedicated team. The program will design and build a separate business-led organization for post-implementation support. Exhibit __ (GBE-1R) further describes the governance, budgeting, resource, and delivery differences between IS projects and business programs such as the GBE Program.

B. <u>Slippage Adjustment</u>

Q. Please summarize the proposed slippage adjustments on GBE Program costs.

A. The SISP applied a slippage adjustment to Service Company IS rent expense, upfront/project operating expenses associated with GBE and Grid Modernization projects, and ongoing run the business expenses. This results in a decrease to the Rate Year rent expense for GBE of approximately $0.650

million for Niagara Mohawk's gas business. Similarly, the SISP and SGBEP recommended a slippage adjustment of 37 percent to upfront operating expenses associated with GBE, resulting in a decrease to operating expenses in the Rate Year of approximately $0.072 million for Niagara Mohawk's electric business and $3.524 million for Niagara Mohawk's gas business. The same slippage adjustment was applied to run the business costs associated with GBE, resulting in a decrease to operating expenses in the Rate Year of approximately $0.439 million for Niagara Mohawk gas.

Staff argues that the slippage adjustments are appropriate to address concerns the Company can deliver on its proposal to spend its full Rate Year IS budget of $286.2 million. The SISP further notes that the proposed slippage adjustment reflects a decrease to Rate Year capital expenditures based on the review of past spending variances. The SISP calculated the slippage adjustment of 37 percent based on a historical multi-year average of actual-to-budget spending for IS projects for FY14-FY16.

Q. Do you agree that adjustments to GBE costs should be made for slippage?

A. No. The SGBEP and SISP have provided no evidence that the justifications for slippage adjustments apply to the GBE Program. The GBE Program is on

track to deliver its first release for FY18 as planned in the sanctioned roadmap. Further, business engagement and strategic change initiatives have started on time and are tracking to plan. More than 200 internal and contractor resources have already been on-boarded and are working on the GBE Program. In addition, the program is in the process of securing software solutions for work and customer management initiatives – a favorable leading indicator of progress on program implementation.

As discussed in the Company's response to Information Request Nos. DPS-431 (AT-4), DPS-433 (AT-6), the GBE Program has incorporated a number of best practices and controls to review deliverability and costs along with a value assurance partner to provide ongoing independent assessment of program delivery (*see* Exhibit ___ (JJ-3R), Pages 23-45 of 65). In addition, the GBE Program has conducted competitive bidding of delivery partners to confirm and validate the initial cost estimates reflected in the Company's filing. Under fixed price, milestone based contracts, overall program costs are anticipated to remain at approximately $458M (plus a $61 million contingency, which was not included in the Company's revenue requirement) consistent with the GBE Program cost forecast discussed in the testimony of the GIOP.

Q. Would the application of the slippage adjustment affect National Grid's ability to delivery GBE capabilities to Niagara Mohawk?

A. Yes. To deliver the GBE Program within the limits of the slippage adjustment, the Company would be required to forgo the development of certain capabilities and limit others. As explained in the direct testimony of the GIOP and in the partial sanction paper for the program provided in Attachment 5 to Information Request No. DPS-275 (IS-4) Supplemental, the GBE Program team devoted a significant portion of FY17 to the development of the business case, assessment of processes and applications, and high-level design for the GBE Program (*see* Exhibit ___ (JJ-3R), Pages 1-22 of 65). Application of Staff's significant slippage adjustment would require a re-planning effort to re-align activities to the reduced funding resulting in (i) a loss of 8 to 12 weeks re-planning timing; (ii) an increase to the length of the five year program to seven or eight years (assuming a linear increase in program timeline to the slippage); (iii) greater risk of failure of the already aged systems given the extended timelines discussed above; (iv) increased project costs for certain program level support such as the Project Management Office, architects, key leadership and subject matter experts due to the extended program timeline; and (v) increased vendor costs due to any significant changes in the roadmap, all resulting in an increase to the overall

program costs and delaying delivery of customer benefits without adding any incremental value for customers.

C. <u>Adjustment to Service Company Return on All IS investments</u>

Q. Do you agree with the SISP and SGBEP recommendations to use the pre-tax weighted average cost of capital of 8.74 percent, consistent with Staff's proposed stand-alone Niagara Mohawk rate of return, rather than the Company's proposed 9.91 percent?

A. No. The Company's objection to this proposal is discussed in the rebuttal testimony of Joshua Nowak.

D. <u>Downward-Only Reconciliation of Capital Expenditures</u>

Q. Do you agree with Staff's proposed reconciliation mechanism for GBE capital expenditures?

A. No. Under Staff's proposal, the reconciliation mechanism would act as a downward only capital tracker. The Company does not believe a capital tracker in a one-year case is appropriate or necessary. In addition, as noted in the direct testimony of the GIOP, while the GBE Program is ultimately expected to be delivered within the total budgeted costs, costs may reasonably

shift between years as detailed project design and delivery of projects occurs across multiple years.

E. <u>Reporting and Documentation Improvements</u>

Q. Do you agree with Staff's recommended reporting requirements for GBE?

A. In part, yes. The SGBEP proposes applying the same reporting requirements for GBE as the SISP (at 64-67, 72) recommends for IS, with a GBE-specific section on report (SGBEP at 38). However, as explained earlier, the GBE Program's budgeting and governance is handled separately from that of IS. As a result, the Company proposes to provide separate reports for the GBE Program, and discontinue reporting after FY24 when the program is fully implemented. Further, because GBE is a single, standalone Program, the prioritization summary and five-year capital plan for investments prior to the start of each Rate Year would be unnecessary and uninformative for GBE. The quarterly filings should provide sufficient information on the costs and investment direction of the GBE Program. The Company further proposes to file quarterly reports within 60 days after the end of each quarter to allow for sufficient time to provide informative variance analyses. For quarterly and annual reports, the Company proposes to provide variances for capital and operating expenses for GBE to reflect total costs.

The Company will work with Staff to develop a mutually agreeable reporting format that addresses Staff's recommendations. Ideally, the reporting format would incorporate aspects of the Company's internal reporting practices to minimize the incremental administrative burden.

IV. Additional GBE-Specific Customer Protections

A. Cap on GBE Costs

Q. Does the Company agree with Staff's proposal (at 39-40) for a cap on GBE costs?

A. No. It is not appropriate to cap the total forecast of $458 million. A cap is unnecessary and duplicative given the proposed benchmarks to address delivery of program benefits (discussed below). In addition, costs are always subject to Commission review, including as part of regular rate proceedings, management audit, or other proceedings the Commission may order. Further, a cap would needlessly constrain the ability of the Company to deliver additional capabilities for customers. Indeed, the proposed reporting requirements should provide sufficient visibility to Staff on the Company's spend and program delivery.

B. <u>Benchmarks</u>

Q. Please describe Staff's proposals on instituting benchmarks (at 41-47) for the GBE Program.

A. To demonstrate the successful delivery of enhanced capabilities, Staff proposed the following benchmarks:

- reductions in customer appointment windows from eight hours to between two and four hours;
- number of damages due to data quality errors; and
- incurred negative revenue adjustments on certain gas safety penalties GBE will address through a mobile application; and

Staff also encouraged the Company to propose any additional benchmarks. Staff recommends that, for any benchmark the Company cannot demonstrate, a prorated portion of Niagara Mohawk's $31.2 million share of the $185 million incremental investment over the "backbone" option will be returned to customers via a deferred liability. For example, if the Company meets two of the three benchmarks, it would be entitled to recovery of two thirds, or 66.7 percent, of the $31.2 million, or $20.817 million and the remaining one third, or $10.418 million, would be refunded through a deferred liability.

Q. Does the Company agree with Staff's proposal?

A. The Company acknowledges the importance of demonstrating timely and successful delivery of capabilities. However, the Company has concerns with the benchmarks proposed by Staff, and the calculation of the deferred liability.

Q. Please explain.

A. The benchmarks suggested by Staff are very narrowly focused on certain areas and based on certain misconceptions. For example, Staff proposes that the benchmark of reduction in customer appointment windows from the Company's response in Information Request No. DPS-658 (AT-12) (*see* Exhibit ___ (JJ-3R), Pages 46-54 of 65). In that response, the Company provided an analysis showing the savings in customer time of a shift of all customer appointments and commitments to two or four hours from two hours for appointments and eight or four hours for customer commitments. Importantly, as noted in Information Request No. DPS-689 (AT-15), this benefit was calculated at a high level and was not included in the Company's filing or the GBE business case as it was a customer time savings benefit (*see* Exhibit ___ (JJ-3R), Pages 64 of 65). The Company, therefore, does not believe it is an informative indicator of the overall delivery of business case benefits. To the extent Staff insists on utilizing this benchmark, measurement of the benefit will need to begin 12-18 months after the in-service date to

allow time for the Company to stabilize the solution and fully realize the benefits.

With respect to the number of damages due to data quality errors, the Company notes that data management and GIS initiatives will not find and correct all of the Company's legacy asset records deficiencies. These legacy data issues mean that this proposed benchmark may not fully reflect the benefits of the GBE Program.

In addition, Staff's proposed benchmarks proffer an all or nothing approach to determining whether benefits are delivered to customers. For example, under Staff's proposed benchmark of elimination of incurred negative revenue adjustments on certain gas safety penalties, if the Company incurs a single negative revenue adjustment on a penalty due to human error or non-GBE related issue, the entire benchmark would not be considered delivered and the Company would forfeit recovery on one-third of the revenue requirement for the $185 million in enhanced capabilities. This all or nothing approach makes Staff's proposed overly punitive, rather than protective of customer benefits.

Q. What does the Company propose with respect to benchmarks for demonstrating the successful delivery of capabilities?

A. In place of the benchmarks proposed by Staff, the Company proposes utilizing the GBE Program's Value Framework metrics, consisting of six key performance indicators ("KPIs") developed to measure performance. Use of the Value Framework metrics provides a holistic, consistent, measurable method to determine delivery of benefits across the GBE business case. As shown in Exhibit __ (JJ-2R), the six key metrics have been identified by National Grid across multiple benefits areas representing over 80 percent of the business case.

The Company's proposed KPIs are simple and focused on successful delivery of outputs for National Grid and its customers to demonstrate the benefits of the GBE investment. Because the GBE Program has created the Value Framework KPIs to provide consistent framework across all jurisdictions and operating companies to measure performance on delivery, these KPIs create alignment between the Company and customers, as well as with delivery vendors, and reduce administrative burden of tracking and reporting on different metrics separately.

Benchmarks based on the Value Framework KPIs can be designed on a sliding scale to provide a more graduated approach. The KPIs across the framework are consolidated using an equal weighting as shown in Exhibit __

(JJ-2R) and support the business case benefits included in Exhibit __ (GIOP-12). The Company proposes a prorated portion of Niagara Mohawk's $31.2 million share of the $185 million incremental investment over the "backbone" will be returned to customers via a deferred liability for any percent under 100 percent of the Value Framework that is not demonstrated as agreed to with Staff. In the context of a multi-year settlement, the Company proposes to explore with Staff an upside incentive mechanism in the event it is able to achieve more than 100 percent of the Value Framework benchmarks.

V. <u>Financing Proposal</u>

Q. Please explain Staff's position (at 47-55) on the Company's third party financing proposal for GBE.

A. Staff believes they cannot make a recommendation to the Commission on the Company's proposal to utilize a third party financing entity/bank to finance all GBE Program costs. Given the early stages of the evaluation of the third party financing option, Staff expressed concerns about its ability to evaluate the accuracy of the Company's analysis demonstrating an overall cost reduction for the GBE Program to the benefit of customers, as well as impacts to capitalization at the parent company level. Acknowledging that National Grid intends to implement the GBE Program not only for Niagara Mohawk, but also for KEDNY and KEDLI, Staff recommends that the third party

financing option should not be decided in the context of this proceeding such that if the Company intends to pursue this financing option, appropriate notice should be given so that parties in KEDNY and KEDLI, as well as Niagara Mohawk, can participate in the vetting of the alternative financing option.

Q. Please explain the Company's position on pursuing an alternative financing proposal for the GBE Program.

A. The Company understands that Staff requires additional information to aid the Commission in determining if the third party or other financing option provides benefits for all of National Grid's New York customers and that the issue may not be decided in the context of this rate proceeding. The GBE Program is a foundational investment in the future of National Grid's U.S. gas business that will deliver operational, safety, and customer service benefits for the Company and its customers. Because the GBE Program is a significant financial investment, and is being deployed across multiple jurisdictions on a staggered schedule, National Grid must equitably align recovery of the investment with the implementation of GBE functionality by the U.S. operating companies, realization of its benefits by their customers, and mitigation of execution risk. To the extent equitable rate recovery cannot be secured for certain operating companies, including KEDNY and KEDLI in New York, the Company may need to delay investments at those operating

companies. Because the roadmap and deployment plans currently reflect implementation on a staggered schedule, de-scoping of certain operating companies can result in significant incremental costs to the remaining companies that will see implementation of GBE as some of the foundational costs of the solutions, such as core solution design and development, will be allocated among fewer companies.

Q. Does this conclude your testimony?

A. Yes, it does.

Rebuttal Exhibits of
Johnny Johnston

Case 17-E-0238
Case 17-G-0239

Rebuttal Testimony of Johnny Johnston

Index of Exhibits

Exhibit ___ (JJ-1R)	Summary of Differences Between GBE Program and IS Projects
Exhibit ___ (JJ-2R)	Proposed Value Framework Metrics as Benchmarks for GBE Program
Exhibit ___ (JJ-3R)	Referenced Information Requests

Exhibit ___ (JJ-1R)

Summary of Differences Between GBE Program and IS Projects

Information Services / Business Project Definition and Sanctioning

Area	Information Services (IS) Programs/Projects	Business Programs/Projects
Project Sponsorship	Project Sponsor is from the Business.	Project Sponsor is from the Business.
Project Management	Project Manager and technical project resources are part of the IS organization. Since the project is part of a prioritized IS portfolio of varying size and duration, Staffing is dynamic.	Project Manager and technical project resources are assigned to the project and report within the Business organization. Project may draw on specialized talent (e.g. database support), from the IS organization.
Oversight – Business Activities	Business activities such as business process changes and user training are managed by IS project management resources with participation by the line organizations within the Business.	Business activities such as business process changes and user training are managed by the project team, which resides within the Business, with participation by the line organizations within the Business.
Funding	Project is typically funded within the IS business plan.	Project is typically funded within the business plan of the Business line organization(s) which will benefit from the project.
Sanctioning Process	Sanction review process begins in IS with review by the IS technical and financial stakeholders, and is then passed on to the sanctioning committees for approval.	The Business has its own pre-sanction review process which includes financial and technical review. IS technical review typically occurs within the Business project team, since the IS technical resources reside within the project team in the Business organization, and since funding is typically within the Business.
	Projects with costs greater than $1 million and less than $25 million are approved by the United States Sanctioning Committee (USSC).	Projects with costs greater than $1 million and less than $25 million are approved by the United States Sanctioning Committee (USSC).
	Projects with costs equal to or greater than $25 million are approved by the Senior Executive Steering Committee (SESC), after review and noting by the USSC.	Projects with costs equal to or greater than $25 million are approved by the Senior Executive Steering Committee (SESC), after review and noting by the USSC.

Exhibit ___ (JJ-2R)

Proposed Value Framework Metrics as Benchmarks for GBE Program

Exec. KPI Target and Weighting

Exhibit __ (JJ-2R)
Page 1 of 1

Value Category	KPI	Baseline Test Year	FY19 Target Rate Year	FY20 Target Data Year 1	FY21 Target Data Year 2	Weighting
Work Mgmt CMS	Avg. # of Completed Jobs per Worker (Jobs/day)	2.70	2.71	2.74	2.76	16.67%
Work Mgmt M&C	Avg. ft. of Main Repl./Worker (ft/day)	12.03	12.07	12.21	12.30	16.67%
Back Office	Work Orders Processed/Back Office FTE (Wos/yr.)	577	596	672	720	16.67%
Customer	Total Call Volume (calls/year)(move & non move)	1,148,881	1,148,881	1,109,157	1,089,295	16.67%
Asset & Inventory	Inventory Turnover	1.30	1.37	1.44	1.44	16.67%
Gas Safety & Compliance	Total non-compliance Occurrences	398*	247	123	24	16.67%

*Three year average of # of non-compliance occurrences based on 2013, 2014, 2015

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Exhibit ___ (JJ-3R)

Referenced Information Requests

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US Sanction Paper

Title:	Gas Business Enablement	**Sanction Paper #:**	USSC-17-222
Project #:	INVP 4572	**Sanction Type:**	Partial Sanction
Operating Company:	National Grid Svc Company	**Date of Request:**	May 30, 2017
Author:	Wayne S. Watkins / Kenneth C. Healy	**Sponsor:**	Johnny Johnston-SVP Gas Business Enablement
Utility Service:	Gas	**Project Manager:**	Kenneth C. Healy

1 Executive Summary

1.1 Sanctioning Summary

This paper requests partial sanction of INVP 4572 in the amount of $84.5 million, with a tolerance of +/- 10% for the purposes of completing the first of five years of development and implementation of the Gas Business Enablement program (GBE), this phase of which is expected to be completed during the period April 2017 through March 2018 (FY18). The partial funding approach will provide transparency of progress as the program moves through its various stages.

This sanction amount is $84.5 million broken down into:

$56.5 million Capex
$28.0 million Opex
$0 Removal

NOTE the total anticipated investment in GBE is $478.284 million with a tolerance of +/- 13%, contingent upon submittal and approval of additional program partial sanction papers as new phases of the program are presented. The total anticipated investment includes $20.142 million which was invested in FY17 for assessment of processes and applications, high level design for the program, development of the business case, early enabling investments and procurement and mobilization activities. The $84.500 million for FY18 is not a standalone investment; future investments will be required to complete GBE and enable further capabilities along a five-year roadmap from the initial investments.

NOTE that the GBE Program has adopted an annual sanctioning approach, which will include periodic reviews of project progress, deliverables, and funding requirements over multiple sanctions, with the GBE Steering Group providing oversight of the program's progress.

1.2 Project Summary

The US Gas Business is facing significant challenges. These include improving gas safety performance, continuing to successfully deliver the growing capital program, meeting the demand for customer connections, supporting evolving customer and regulatory expectations, and running the business more effectively. These challenges are amplified by the complexity created by disparate legacy processes and systems currently in use across the business. This is particularly acute with regards to information systems, most of which are nearing end of life, and are beginning to create unacceptable risks to core operations and future growth.

The proposed solution is focused on standardizing and simplifying operational processes into new asset management, work management, and mobility systems (the core backbone). Enhanced capabilities focused on the customer experience, asset and work management, and data supplement the core backbone. A refined operating model and value framework will embed and sustain a culture of accountability and compliance. Industry standard solutions, an innovative release strategy, modern delivery methods, and robust governance will support the successful delivery of the desired business outcomes.

Although primarily an asset replacement program, there are a broad range of anticipated benefits including improved gas safety and operational performance, as well as enhanced customer experience and service.

1.3 Summary of Projects

Project Number	Project Type (Elec only)	Project Title	Estimate Amount ($M)
4572		Gas Business Enablement	478.284
		Total	478.284

1.4 Associated Projects

N/A

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US Sanction Paper

1.5 Prior Sanctioning History

Date	Governance Body	Sanctioned Amount	Potential Project Investment	Paper Title	Sanction Type	Tolerance

1.6 Next Planned Sanction Review

Date (Month/Year)	Purpose of Sanction Review
November 2017	Partial Sanction – GBE Phase 2

1.7 Category

Category	Reference to Mandate, Policy, NPV, or Other
○ Mandatory ⦿ Policy- Driven ○ Justified NPV ○ Other	GBE is primarily an asset replacement program.

1.8 Asset Management Risk Score

Asset Management Risk Score: 49

Primary Risk Score Driver: (Policy Driven Projects Only)

⦿ Reliability ○ Environment ○ Health & Safety ○ Not Policy Driven

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1.9 Complexity Level

⦿ High Complexity ○ Medium Complexity ○ Low Complexity ○ N/A

Complexity Score: 30

1.10 Process Hazard Assessment

A Process Hazard Assessment (PHA) is required for this project:

○ Yes ⦿ No

1.11 Business Plan

Business Plan Name & Period	Project included in approved Business Plan?	Over / Under Business Plan	Project Cost relative to approved Business Plan ($)
Gas Business Enablement. FY18-FY23	⦿ Yes ○ No	⦿ Over ○ Under ○ NA	$373.7m

1.12 If cost is not aligned with approved Business Plan how will this be funded?

GBE is replacing aged and core systems to manage our related gas assets and support the safe delivery of service to our customers. The Company will request recovery of costs of GBE through future rate cases. In the interim, the Senior Executive Sanctioning Committee has approved funding through FY18. The full program costs will be built into the next iteration of the business plan for future years.

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US Sanction Paper

1.13 Current Planning Horizon

		Current Planning Horizon						
		Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Yr. 6 +	
$M	Prior Yrs	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	Total
CapEx	0.000	56.504	104.639	73.693	47.613	10.332	0.815	293.596
OpEx	20.142	27.972	64.102	41.339	21.317	9.087	0.729	184.688
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CIAC/Reimbursement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	20.142	84.476	168.741	115.032	68.930	19.419	1.544	478.284

1.14 Key Milestones

Milestone	Target Date: (Month/Year)
Start Up	04/2017
Partial Sanction	05/2017
Begin Requirements and Design	05/2017
Begin Development and Implementation	07/2017
Partial Sanction	11/2017
Partial Sanction	11/2018
Partial Sanction	11/2019
Full Sanction	11/2020
Move to Production / Last Go Live	03/2021
Project Complete	03/2022
Project Closure Sanction	07/2022

NOTE that the timelines above cover the anticipated GBE roadmap, including beyond this partial sanction. The sanctioning approach will include periodic reviews of project progress, deliverables, and funding requirements over multiple sanctions. The next sanction request will occur in Q3 FY18.

1.14 Resources, Operations and Procurement

Resource Sourcing			
Engineering & Design Resources to be provided	☑ Internal		☑ Contractor
Construction/Implementation Resources to be provided	☑ Internal		☑ Contractor
Resource Delivery			
Availability of internal resources to deliver project:	○ Red	⦿ Amber	○ Green
Availability of external resources to deliver project:	○ Red	○ Amber	⦿ Green

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Operational Impact			
Outage impact on network system:	○ Red	○ Amber	⦿ Green
Procurement Impact			
Procurement impact on network system:	○ Red	○ Amber	⦿ Green

1.15 Key Issues (include mitigation of Red or Amber Resources)

1	To successfully deliver a program of this scale requires a strong internal team. To date, 59 resources have been hired into the GBE team; over the next 12 months that number will grow significantly with a mix of internal, external, and consulting resources to ensure that National Grid has the required resources to complete the plans for FY18 and beyond. GBE has a dedicated HR Business Partner and recruiter to support the team in hiring of these resources, and a resource plan has been developed which includes sufficient lead time to hire resources as they are needed. This is amber to acknowledge the significant ramp up in resources required, although appropriate sourcing plans are in place.

1.16 Climate Change

Contribution to National Grid's 2050 80% emissions reduction target:	⦿ Neutral	○ Positive	○ Negative
Impact on adaptability of network for future climate change:	⦿ Neutral	○ Positive	○ Negative

1.17 List References

N/A

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US Sanction Paper

2 *Decisions*

The Senior Executive Sanctioning Committee (SESC) at a meeting held on May 30, 2017.

(a) APPROVED the investment of $84.5M and a tolerance of 10% for the purposes of Gas Business Enablement in FY18.

(b) APPROVED the potential RTB impact of $17.676M in FY22 (per annum) for an estimated 5 years. RTB impact begins in FY19 at $7.105M and increases through FY22 to $17.676M.

(c) APPROVED the potential investment of $478.284M and a tolerance of 13% contingent upon submittal and approval of Project Sanctions for each stage following continued successful delivery of the previous stage.

(d) NOTED that Johnny Johnston has the approved financial delegation to undertake the activities stated in (a).

Signature.....Date. 6/12/17
Margaret Smyth
US Chief Financial Officer
Chair, Senior Executive Sanctioning Committee

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US Sanction Paper

3 Sanction Paper Detail

Title:	Gas Business Enablement	**Sanction Paper #:**	USSC-17-222
Project #:	INVP 4572	**Sanction Type:**	Partial Sanction
Operating Company:	National Grid Svc Company	**Date of Request:**	May 30, 2017
Author:	Wayne S. Watkins / Kenneth C. Healy	**Sponsor:**	Johnny Johnston-SVP Gas Business Enablement
Utility Service:	Gas	**Project Manager:**	Kenneth C. Healy

3.1 Background

The US Gas Business is facing significant challenges. These include improving gas safety performance, continuing to successfully deliver the growing capital program, meeting the demand for customer connections, supporting evolving customer and regulatory expectations, and running the business more effectively. These challenges are amplified by the complexity created by disparate legacy processes and systems currently in use across the business. This is particularly acute with regards to information systems, most of which are nearing end of life, and are beginning to create unacceptable risks to core operations and future growth.

The proposed solution, the GBE program, is expected to span five years. It is focused on standardizing and simplifying operational processes into new asset, work management, and mobility systems (the core backbone). Enhanced capabilities focused on the customer experience, asset and work management, and data supplement the core backbone. A refined operating model and value framework will embed and sustain a culture of accountability and compliance. Industry standard solutions, an innovative release strategy, modern delivery methods, and robust governance will support the successful delivery of the desired business outcomes.

GBE has been collaboratively developed with the US Gas Business, Information Services, Procurement, Human Resources, and other departments to meet these challenges. Its objectives are to reduce risk, deliver a step change in business performance, and enable future growth.

3.2 Drivers

The growing list of aging information systems which support core operations is beginning to create unacceptable risks to the gas business. Within two years, 94% of the gas business front office systems will be at "end of life", up from 79% today. The average age of these systems is 14 years, and it is increasingly difficult to make changes to these systems to meet the expectations of our customers, our regulators, and our business operations. System "down time" is also growing.

A step change in our business performance is required. We must drive continuous improvement in gas safety performance. We continue to be heavily reliant on paper-based processes and paper records, which impedes our ability to streamline systems, and jeopardizes the integrity of our records. In short, our current systems no longer support the way the gas business needs to work, manage performance, and empower our employees to serve our customers.

Over recent years, the capital program has tripled to over $2 billion per year, largely in response to customer and regulatory requirements. This has strained the legacy approach and the supply chain. Modern supported solutions with integrated supply chain are necessary to allow National Grid to deliver in this significant growth area.

3.3 Project Description

The program team was mobilized in June 2016, with the support of the gas business and information services to ensure that the program had the right capabilities and experience from the outset. National Grid has engaged two of the top system integrators in the US, conducted a number of visits to other companies, implemented pilots to test new concepts, and heavily engaged the gas business to assist in the develop of the roadmap and solution.

The proposed solution is focused on standardizing and simplifying operational processes into new asset, work management, and mobility systems (the core backbone). Enhanced capabilities focused on the customer experience, asset and work management, and data supplement the core backbone. A refined operating model and value framework will embed and sustain a culture of accountability and compliance. Industry standard solutions, an innovative release strategy, modern delivery methods, and robust governance will support the successful delivery of the desired business outcomes.

The roadmap for the program is phased and prioritized over five years to reduce operational risk while balancing deliverability and accelerating value creation

where possible. The core backbone and enhanced capabilities will produce a solid framework for the business to adapt to future needs and dramatically improve the customer experience. The technical solution will also provide a strong base for expansion to the electric business.

The GBE program includes three key elements to address its current challenges.

- Integration, standardization, and simplification of our core processes and systems into a modern platform (19 best of breed solutions from the current 99), including asset management, work management, geospatial information, and records administration.
- Development of a flexible, digital interaction platform on top of our core systems that allows our customers, call center representatives, and field employees to operate on the same platform.
- Creation of a performance-focused organization, with emphasis on end-to-end process desired outcomes, and defined accountabilities designed to create the behavioral change necessary to achieve the desired business outcomes.

The initiatives and high level roadmap can be seen in Appendix 4.2 and 4.3 respectively.

<u>What is the approach to implementing GBE?</u>

This is a large program that will take multiple years to complete. The roadmap leverages modern approaches to minimize risk and maximize the likelihood that the desired business outcomes are successfully delivered. This includes:

- **Developing a core backbone solution and building incremental enhanced capabilities.** The core includes implementing asset management, work management and mapping solutions over the first four years, focusing on risk reduction. The core solution uses tried and tested utility solutions that will be implemented with minimal customization and standardized business processes across the enterprise. The enhanced capabilities build on the core and are focused on adding incremental value to National Grid's customers throughout the five-year program.
- **Phasing implementation.** The approach avoids a "big bang" implementation by breaking down the program based on work types and geography and prioritizing work types to accelerate delivery and manage risks. For geography, Rhode Island has been identified as the optimal test bed given its significant reliance today on paper-based operations and its manageable scale.
- **Leveraging agile development techniques.** Traditionally, projects like this would be developed using waterfall techniques with long cycle time between business requirements and a solution. In agile development, the

business and IS teams work more collaboratively in short-cycle scrums to prioritize functionality and get to a minimum viable product (MVP). This is the simplest solution that can be implemented, with future enhancements continuously prioritized by value and added as the team learns with the solution. Agile development offers many benefits including earlier release of initial functionality, continuously reprioritized enhancements based on learning, and higher success rates. Agile is a well-established approach utilized by a growing number of utilities.

- **Taking a 'cloud first' approach.** Putting as much of the solution into the cloud as appropriate will provide several benefits, including faster implementation and enhancement adoption, fewer upgrades to legacy infrastructure, reduced risk of obsolescence, and the opportunity to enhance security.

Lessons from previous programs have been built into GBE from the start. National Grid's Critical Success Factors have also been embedded into the GBE program from the beginning. In addition, National Grid is planning to engage a value assurance partner to provide an independent assessment of program delivery.

3.4 Benefits Summary

The primary benefit of the GBE is reduced operational risk through the replacement of the aging information systems and processes across the organization. GBE is, therefore, primarily an asset replacement investment. This asset replacement, however, will lay the foundation for enhanced capabilities which will drive a broader range of benefits and performance improvements. Below is a partial list of those additional benefits.

- Enhanced pipeline safety and compliance performance.
- Improved customer experience and satisfaction through improved information and the creation of a customer engagement platform.
- Enhanced employee enablement with modern field devices.
- Advanced work and asset analytics capabilities.
- Data management capabilities.
- Improved employee technical training and skills.

National Grid estimates that there will also be a total of approximately $40 million in quantifiable annual benefits beginning after the enhanced capabilities are fully embedded in FY24. A portion of these benefits will result in cost savings to customers. Further details can be seen in Appendix 4.4.

		Current Planning Horizon						
$M	Prior Yrs	Yr 1 18/19	Yr 2 19/20	Yr 3 20/21	Yr 4 21/22	Yr 5 22/23	Yr 6+ 23/24	Total
Benefits	0	1.020	7.772	24.198	30.675	36.394	39.615	139.674
	0	1.020	7.772	24.198	30.675	36.394	39.615	139.674

3.5 Business and Customer Issues

None other than stated elsewhere in this paper.

3.6 Alternatives

Alternative 1: Stabilize the legacy information systems, with no functional enhancements or additional integration. This option was rejected since it was only a temporary measure that offered no significant immediate business benefits and did not position the gas business for the future, and the replacement investment would still be required in the near future.

Alternative 2: Technical replacement of the legacy systems with industry standard asset and work management solutions without focus on customer or business improvement. This option, which was rejected, offered some level of risk mitigation, but had a higher likelihood of failure as it didn't address the people aspects of the change, nor did it deliver significant improvement in how our customers are served, and ultimately did not position the business for the future.

Alternative 3: Value Scope implemented as a "big bang" approach to minimize implementation time. This option was rejected due to the significant risk associated with implementation across the gas business regions at the same time.

Alternative 4: Implementing a similar scope to the recommended scope but rather than doing enterprise wide, doing operating company by operating company to directly align costs to each company. This was rejected as the total costs were significantly higher and would take longer to implement due to the complexity.

3.7 Safety, Environmental and Project Planning Issues

N/A

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US Sanction Paper

3.8 Execution Risk Appraisal

Number	Detailed Description of Risk / Opportunity	Probability	Impact		Score		Strategy	Pre-Trigger Mitigation Plan	Residual Risk	Post Trigger Mitigation Plan
			Cost	Schedule	Cost	Schedule				
1	Mis-alignment / lack of integration and coordination between programs	3	3	3	9	9	Avoid	Agile Delivery Methodology to be leveraged is structured to provide key checkpoints on a frequent cadence through Agile Program Increments Sessions. Additionally, the GBE Program will leverage independent third party expertise to provide insight into methodology and delivery effectiveness	Low	Agile approaches help identify most relevant solutions. Program will retain independent expertise to provide proactive feedback on the effectiveness of program integration activities
2	Delays in the SI procurement process will delay the start of critical Phase 2 projects and programs	3	2	3	6	9	Avoid	Robust commercial process to find partners with desired capability at the right price is underway and on schedule, with the goal of downselecting an SI partner that will be onboarded by July 1st. Program is executing pre-mobilization plan to reduce SI mobilization timelines	None	
3	A large group of people will be impacted by new devices and tools. Learning curve could be steep, especially in regions that are currently only using basic system tools to complete their work. This could impact operations and slow the realization of construction work	4	3	3	12	12	Mitigate	Leverage Pilots - to build learning early; Phased implementations to manage risk and manage change; Agile development approaches to engage employees more actively in design of new practices and processes; Alignment of operating model attributes to drive accountability for desired behaviors and outcomes.	Low	Change office and ongoing organizational health metrics to diagnose organizational state
4	GBE will not be able to staff the program to peak levels with the necessary SMEs given current scope and schedule	3	3	3	9	9	Mitigate	Developing realistic resource plan for recruitment of program full-time resources and engaging HR early, Engaging business leadership on a weekly basis to provide visibility into part time SME resource requirements, Robust commercial process to find partners with the ability to provide appropriate expertise as a short-term measure to fill gaps	Low	Continue proactively engaging with Business leadership to provide transparency in resource planning.

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3.9 Permitting

N/A

3.10 Investment Recovery

N/A

3.10.1 Investment Recovery and Regulatory Implications

National Grid will seek recovery of program costs through rate cases or other additional regulatory filings as appropriate.

3.10.2 Customer Impact

Noted elsewhere in this paper.

3.10.3 CIAC / Reimbursement

N/A

3.11 Financial Impact to National Grid

3.11.1 Cost Summary Table

					Current Planning Horizon						
					Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Yr. 6 +	
Project Number	Project Title	Project Estimate Level (%)	Spend ($M)	Prior Yrs	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	Total
4572	Gas Business Enablement	+/- 13%	CapEx	0.000	56.504	104.639	73.693	47.613	10.332	0.815	293.596
			OpEx	20.142	27.972	64.102	41.339	21.317	9.087	0.729	184.688
			Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
			Total	20.142	84.476	168.741	115.032	68.930	19.419	1.544	478.284
Total Project Sanction			CapEx	0.000	56.504	104.639	73.693	47.613	10.332	0.815	293.596
			OpEx	20.142	27.972	64.102	41.339	21.317	9.087	0.729	184.688
			Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
			Total	20.142	84.476	168.741	115.032	68.930	19.419	1.544	478.284

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3.11.2 Project Budget Summary Table

		Current Planning Horizon						
	Prior Yrs	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Yr. 6 +	
$M	(Actual)	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	Total
CapEx	0.000	56.504	0.000	0.000	0.000	0.000	0.000	56.504
OpEx	25.400	27.972	0.000	0.000	0.000	0.000	0.000	53.372
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Cost in Bus. Plan	25.400	84.476	0.000	0.000	0.000	0.000	0.000	109.876

Project Costs Per Business Plan

Variance (Business Plan-Project Estimate)

		Current Planning Horizon						
	Prior Yrs	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Yr. 6 +	
$M	(Actual)	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	Total
CapEx	0.000	0.000	(104.639)	(73.693)	(47.613)	(10.332)	(0.815)	(237.092)
OpEx	5.258	0.000	(64.102)	(41.339)	(21.317)	(9.087)	(0.729)	(131.316)
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Cost in Bus. Plan	5.258	0.000	(168.741)	(115.032)	(68.930)	(19.419)	(1.544)	(368.408)

3.11.3 Cost Assumptions

Costs were developed using proprietary tools from an experienced consulting partner, and further validated by the National Grid program team and an experienced design assurance partner.

3.11.4 Net Present Value / Cost Benefit Analysis

3.11.4.1 NPV Summary Table

N/A

3.11.4.2 NPV Assumptions and Calculations

N/A

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3.11.5 Additional Impacts

N/A

3.12 Statements of Support

3.12.1 Supporters

The supporters listed have aligned their part of the business to support the project.

Role	Individual's Name
Head of PDM	Deb Rollins
Relationship Manager	Rick Sheer
Program Delivery Manager	Sally Seltzer
IS Finance Management	Chip Benson
IS Regulatory	Dan DeMauro
DR&S	Muks Ravipaty
Service Delivery	Brian Detota
Enterprise Architecture	Joe Clinchot

3.12.2 Reviewers

The reviewers have provided feedback on the content/language of the paper.

Function	Individual	Area
Regulatory	Zschokke, Peter	All
Jurisdictional Delegate(s)	Currie, John	Gas - NE
	Brown, Laurie	Gas - NY
	Easterly, Patricia	Rhode Island
	Collinson, Mark	Massachusetts
	McNeill, Brian	New York
	Morris, Bernadette	New York
Procurement	Curran, Art	All

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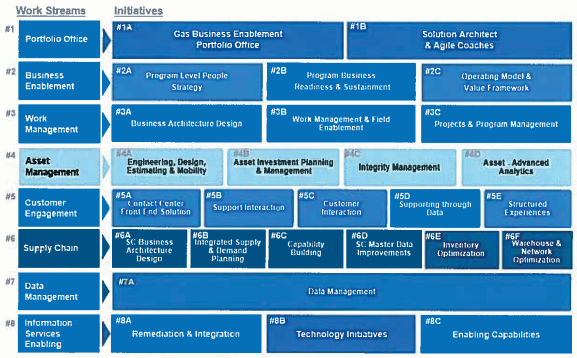
4 Appendices

4.1 Sanction Request Breakdown by Project

$M	4572	Proj Num	Proj Num	Proj Num	Proj Num	Proj Num	Proj Num	Proj Num	Proj Num	Total
CapEx	56.504									56.504
OpEx	27.972									27.972
Removal										0.000
Total	84.476	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	84.476

4.2 Initiatives List

The program work streams and the initiatives within each work stream.



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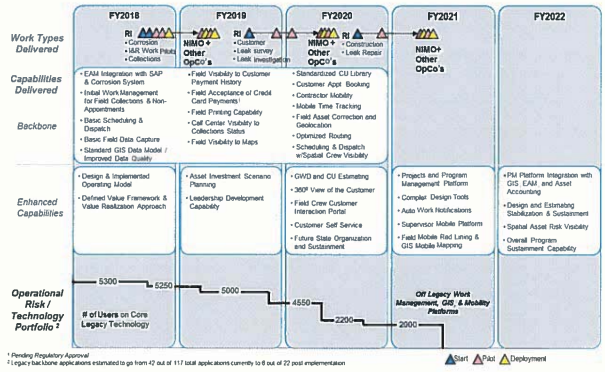
4.3 High Level Roadmap of Capabilities to be delivered over five years

The backbone capabilities will be delivered in just under four full years while the enhanced capabilities will be delivered over the full five-year timeframe. The bottom portion of the depiction highlights the number of users on legacy EAM, Scheduling, Mobility and GIS platforms that will transition to the new platforms over time illustrating the reduction in technology risk.

Backbone and Enhanced Capabilities Delivered by FY



[1] Pending Regulatory Approval
[2] Legacy backbone applications estimated to go from 42 out of 117 total applications currently to 8 out of 22 post implementation

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4.4 Benefits Detail

Breakdown of the $40M of annual capex and opex benefits by category, Type 1 (direct savings) and Type 2 (measurable KPI improvements) and benefits over time:

Enhanced Capabilities	Value Drivers	Example Metrics [1]	Aspirational Ann. Benefit (Ms) Enterprise
Strategic Change, Talent, & Operating Model	• Process efficiency • Improved performance mgmt. • Performance culture	• Supervisor time in the field • Quality of coaching conversations	N/A[2]
Customer Experience & Interactions	• Self-service • New service growth • Increased customer satisfaction	• Services initiated via self-service • Move requests completed via self-service • Status updates received via self-service • Service quality penalties • Contact center call volume • Average time per contact center call	$2.4
Asset Management	• Reduced material spend • Reduced opex spend reduction • Capex effectiveness	• Estimating accuracy • Mapping cycle time • Opex spend • Risk reduced / $ spent	$2.8
EAM / Work Management Platform	• Appointments met / kept • Increase Supervisor time in field • Route optimization • Reduced overtime • Reduced contractor spend • Back office productivity • Improved operational data	• Unable to complete rate • Schedule adherence • Jobs scheduled / dispatched automatically • # / rate of jobs bundled • Travel time • Available / idle time • Pre-requisite fulfillment rate • Summonses / other penalties	$18.4
Supply Chain	• Reduced capex project delays • Reduced material spend • Reduced inventory carrying costs	• Material stock-outs • Rate of jobs requiring expedite • Inventory turnover • Inventory carrying cost	$2.5
Field Technical Training	• Reduced compliance violations • Reduced compliance penalties	• # / type compliance violations • Penalties incurred	$13.5
			$39.6

[1] Performance metrics to be defined as part of value framework in Q1 2017
[2] Capabilities increase likelihood of program success and enhance the probability of delivering program benefits. Benefits includes capex and opex benefits, Type 1 & Type 11

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Detailed benefits breakdown:

Initiative Descriptic	Benefit Description	Benefit Type	12-Months Ending March 31, 2019	12-Months Ending March 31, 2020	12-Months Ending March 31, 2021	12-Months Ending March 31, 2022	12-Months Ending March 31, 2023	12-Months Ending March 31, 2024	12-Months Ending March 31, 2025	12-Months Ending March 31, 2026	12-Months Ending March 31, 2027
Asset - Advanced Analytics	Reduction / Redirection in Opex via AIPM	Type I	$0	$0	$13,750	$1,223,750	$1,980,000	$1,980,000	$1,980,000	$1,980,000	$1,980,000
Engineering, Design, Estimating & Mobility	Reduction in Damages due to Data Quality Errors	Type I	$143,315	$573,259	$573,259	$573,259	$573,259	$573,259	$573,259	$573,259	$573,259
Work Management & Field Enablement	Clerical / Back Office Productivity Improvement	Type I	$0	$29,603	$1,835,367	$2,131,393	$2,131,393	$2,131,393	$2,131,393	$2,131,393	$2,131,393
Work Management & Field Enablement	Damage Prevention - Reduced Travel Mileage	Type I	$0	$37,275	$49,700	$49,700	$49,700	$49,700	$49,700	$49,700	$49,700
Work Management & Field Enablement	M&C Productivity Improvements - Base	Type I	$0	$1,024,595	$7,274,626	$7,377,085	$7,377,085	$7,377,085	$7,377,085	$7,377,085	$7,377,085
Customer Interaction	Reduce Move Call Volume through Self-Service	Type II	$0	$0	$0	$0	$642,130	$906,536	$906,536	$906,536	$906,536
Customer Interaction	Reduce Non-Move Call Volume through Self-Service	Type II	$0	$0	$61,278	$502,480	$588,270	$588,270	$588,270	$588,270	$588,270
Data Management	Reduction in Data Cleansing / Scrubbing Effort - Analysts	Type II	$0	$105,749	$750,821	$761,396	$761,396	$761,396	$761,396	$761,396	$761,396
Engineering, Design, Estimating & Mobility	Complex Jobs - Engineering Productivity Improvement	Type II	$0	$0	$4,886	$302,941	$351,803	$351,803	$351,803	$351,803	$351,803
Engineering, Design, Estimating & Mobility	Complex Jobs - Estimating Accuracy Fine Avoidance	Type II	$0	$0	$0	$45,833	$550,000	$550,000	$550,000	$550,000	$550,000
Engineering, Design, Estimating & Mobility	Reduction in Mappers via Field Data Entry	Type II	$0	$8,934	$553,899	$643,238	$643,238	$643,238	$643,238	$643,238	$643,238
Integrated Supply & Demand Planning	Improved Project Delivery - Construction	Type II	$0	$35,278	$2,187,222	$2,540,000	$2,540,000	$2,540,000	$2,540,000	$2,540,000	$2,540,000
Customer Interaction	Reduction in Service Quality Penalties	Type II	$0	$0	$0	$0	$629,809	$889,142	$889,142	$889,142	$889,142
Regulatory/ Compliance	Reduced Compliance and Gas Safety Penalties	Type II	$876,348	$5,070,300	$9,577,233	$13,207,819	$13,520,800	$13,520,800	$13,520,800	$13,520,800	$13,520,800
Work Management & Field Enablement	CMS Collections Jobs - Reduction in Mileage	Type II	$0	$0	$0	$0	$117,384	$165,718	$165,718	$165,718	$165,718
Work Management & Field Enablement	CMS Collections Jobs - Reduction in Travel Time	Type II	$0	$0	$0	$0	$561,142	$792,200	$792,200	$792,200	$792,200
Work Management & Field Enablement	CMS Planned Jobs - Reduction in Available Time via Autodispatch	Type II	$0	$202,349	$269,798	$269,798	$269,798	$269,798	$269,798	$269,798	$269,798
Work Management & Field Enablement	CMS Planned Jobs - Reduction in Mileage	Type II	$0	$83,430	$111,240	$111,240	$111,240	$111,240	$111,240	$111,240	$111,240
Work Management & Field Enablement	CMS Planned Jobs - Reduction in Travel Time	Type II	$0	$252,363	$336,484	$336,484	$336,484	$336,484	$336,484	$336,484	$336,484
Work Management & Field Enablement	CMS Planned Jobs - Reduction in UTCs	Type II	$0	$38,760	$51,680	$51,680	$51,680	$51,680	$51,680	$51,680	$51,680
Work Management & Field Enablement	Damage Prevention - Reduced Travel Time	Type II	$0	$90,007	$120,009	$120,009	$120,009	$120,009	$120,009	$120,009	$120,009
Work Management & Field Enablement	Inspections - Reduced Travel Mileage	Type II	$0	$0	$0	$0	$3,718	$5,249	$5,249	$5,249	$5,249
Work Management & Field Enablement	Inspections - Reduced Travel Time	Type II	$0	$0	$0	$0	$19,064	$26,914	$26,914	$26,914	$26,914
Work Management & Field Enablement	M&C and CMS Jobs - Reduced Summonses	Type II	$0	$0	$0	$0	$2,037,950	$4,446,457	$4,446,457	$4,446,457	$4,446,457
Work Management & Field Enablement	Reduction in Field Tech Communications	Type II	$0	$99,566	$265,511	$265,511	$265,511	$265,511	$265,511	$265,511	$265,511
Work Management & Field Enablement	Reduction in Meter Verification Jobs	Type II	$0	$121,024	$161,365	$161,365	$161,365	$161,365	$161,365	$161,365	$161,365
		Total Benefits Forecasted as a result	**$1,019,663**	**$7,772,492**	**$24,198,128**	**$30,674,982**	**$36,394,237**	**$39,615,248**	**$39,615,248**	**$39,615,248**	**$39,615,248**

4.5 Operating Company Allocation

Allocations Based on Number of Gas Retail Customers (C-210) and Number of Electric Retail Customers (C-198)

Dollars in millions

Total Expenditure

Operating Company	FY18	FY19	FY20	FY21	FY22	FY23	Total
Niagara Mohawk Power Corp. - Gas	$ 13.9	$ 27.5	$ 18.3	$ 11.6	$ 3.3	$ 0.3	**$ 74.8**
KeySpan Energy Delivery New York	$ 28.8	$ 56.7	$ 37.7	$ 24.0	$ 6.8	$ 0.5	**$ 154.5**
KeySpan Energy Delivery Long Island	$ 13.4	$ 26.4	$ 17.6	$ 11.2	$ 3.2	$ 0.3	**$ 72.1**
Boston Gas Company	$ 15.7	$ 30.9	$ 20.6	$ 13.1	$ 3.7	$ 0.3	**$ 84.3**
Colonial Gas Company	$ 4.6	$ 9.1	$ 6.0	$ 3.8	$ 1.1	$ 0.1	**$ 24.7**
Narragansett Gas Company	$ 6.1	$ 12.0	$ 8.0	$ 5.1	$ 1.4	$ 0.1	**$ 32.7**
Niagara Mohawk Power Corp.- Electric Distr.	$ 1.0	$ 3.0	$ 3.2	$ -	$ -	$ -	**$ 7.2**
Massachusetts Electric Company	$ 0.8	$ 2.3	$ 2.6	$ -	$ -	$ -	**$ 5.7**
Nantucket Electric Company	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	**$ 0.1**
Narragansett Electric Company	$ 0.3	$ 0.9	$ 1.0	$ -	$ -	$ -	**$ 2.1**
Total	$ 84.5	$ 168.7	$ 115.0	$ 68.9	$ 19.4	$ 1.5	$ 458.1

Operational Expenditure

Operating Company	FY18	FY19	FY20	FY21	FY22	FY23	Total
Niagara Mohawk Power Corp. - Gas	$ 4.7	$ 10.7	$ 6.9	$ 3.6	$ 1.5	$ 0.1	**$ 27.6**
KeySpan Energy Delivery New York	$ 9.7	$ 22.2	$ 14.2	$ 7.4	$ 3.2	$ 0.3	**$ 57.0**
KeySpan Energy Delivery Long Island	$ 4.5	$ 10.4	$ 6.6	$ 3.5	$ 1.5	$ 0.1	**$ 26.6**
Boston Gas Company	$ 5.3	$ 12.1	$ 7.7	$ 4.1	$ 1.7	$ 0.1	**$ 31.1**
Colonial Gas Company	$ 1.6	$ 3.6	$ 2.3	$ 1.2	$ 0.5	$ 0.0	**$ 9.1**
Narragansett Gas Company	$ 2.1	$ 4.7	$ 3.0	$ 1.6	$ 0.7	$ 0.1	**$ 12.0**
Niagara Mohawk Power Corp.- Electric Distr.	$ 0.0	$ 0.2	$ 0.3	$ -	$ -	$ -	**$ 0.6**
Massachusetts Electric Company	$ 0.0	$ 0.2	$ 0.2	$ -	$ -	$ -	**$ 0.4**
Nantucket Electric Company	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	**$ 0.0**
Narragansett Electric Company	$ 0.0	$ 0.1	$ 0.1	$ -	$ -	$ -	**$ 0.2**
Total	$ 28.0	$ 64.1	$ 41.3	$ 21.3	$ 9.1	$ 0.7	$ 164.5

Capital Expenditure

Operating Company	FY18	FY19	FY20	FY21	FY22	FY23	Total
Niagara Mohawk Power Corp. - Gas	$ 9.2	$ 16.7	$ 11.4	$ 8.0	$ 1.7	$ 0.1	**$ 47.3**
KeySpan Energy Delivery New York	$ 19.0	$ 34.5	$ 23.5	$ 16.6	$ 3.6	$ 0.3	**$ 97.6**
KeySpan Energy Delivery Long Island	$ 8.9	$ 16.1	$ 11.0	$ 7.7	$ 1.7	$ 0.1	**$ 45.5**
Boston Gas Company	$ 10.4	$ 18.8	$ 12.8	$ 9.1	$ 2.0	$ 0.2	**$ 53.2**
Colonial Gas Company	$ 3.0	$ 5.5	$ 3.8	$ 2.7	$ 0.6	$ 0.0	**$ 15.6**
Narragansett Gas Company	$ 4.0	$ 7.3	$ 5.0	$ 3.5	$ 0.8	$ 0.1	**$ 20.6**
Niagara Mohawk Power Corp.- Electric Distr.	$ 0.9	$ 2.7	$ 2.9	$ -	$ -	$ -	**$ 6.6**
Massachusetts Electric Company	$ 0.7	$ 2.2	$ 2.3	$ -	$ -	$ -	**$ 5.2**
Nantucket Electric Company	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	**$ 0.1**
Narragansett Electric Company	$ 0.3	$ 0.8	$ 0.9	$ -	$ -	$ -	**$ 2.0**
Total	$ 56.5	$ 104.6	$ 73.7	$ 47.6	$ 10.3	$ 0.8	$ 293.6

4.6 NPV Summary

N/A

4.7 Customer Outreach Plan

N/A

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Date of Request: June 28, 2017 Request No. DPS-431 AT-4
Due Date: July 10, 2017 NMPC Req. No. NM-1004

NIAGARA MOHAWK POWER CORPORATION d/b/a NATIONAL GRID
Case No. 17-E-0238 and 17-G-0239 –
Niagara Mohawk Power Corporation d/b/a National Grid – Electric and Gas Rates

Request for Information

FROM: DPS Staff, Andrew Timbrook

TO: National Grid, Gas Information Systems Panel

SUBJECT: **GAS BUSINESS ENABLEMENT (GBE) – COST ESTIMATION**

Request:

In this interrogatory, all requests for data, workpapers or supporting calculations should be construed as requesting any Word, Excel, or other computer spreadsheet models in original electronic format with all formulae intact.

Concerning the cost estimation process for the proposed GBE program, provide the following:
a. A description of Accenture & PwC's roles in the cost estimation process;
b. Any inputs and assumptions used to estimate program costs;
c. The historic performance of Accenture when estimating the costs of similar programs; and
d. Explain how the Company verified that the cost estimates were reasonable.

Response:

a. As noted in the initial testimony of the Gas Infrastructure and Operations Panel, National Grid worked with two of the top system integrators ("SI") in the U.S., Accenture and PwC, to complete a high-level design and develop a roadmap for the Gas Business Enablement ("GBE") Program.

   Accenture
   Accenture was selected as the Strategic Assessment (Design) partner to help develop the high-level design, road map, and business case. In support of these efforts, Accenture's role included consulting on the current state/gap analysis, future state technical design,

implementation approach, change analysis/strategy, risk analysis, and draft work packet for the SI.

Cost estimates for the GBE Program were developed by Accenture utilizing its proprietary "Delivery Estimator" model described in Attachment 1. Costs were developed utilizing a bottom-up approach for each initiative that included (i) the labor effort required (as determined by Accenture from their actual experience with prior technology and platform implementations of a similar size and scope); (ii) software and hardware costs (utilizing the latest vendor quoted prices where available or Accenture's experience), and (iii) labor rates, which were derived from National Grid's internal labor rates and, where internal rates were not applicable, current external market labor rates were used. As discussed further in response to part (d), as part of the development of cost estimates described above, Accenture validated the estimates by comparing them to their actual experience with other programs of similar size and scope.

PwC
PwC was selected as a business assurance partner for National Grid to provide additional assurance that the business design/roadmap developed for GBE is "fit-for-purpose" and meets National Grid's requirements for business functionality, deliverability (including risk management), and cost efficiency. PwC's role included reviewing and analyzing business/technology and project design alignment; market and best practices; design flexibility and process; implementation strategy; integration plan; design process; and risk analysis. Attachment 2 includes PwC's Stage Gate Report ("Report") on the Future State Design and Scope and Roadmap for GBE. Attachment 3 is National Grid's response to PwC's report. A key finding of PwC's Report was that the cost estimate for GBE was appropriate compared with the total costs of other industry benchmarks of similar scale projects. PwC also noted that the final version of the SI Work Package provides the level of information necessary for SIs to understand the full scope of the GBE Program and to enable National Grid to compare equivalent bids.

The following are other key assurance findings in PwC's Report:

- the solution design was based on industry leading software applications that can support National Grid's GBE Program objectives;
- the proposed GBE roadmap work streams and initiatives provide a program scope well matched to achieve the targeted objectives of GBE;
- the initiative scope goes beyond process and technology to address gaps across the full set of elements of the required core operational business capabilities; and
- the 4.5 year deployment duration in the roadmap work streams and initiative listing is achievable.

b. Please see response to part (a) and Attachment 4.

c. Please see page 5 of Attachment 1.

d. The Company has verified and plans to continue to validate that cost estimates are reasonable throughout the Program's life cycle:

- As described above, the Company retained Accenture to help develop and validate cost estimates for the GBE Program. As shown in Attachment 1, Accenture's estimates of prior similar projects were within acceptable variance ranges.

- Importantly, National Grid provided Accenture much of the raw data from workshops with the business on the technology gaps. In addition, National Grid's internal GBE team engaged representatives from Information Services departments, including Enterprise Architecture, Strategic Solution Delivery, Service Delivery, and Digital Risk and Security to review technical and cost outputs. Also included in the review were representatives from the Company's Asset Management and Process Excellence teams, with experience in work and asset management platforms, financial systems, field force systems, meter management, and GIS.

- In addition, National Grid partnered with PwC, another highly experienced system integrator, to review the cost estimates and SI work packages to provide additional assurance that cost estimates were reasonable and assurance that the SI work packages would allow National Grid to pursue a rigorous competitive procurement process.

- Finally, as the GBE Program proceeds into design and implementation, National Grid will utilize a competitive procurement process for change leadership and ten key modules of GBE including: Work Management, Asset Management, Customer Engagement, GIS, and Supply Chain and Data Management. In addition, National Grid will competitively bid any core software, hardware, infrastructure, and application products and alternatives available in the market.

Name of Respondent:
Johnny Johnston

Date of Reply:
July 10, 2017

CONFIRMATION OF ACCENTURE ESTIMATE ACCURACY

June 14, 2017

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VERIFICATION OF ACCURACY OF ACCENTURE ESTIMATORS

Accenture employs robust and industrialized calibration processes for our estimators in order to ensure accuracy of the estimates we produce.

- Accenture conducts two ongoing processes to enable accuracy of its estimating tools:

Harvesting	Calibration
Conduct periodic harvests of actuals from projects for specific technologies and platforms	Collaborate with practice sponsors to update factors in the estimators to better align with actuals

The estimators are re-certified every 2 years based on harvesting and calibration of at least 6 projects within that timeframe

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COST ESTIMATING OF GBE PROGRAM

- GBE program costs were estimated using Accenture Delivery Estimators built up using bottom-up details for all initiatives

Effort

The labor effort for each initiative was estimated using one of 2 distinct approaches:

1. Factor-based estimates using Accenture Development Methodology estimators to create a detailed resource plan
2. Capacity-based estimates using historical experience aligned to initiative scope to create a detailed resource plan

Software / Hardware

Software and hardware estimates used the latest vendor quoted prices where possible; Accenture experience used where vendor quoted prices were not available

Rates

Labor rates were applied to labor effort and were derived from 2 sources:

1. National Grid current daily labor rates for various roles and levels validated by National Grid Finance
2. External SI daily labor rates calculated by Accenture based on typical "market rates"

Costs were compared with other transformation programs to validate program costs based on program scope

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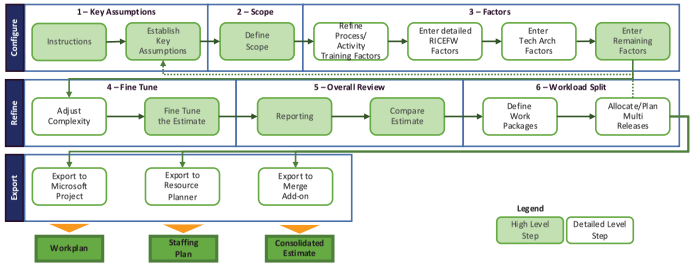
ACCENTURE DEVELOPMENT METHODOLOGY ESTIMATOR APPROACH

Accenture's employs a standard approach within its Development Methodology Estimators



- Accenture Develop Methodology Estimators are maintained and updated to reflect our experience with actual implementation effort to ensure estimated effort reflects actual effort as closely as possible

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COST ESTIMATE COMPARISONS

Solution Component	NG Estimate Approach	National Grid	Utility A	Utility B	Utility C
Scope		- 6 OpCos - 3 states - Gas Only (includes Electric CMS), D Only	- 4 OpCos - 4 states - Gas and Electric, T & D	- 1 OpCo - 1 State - Electric Only, T & D	- 2 OpCos - 2 States - Gas and Electric, T & D
Transformation Office	Capacity-Based	X	X	X	X
EAM / Scheduling / Mobility	Factor-Based	X	X	X	X
PowerPlan	NG Estimated	X	-	-	-
GIS	Factor-Based	X	-	-	-
Engineering, Design, Estimation, Mobility	Factor-Based	X	Process only	Process only	X
AIPM	Capacity-Based	X	-	X	X
Asset Analytics	Capacity-Based	X	X	X	X
Integrity Management	Capacity-Based	X	-	-	X
Integrated Resource Planning	Capacity-Based	X	X	-	X
Project and Program Management	Capacity-Based	X	X	-	-
Supply Chain	Capacity-Based	Process only	X	-	"Lite"
Customer Experience	High-Level Comparison	X	-	-	-
Data Management	Capacity-Based	X	"Lite"	"Lite"	-
Legacy Remediation	Capacity-Based	X	X	X	X
IS Capabilities / Other	Capacity-Based	X	X	-	-
Business Enablement	Capacity-Based	X	X	X	X
Compliance / Technical Training	NG Estimated	X	-	-	-
		$458M	**$330M**	**$158M**	**$211M**

Actuals for Utilities A, B, and C landed within acceptable success thresholds.

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Niagara Mohawk Power Corporation
d/b/a National Grid
Case 17-E-0238 and 17-G-0239

Johnny Johnston
National Grid USA Service Company, Inc.
40 Sylvan Road
Waltham, MA 02465

February 22, 2017

Re: Stage Gate Report with PwC Advisory findings/observations and high-level recommendations to inform the Stage Gate to move to the next phase of the project.

Stage Gate Report

Dear Johnny,

This report is intended to provide an overview of key findings and high-level recommendations based on review of the deliverables that have been completed by National Grid and Accenture during Phase I of the Gas Business Enablement program. In particular, this report focuses on the Future State Design and Scope and Roadmap for Gas Business Enablement

Stage Gate Recommendation

The GBE Strategic Assessment has been thorough in its approach and provides substantial reference material for the next Phase. It has effectively defined a comprehensive program scope which is well aligned to deliver the program outcomes and developed an appropriate cost estimate for the scope and transformative ambitions of the program.

We believe it would be advantageous to further optimize the roadmap tactics and efficiency of deployment of the current program scope as you progress through the next phase to allow for greater emphasis on user adoption and driving the benefits realization and targeted outcomes. We encourage National Grid to consider the recommendations provide below seriously.

Our assessment is that the program is ready to move into the next stage.

The sections below contain more detail on our findings and recommendations:

Future-State Design

Key Findings

- The solution design is based on industry leading software applications that can support National Grid's GBE Program objectives.
- The design conforms to industry standards to deliver a consistent solution, but can be further tailored to National Grid in specific areas. These areas include contractor management, contractor use of the system, materials handling and clear definition of the Customer Relationship Management solution component.
- There are numerous industry-leading customer experience aspirations that are documented within the requirements matrix that address simplicity and usability, but further definition is required on how CRM will serve as a wrapper for CIS to allow a single application for the CSRs.

- The design would benefit from a clearer and more systematic linkage of scope to initiatives (e.g. mapping of business processes, data objects, RICEFW/RAWICE Objects, operating model decisions, KDDs, applications to the program initiatives) and the precedence linking of the initiatives; this can be refined during the next phase and will help with governance decisions during delivery
- Impact to the business roles and responsibilities and overall Change Impact is also in early stages of development and is planned to be a focus in the next stages of the project.

Recommendations

- Minimization of customizations is critical to providing the agility to evolve the solution by upgrading with each new product release. This should be a guiding principle for the detailed design teams.
- Establish design governance processes to maintain tight controls on Requirements and Key Design Decisions.
- Conduct an early deep dive to drive out the details in contractor management, contractor use of the system and materials handling to streamline the detailed design effort.
- A similar deep dive concerning the Customer Relationship Management solution component should be conducted early in the detailed design. Particular attention should be devoted to how the Customer Relationship Management solution will serve as a wrapper for CIS allowing a single application for the CSRs.
- The future state for technology is evolving. Emphasis should be placed on the data flow, system of record/entry for key data objects and the overall integration model to ensure that data is synchronized and consistent and supports business processes and analysis for continuous improvement.
- Continue to socialize the solution with the business so they develop a clear vision and build a sense of ownership in decision making within their areas.

Gas Business Enablement Scope and Roadmap

Key Findings

- The proposed GBE roadmap work streams and initiatives provide a program scope well matched to achieve the targeted outcomes and objectives of GBE. The initiative scope goes beyond process and technology to address gaps across the full set of elements of the required core operational business capabilities.
- The 4.5 year deployment duration for the GBE scope elements in the roadmap work streams and initiative listing is achievable.
- When comparing the total costs of this transformation to other industry benchmarks, a business case estimate of >$500 million is appropriate to cover a transformation of this scale.
- The final version of the SI Work Package provides the level of information necessary for System Integrators to understand the full scope of the Gas Business Enablement program and to enable National Grid to compare equivalent bids.
- National Grid should consider increasing program focus on user adoption of new work practices and tools and resulting benefits realization. This is underserved in the current roadmap where activity typically stops after initial support periods for deployments of new applications and processes.
- We believe the deployment planning of the EAM/WM scope will benefit from further analysis to (a) understand the pros and cons of the proposed “work type” phased approach (which increases

Johnny Johnston
Senior Vice President
Gas Business Enablement

Niagara Mohawk
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d/b/a National Grid

Chris Fynn, Principle
PricewaterhouseCoopers LLP
300 Madison Ave,
New York, NY 10017

March 1, 2017

Re: Stage Gate Report

Dear Chris

Thank you for Stage Gate Report on Gas Business Enablement dated February 22, 2017, and for the support that PWC provided to National Grid through the Strategic Assessment Phase of this important program of work for National Grid and our customers.

As you are aware a lot of work has gone into the first phase and we are pleased to see your overall assessment that the scope is well matched to the desired outcomes, the deployment appears achievable, and the costs are appropriate to cover a transformation of this scale; ultimately that the program is ready to move into the next phase.

I did want to highlight some of the actions that National Grid's is taking to address your findings and recommendations:

1. We have instigated a number of additional interim work items prior to the next phase that specifically will provide clearer and more systematic linkages of scope to initiatives including developing standardized L3 processes. This work has also more clearly defined our requirements around contractors and materials traceability. We are also doing an extended piece of work on data to better inform our thinking in this area.

2. We will be conducting a competitive collaborative/agile procurement process to source our future delivery partners for the next phase. We are planning to leverage this process to better understand potential solutions around the delivery of the customer capabilities that we have said that we need. We have also undertaken a separate customer strategy exercise that is helping better inform the best direction. Our procurement approach will also allow us to assess opportunities that suppliers might have to further optimize the roadmap.

3. Finally, National Grid intends to have overall control of the PMO through the delivery phase. We believe this will help address the various recommendations made around maintaining discipline and strong governance as we go through delivery. We will also be

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looking to hire a Value Assurance partner that will provide independent assurance that we are continuing to focus on the right things to support a successful outcome.

I did want to follow up on one area of recommendations where perhaps you didn't have full visibility to all the work we have been doing; that was around Pipeline Safety Management and API 1173. This has been an area of focus for us since the beginning of the program. However we have been leading this work through Dan McNamara with support from a niche consulting firms P-Pic and Mosaic. This has been done in parallel with the Accenture work that PWC has been overseeing and so might be why you believed there were still some gaps. I can confirm materials traceability is part of our requirements and there is a significant piece of work looking at the management of change, particularly related to our policies and procedures. As we move into the next phase we will look to do a better job of articulating how this all comes together into a single roadmap that covers people, process, technology, training and governance to support the implementation of all the elements of API 1173 into National Grid as part of the Gas Enablement program.

Thank you again for the work of your team over the last year, I am excited to see this move into implementation and the difference that this program will make for our employees and customers.

Yours sincerely,

Johnny Johnston,
Senior Vice President, Gas Business Enablement

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Date of Request: June 28, 2017 Request No. DPS-433 AT-6
Due Date: July 10, 2017 NMPC Req. No. NM-1006

NIAGARA MOHAWK POWER CORPORATION d/b/a NATIONAL GRID
Case No. 17-E-0238 and 17-G-0239 –
Niagara Mohawk Power Corporation d/b/a National Grid – Electric and Gas Rates

Request for Information

FROM: DPS Staff, Andrew Timbrook

TO: National Grid, Gas Information Systems Panel

SUBJECT: **GAS BUSINESS ENABLEMENT (GBE) - IMPLEMENTATION**

Request:

In this interrogatory, all requests for data, workpapers or supporting calculations should be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact.

Concerning the proposed GBE program, provide the following:

1. Fully explain how the Company plans to deliver GBE on time and on budget. Include in your response a full explanation of how the current approach differs from the development and delivery of major Information Systems (IS) projects implemented previously.

2. Did the Company interview peers that have implemented major IT projects? If so, explain:
   a. The lessons learned from those discussions; and
   b. How the lessons validated, or were incorporated into, the plan.

3. Explain how the Company plans to train its employees to maximize productivity.

4. How will GBE impact the execution of the Capital plan in the Rate Year and Data Years?

5. Provide an assessment of how GBE relates to the overall IS program. Include in your response answers to the following questions:
   a. Does GBE rely on any IS programs for functionality, or can it function as a stand-alone project?
   b. Are there any duplicate budget items between GBE and the other IS projects?

c. Are any of the IS investments (other than GBE) required to achieve the full benefits of GBE? If yes, identify each such investment and explain why it is required.

Response:

1. To deliver the GBE Program on time and on budget, National Grid has (i) adopted various best practices in program governance and management; (ii) selected deployment strategies and development methodologies to manage risks and improve outcomes; (iii) is implementing a new approach to change management; and (iv) retaining a third party value assurance partner to evaluate program direction and deliverables.

   Program Governance and Management:

   After studying the lessons learned from past IS projects at National Grid as well as accepted industry best practices, National Grid developed a framework of eight Critical Success Factors (CSFs) to ensure the successful delivery of the GBE Program. The GBE Program has been closely adhering to these CSFs since the beginning of the program and continually checks itself against them. The CSFs are:

   Active Sponsors – Performance for the sponsor is linked to success of the project

   - The GBE Program Steering Group includes senior executives from National Grid US and National Grid plc. The Steering Group meets periodically with the Program Sponsor to exercise oversight, including on budget and timing, over the GBE Program and to provide guidance and access to resources as required.
   - A full time Program Sponsor has been appointed to lead the Program and ensure alignment and focus on strategic business priorities and outcomes.
   - The Program Sponsor and Leadership Team's success is directly tied to the achievement of the GBE Program as well as budget and timing.

   Carefully Managed Scope – Project scope is realistic and achievable

   - High level design workshops with participation from business subject matter experts and leadership were conducted. These served to focus the GBE Program scope on business need and opportunity, tightly aligned with the business case, and supported by the business itself.
   - Prior to the start of work, the GBE Program will roll out a comprehensive change control – including scope – process and educate all team members on their responsibilities in scope management process

Clear Success Criteria – Project outcomes are clear and compelling

- Clear ambitions have been set for this program – to reduce operational risk, improve operational performance and create a flexible platform for the future.
- The program team has defined business benefits anticipated as a result of GBE as detailed in Exhibit __ (GIOP-12).
- National Grid has developed a value framework to baseline, measure and track improvements in operational performance metrics as a result of GBE.

Readied Business – An informed, engaged business is ready to successfully implement the change.

- Change management and business engagement activities will occur continuously throughout the GBE Program's lifecycle and have been planned and resourced with the same rigor as the systems delivery work streams.
- Business resources will participate in all phases of the work including design, development, testing and deployment. This will facilitate smooth handover from the GBE Program team to the business user community.

Rigorous Stage Gating – Tightly defined criteria must be met for projects to move between stages.

- Stage gating is built into GBE Program plans and management frameworks.
- The GBE Program will use a scaled agile development methodology that is performance data driven and includes regular planning workshops to evaluate progress, quality, risk and outcomes achieved.

Good Governance – Established governance groups, supported to operate effectively.

- A comprehensive GBE Program Handbook has been developed including processes, tools, templates, roles and responsibilities. The Handbook supports integrated program planning, resource and finance management, scope control, risk and issues management, commercial management, quality assurance, performance management and governance support.
- The GBE Program engages independent reviewers to provide feedback on deliverable quality, process compliance, alignment to business case and strategic business objectives and priorities.

Well Managed Partners – The right partners/resources fit for the GBE Program, held accountable to deliver.

- A rigorous sourcing process is underway to retain highly capable consulting partners at competitive rates.
- Service levels and incentives are tied to achievement of the National Grid business benefit case and captured in contracts.
- Contracts with experienced delivery partners are being established, it is expected that these will be on a fixed price basis, supported by rigorous oversight and change control processes.
- The GBE Portfolio Office has established the capability to manage all program consulting and service contracts.

High Performing Teams – One team, the right people, highly motivated.

- The GBE Program is competitively recruiting all team members for the right mix of capabilities, skills and experience, as well as alignment with National Grid and GBE values and culture.
- Program "ways of working" are designed to foster a "badge-less, one team" culture between employees and consultants.

Attachment 1 provides a further description of the CSFs.

Deployment Strategies and Development Methodologies

The GBE Program differs from previous major implementation in that it is placing greater emphasis on upfront and continuous business engagement and alignment and has invested significant effort in ensuring that the scope and road map are aligned and supportable. This supports on time, on budget delivery by reducing unplanned scope change, facilitating timely business resource availability and handover of GBE solutions. Different from previous programs, the performance of both GBE consulting partners and the National Grid team is directly measured by success in realizing the business case. Additionally, in the past, some programs and projects did not sufficiently enable their governance and management organizations to support the size and complexity of the efforts they were supporting. National Grid is deploying a governance structure that is appropriate to the size, scale and impact of the GBE Program. The GBE Program management organization is enabled with the resources, tools and capabilities necessary to support on time, on budget delivery of the program scope of work.

To lower overall costs, reduce and manage delivery risks and accelerate the time between kick-off and deployment of functionality and capabilities to the user community, the GBE Program will deploy multiple work streams working concurrently and delivering in a phased approach based on geography and work type. Further, the program will adopt an agile deployment method based on SAFe (Scaled Agile Framework) that supports

quicker development of initial functionality, routinely engaging the user community throughout, and providing an approach to prioritizing and delivering enhancements. The GBE Program will also leverage cloud-based industry standard solutions to support faster deployments, provide greater scalability and security, and reduce legacy infrastructure upgrades and risk of obsolescence.

Change Management

A key learning from National Grid's past experience and from discussions with peer companies is that change management must be a core program capability and must be active throughout the entire program lifecycle. Additionally, all levels of the organization must be engaged through a managed plan including communications and activities that maintain a strong link between the user community and the GBE Program. The GBE Program's phased deployment strategy breaks the level of change that users will experience into more manageable increments and reduces the likelihood of process disruptions and delays as the various phases of the program are implemented.

In some previous programs, change management tended to be regarded as more of a "back end" activity performed by a select group of change specialists focused more on educating users on solutions they were receiving rather than engaging them in the actual process of developing the solution. Additionally, business engagement tended to be more episodic and focused primarily on the employees who would be directly using the solution. The GBE Program treats change management as an essential capability and key enabler of successful program delivery. Change management activities occur continuously throughout the program lifecycle, are supported by the entire program team, and engage not only the US gas business leaders and employees but also stakeholders within the Jurisdictional teams, support organizations such as Supply Chain and Information Services, as well as other parts of the US Business.

Third Party Value Assurance

The GBE Program is planning on procuring a third party "Value Assurance" partner. Their role will be to provide ongoing independent assessment of program delivery to either provide confidence the program is on track or early warning of any changes needed to secure the desired outcomes. The Value Assurance partner will report directly to the Program Sponsor and Steering Group on their findings.

2. Attachment 2 describes the interviews with peers on similarly complex projects.

3. GBE will provide comprehensive training to all users of the system, including office and field employees at all levels in the organization. Training will be tailored to the type of employee (*e.g.*, manager, service technician) based on the level of detail required by that type of employee. Training design will be a collaborative effort between a dedicated GBE training team and the business to ensure that the training is appropriately targeted and minimizes the disruption to business operations. The training will be delivered through various media such as computer based training, video, and classroom. In addition to pre-

deployment training, procedures, help guides, and strategically located subject matter experts will be available following deployment.

In addition to system training, managers at all levels will be trained in change leadership beginning in October 2017. As the program progresses, leaders will be formally coached on how to lead their teams through system implementation. This approach has been shown by change experts to effectively prepare teams for the upcoming changes and minimize productivity issues. Work on the training plan and materials will commence shortly, and the initial materials will be developed over the next 3–4 months.

GBE will also be implementing a tailored approach to engage, upskill and enhance capability of the field force and front-line management to change behaviors, remove obstacles and enable change with respect to serving and interacting with customers. The timing of this training will follow the established release schedule.

4. Implementation of the GBE Program roadmap and initiatives is not expected to adversely impact delivery of the capital plan in the Rate or Data Years.

   The GBE Program initiatives will deploy capabilities to support capital plan execution in the following areas:

   - Deployment of a graphic work design tool and compatible unit estimating to improve the accuracy of project estimates to actual performance enabling improved planning of work and associated resources;
   - Enterprise Asset Management system deployment along with new methodology and mobile tools for employee time capture, equipment assignment, and materials allocations by project with greater traceability for installed assets. Further, enhanced ability for contractors to submit invoices electronically against CU estimates with enhanced reporting capability will improve in-year budget forecasting as a result of greater transparency and accuracy with project spending.
   - Increased estimate accuracy and forecasting will support capital planning activities
   - Development and deployment of asset integrity management tools to support the selection and prioritization of mains as part of proactive replacement programs

   As detailed in Exhibit __ (GIOP-9), the following GBE initiatives with in-service dates by the Rate and Data Years specifically support the execution of the capital plan:

   - CU Governance & Library – process (in-service November 2018)
   - Asset Investment Planning and Management ("AIPM") Tool – Enhancements (in-service December 2018)
   - Additional Integrity Management ("IM") Modules (in-service February 2019)
   - EAM-FIN Integration (in-service June 2019)
   - PowerPlan Integration & Enhancements (in-service June 2020)
   - Design (GWD), Estimating (CU), & Mobility (in-service September 2020)
   - Construction Work & Leak Repair (in-service September 2020)
   - Asset Analytics Integration (in-service December 2020)

- GIS (GWD/CU) – Project Portfolio Management ("PPM") Integration (in-service December 2020)
- GIS-EAM Integration (in-service December 2020)
- Complex Design (CAD) & Estimating (ESW) (in-service March 2021)
- Use Case No.1 - Asset Risk (in-service March 2021)

5.

a) The GBE Program implements a suite of work and asset management systems that will assist in managing the Company's gas business. Besides feeding other systems such as the financial and asset register systems, the GBE Program does not rely on other IS programs for functionality. Please note that Attachment 1 to DPS-278 (IS-7) described certain Technology Modernization investments (RAS/VPN Re-Platform/Mobile, US Network Programme, ICE Replacement, US VSTIG Programme, US Wireless Programme) as technical changes, network upgrades, and wireless capabilities that can be leveraged for the GBE program; however, these investments are not specific requirements of the GBE Program but rather function to facilitate the future implementation of any new systems required by the business such as GBE and NY REV/grid modernization.

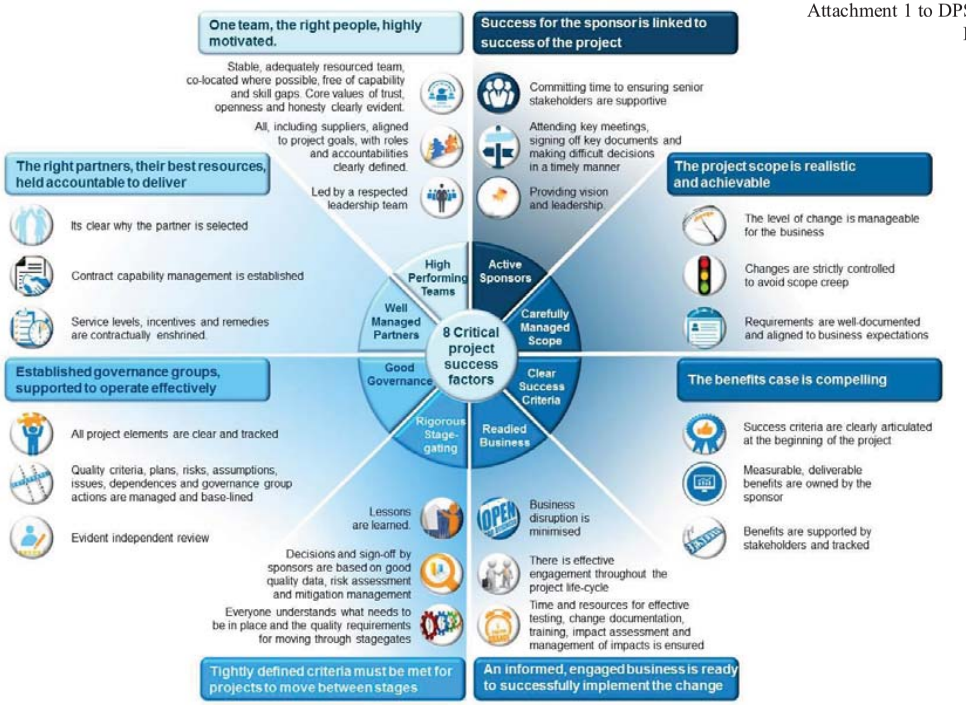
b) Beginning late last year, the GBE team conducted a review of all projects in the IS portfolio to determine if any IS projects overlapped with GBE initiatives. That review occurs on an ongoing basis to determine if any new projects that are proposed impact GBE. No duplicate budget items between GBE and other IS projects have been identified.

c) No other IS investments are required to achieve the full benefits of GBE.

Name of Respondent:
Christopher Murphy
John Stavrakas

Date of Reply:
July 10, 2017

Niagara Mohawk Power Corporation
d/b/a National Grid
Case 17-E-0238 and 17-G-0239
Attachment 1 to DPS-433 AT-6
Page 1 of 1



The National Grid Gas Business Enablement (GBE) team conferred with three peer utility companies to gain insight and lessons learned from their experiences implementing similarly complex IT projects.

These lessons learned have informed the GBE Program's development of strategy, delivery approach and methods as well as governance and management frameworks. Lessons learned and how they validated, or were incorporated into, the GBE plan are shown below.

Company	Key Lessons Learned	Impact
One Gas • 2.1M Customers over 3 states • 5 Year Maximo, CGI and Copperleaf Implementation	• Take a phased approach to implementation and use pilots • "Grow your own talent" by hiring new college graduates and letting them learn the solution from the ground up. They bring new and fresh perspectives • When working with legacy data, be careful about its quality. It can unfavorably skew analysis results • Make sure you have thought through, designed and built your initial Day 1 reporting • Don't assume that sending messages to VP's will result in trickle down through the organization. Your change program should directly engage the impacted users • Get your change program established right up front	• The GBE roadmap is built around the concept of phased deployment of functionality and solutions with the first release serving as a pilot. Once that release is stable, functionality is progressively deployed over time • The GBE team is recruiting team members both internally and externally – based on "best fit" for the capabilities required. External hires include qualified new college graduates who are learning the solution at a fundamental level while adding value through personal capabilities, skills and perspectives. • GBE stood up a data management team at the outset of the program to evaluate legacy data quality and provide input to program plans, estimates and scope • GBE has adopted an end to end process approach that captures process and reporting requirements • GBE has developed a governance model and communication approach that engages leadership and users at all levels • Change Management has been established as a core program capability and has been actively engaged throughout
ATMOS Energy • 3M Gas Customers across 8 states • 3 Year SAP, Click, Scylo implementation	• CEO set the tone for a culture of change management and employee engagement and common values to insure alignment between business and program • Formed a process council of business leaders that were accountable for key process design decisions to support ownership and buy-in • Addressed data cleansing from the	• US Gas Business Leadership has visibly demonstrated support of the GBE program and have actively participated in a series of events designed to engage employees at all levels and foster alignment between program and business • A Design Authority consisting of the leaders of US gas business units and key supporting functions was formed to directly engage the business in key process

Company	Key Lessons Learned	Impact
	beginning of the program and continuously throughout • Focused program scope on key processes rather than trying to fix everything at once	design decisions and to provide input on program scoping, planning and delivery activities • Data cleansing activities occur throughout the program lifecycle. Program governance and management activities insure these activities are appropriately prioritized, monitored and resourced • The GBE Program conducted a Strategic Assessment activity to define scope, business case and roadmap that aligned to business and strategic priorities
DTE Energy • 1.1M Gas customers • Implemented Maximo, CGI, and SAP in 2007	• Training needs to include the business process, not just how to operate a screen. Users need to be taught how to do their job in the new solution • At the very beginning of the program, focus on getting data hierarchies correct – they are very expensive to change later • Engaged unions early and regularly, used a quarterly "pulse check" to understand how people are feeling • Developed a strong performance management cadence including daily stand-up/Hub meeting, weekly performance calls etc.	• The GBE Program will incorporate the process / job orientation into training protocols and development standards • The GBE Integrated Program Plan will support alignment of the Data Management Team with Work Streams and Projects within the GBE Program to insure that hierarchies are developed in a timely and complete manner • GBE business engagement plans include union specific activities. An employee engagement evaluation process will be deployed- similar to a "Pulse Check" • The GBE Program participates in the US Gas Business performance cadence to further support business/program alignment. The GBE Program has a regular cadence of "Hub" and performance oriented meetings which will be expended as appropriate during mobilization. Tools and processes are being deployed to support a dynamic approach to program and project management

Date of Request: July 21, 2017
Due Date: July 31, 2017

Request No. DPS-658 AT-12
NMPC Req. No. NM-1322

NIAGARA MOHAWK POWER CORPORATION d/b/a NATIONAL GRID
Case No. 17-E-0238 and 17-G-0239 –
Niagara Mohawk Power Corporation d/b/a National Grid – Electric and Gas Rates

Request for Information

FROM: DPS Staff, Andy Timbrook

TO: National Grid, Gas Infrastructure & Operations Panel

SUBJECT: **CUSTOMER BENEFITS**

Request:

In this interrogatory, all requests for data, workpapers or supporting calculations should be construed as requesting any Word, Excel, or other computer spreadsheet models in original electronic format with all formulae intact.

Exhibit__(GIOP-12) lists the benefits from implementing Gas Business Enablement (GBE) for both National Grid and Niagara Mohawk. For Niagara Mohawk, does GBE provide any customer benefits that do not impact the Company's revenue requirement? If so, describe each benefit, indicate why it occurs, and explain how it will impact customers. Quantify benefits where possible.

Response:

Yes, the Gas Business Enablement (GBE) Program will deliver a number of benefits to customers that do not impact the Company's revenue requirement. These benefits include:

- Enhanced Customer Information. Increased information available to customers from the Company's call center representatives who will have more information on field activities, such as the status of customer-driven work requests or the locations of field crews. Examples of the enabling initiatives for this benefit include the Employee Support Interaction (first and second release), Customer Relationship Management (CRM)/Contact Center, and Large Commercial & Landlord Interaction initiatives described in Exhibit __ (GIOP-9);

- Self-Serve Information. Customers will have the ability to access more information without the need to call the call centers through self-service routes, which enable quick and convenient provision of information. The Company**'s** website and customer applications will provide this enhanced functionality. Please see capabilities for Customer Interaction (first and second release), Customer Relationship Management (CRM) / Contact Center, and Large Commercial & Landlord Interaction initiatives detailed in Exhibit __ (GIOP-9);
- Appointment Booking. An enhanced ability to book appointments for work, as appointment availability will be linked directly to resource capacity and a scheduling engine compared to the manual process today. Please see capabilities for Customer Interaction (first and second release), Employee Support Interaction, Customer Relationship Management (CRM) / Contact Center, Large Commercial & Landlord Interaction initiatives detailed in Exhibit __ (GIOP-9);
- Appointment Management. The flexibility to manage appointments either through the call center or directly through self-service channels. Because the appointments will be linked to actual availability, it will be much easier to re-schedule appointments in real-time. Please see capabilities for Customer Interaction (first and second release), CxT Portal & Channel Management, Employee Support Interaction and Customer Relationship Management (CRM) / Contact Center initiatives detailed in Exhibit __ (GIOP-9);
- Customer Notifications. Improved customer notifications from National Grid on work that is being completed, including providing the name(s) of the technician(s) performing the work. These notifications will keep customers informed of the status of work, particularly when there is an unforeseen delay, and will also provide them with enhanced security as they will know who to expect from National Grid. Please see capabilities for Customer Interaction (first & second release), CxT Portal & Channel Management, Large Commercial & Landlord Interaction, and Customer Relationship Management (CRM) / Contact Center initiatives detailed in Exhibit __ (GIOP-9); and
- Appointment Windows. Potential for more appointment windows and reduced timeframe for current 4 and 8 hour customer commitment windows through the enhanced scheduling platform. Please see capabilities for Company Driven Work: Collections and non-Appointment Offs – Gas/Electric and Customer, Leak Investigation & Inspections – Gas/Electric; Customer, Leak Investigation & Inspections – Electric) initiatives detailed in Exhibit __ (GIOP-9).

These incremental services will provide significant value for customers in the form of enhanced customer service. It is difficult to quantify the value of these benefits to customers. However, as described below, the GBE Program team has estimated that providing smaller appointment windows for Niagara Mohawk customers could be worth $7-$14M a year to them in time savings.

The estimated customer benefits are based on weighted average hourly wages ($18.11) for the counties in Upstate New York from the U.S. Bureau of Labor Statistics (2016). The analysis is based upon the number of annual electric and gas appointments/commitments for 2016:

- Appointments Made (Electric & Gas) – 30,292
- Customer Commitments Day (8am – 4pm) – 111,419
- Customer Commitments Night (4pm – 8pm) – 47,751

The analysis highlights a customer savings of approximately $7M by adjusting the customer appointment/commitment window from 8 hours to 4 hours and approximately $14M by reducing the customer appointment/commitment window from 8 hours to 2 hours. Please refer to Attachment 1 highlighting the analysis and assumptions used to calculate the customer savings.

Name of Respondent:
Johnny Johnston

Date of Reply:
July 31, 2017

NMPC Customer Appointment & Commitment Analysis

Scenario 1 - Move all customers appointments/commitments to 4hrs

	2016 job Count (source Resource Management & Dispatch)	Appointment / Commitment Window (hrs)	Hypothetical new Appointment Windows with modern scheduling system	Customer Waiting Time saved per Appointment / Commitment	Total Hours Saved	Cost per Hour* (to the customer)	Total 'Financial Benefit' to customers due to reduced wait times
Appointments Made (Electric & Gas)	30,292	2	4	-2	(60,584)	$ 18.11	$ (1,097,353.30)
Customer Commitments Day (8am-4pm)**	111,419	8	4	4	445,676	$ 18.11	$ 8,072,494.91
Customer Commitments Night (4pm-8pm)**	47,751	4	4	0	-	$ 18.11	$ -
Total	**189,462**				**385,092**	**Total**	**$ 6,975,141.60**

* Bureau of Labor Statistics - Weighted Average of Upstate Counties - May 2016 - See Labor Rate Data Worksheet for Details
** Total customer commitments = 159,170. Assumed 70% day appointments in this analysis

Scenario 2 - Move all customers appointments/commitments to 2hrs

	2016 job Count (source Resource Management & Dispatch)	Appointment / Commitment Window (hrs)	Hypothetical new Appointment Windows with modern scheduling system	Customer Waiting Time saved per Appointment / Commitment	Total Hours Saved	Cost per Hour* (to the customer)	Total 'Financial Benefit' to customers due to reduced wait times
Appointments Made (Electric & Gas)	30,292	2	2	0	-	$ 18.11	$ -
Customer Commitments Day (8am-4pm)**	111,419	8	2	6	668,514	$ 18.11	$ 12,108,742.36
Customer Commitments Night (4pm-8pm)**	47,751	4	2	2	95,502	$ 18.11	$ 1,729,820.34
Total	**189,462**				**764,016**	**Total**	**$ 13,838,562.70**

* Bureau of Labor Statistics - Weighted Average of Upstate Counties - May 2016 - See Labor Rate Data Worksheet for Details
** Total customer commitments = 159,170. Assumed 70% day appointments in this analysis

Burea of Labor Statistics - Simple Mean of All Counties May - 2016

AREA_NAME	OCC_CODE	OCC_TITLE	OCC_GROUP	TOTAL_EMPLOYMENT	HOURLY_MEDIAN_WAGE
Albany-Schenectady-Troy, NY	00-0000	All Occupations	total	442,510	$ 19.83
Binghamton, NY	00-0000	All Occupations	total	101,790	$ 16.19
Buffalo-Cheektowaga-Niagara Falls, NY	00-0000	All Occupations	total	548,620	$ 17.37
Dutchess County-Putnam County, NY Metropolitan Division	00-0000	All Occupations	total	139,060	$ 19.32
Elmira, NY	00-0000	All Occupations	total	36,060	$ 17.25
Glens Falls, NY	00-0000	All Occupations	total	51,510	$ 16.58
Ithaca, NY	00-0000	All Occupations	total	50,590	$ 21.13
Kingston, NY	00-0000	All Occupations	total	58,700	$ 17.20
Nassau County-Suffolk County, NY Metropolitan Division	00-0000	All Occupations	total	1,286,290	$ 20.31
New York-Jersey City-White Plains, NY-NJ Metropolitan Division	00-0000	All Occupations	total	6,586,480	$ 22.13
Rochester, NY	00-0000	All Occupations	total	512,090	$ 18.27
Syracuse, NY	00-0000	All Occupations	total	301,720	$ 18.13
Utica-Rome, NY	00-0000	All Occupations	total	119,640	$ 16.83
Watertown-Fort Drum, NY	00-0000	All Occupations	total	41,200	$ 16.23
TOTAL				10,276,260	$ 18.34

Burea of Labor Statistics - Simple Mean of Upstate Counties - May 2016

AREA_NAME	OCC_CODE	OCC_TITLE	OCC_GROUP	TOTAL_EMPLOYMENT	HOURLY_MEDIAN_WAGE
Albany-Schenectady-Troy, NY	00-0000	All Occupations	total	442,510	$ 19.83
Binghamton, NY	00-0000	All Occupations	total	101,790	$ 16.19
Buffalo-Cheektowaga-Niagara Falls, NY	00-0000	All Occupations	total	548,620	$ 17.37
Elmira, NY	00-0000	All Occupations	total	36,060	$ 17.25
Glens Falls, NY	00-0000	All Occupations	total	51,510	$ 16.58
Ithaca, NY	00-0000	All Occupations	total	50,590	$ 21.13
Kingston, NY	00-0000	All Occupations	total	58,700	$ 17.20
Rochester, NY	00-0000	All Occupations	total	512,090	$ 18.27
Syracuse, NY	00-0000	All Occupations	total	301,720	$ 18.13
Utica-Rome, NY	00-0000	All Occupations	total	119,640	$ 16.83
Watertown-Fort Drum, NY	00-0000	All Occupations	total	41,200	$ 16.23
TOTAL				2,264,430	$ 17.73

Burea of Labor Statistics - Weighted Average of All Counties- May 2016

AREA_NAME	OCC_CODE	OCC_TITLE	OCC_GROUP	TOTAL_EMPLOYMENT	HOURLY_MEDIAN_WAGE	WEIGHT_FACTOR
Albany-Schenectady-Troy, NY	00-0000	All Occupations	total	442,510	$ 19.83	8774929.049
Binghamton, NY	00-0000	All Occupations	total	101,790	$ 16.19	1647969.921
Buffalo-Cheektowaga-Niagara Falls, NY	00-0000	All Occupations	total	548,620	$ 17.37	9529474.538
Dutchess County-Putnam County, NY Metropolitan Division	00-0000	All Occupations	total	139,060	$ 19.32	2686625.294
Elmira, NY	00-0000	All Occupations	total	36,060	$ 17.25	622031.394
Glens Falls, NY	00-0000	All Occupations	total	51,510	$ 16.58	854030.649
Ithaca, NY	00-0000	All Occupations	total	50,590	$ 21.13	1068961.641
Kingston, NY	00-0000	All Occupations	total	58,700	$ 17.20	1009634.13
Nassau County-Suffolk County, NY Metropolitan Division	00-0000	All Occupations	total	1,286,290	$ 20.31	26124549.9
New York-Jersey City-White Plains, NY-NJ Metropolitan Division	00-0000	All Occupations	total	6,586,480	$ 22.13	145759461
Rochester, NY	00-0000	All Occupations	total	512,090	$ 18.27	9355935.509
Syracuse, NY	00-0000	All Occupations	total	301,720	$ 18.13	5470213.772
Utica-Rome, NY	00-0000	All Occupations	total	119,640	$ 16.83	2013553.164
Watertown-Fort Drum, NY	00-0000	All Occupations	total	41,200	$ 16.23	668680.12
				10,276,260	$ 20.98	$ 20.98

Burea of Labor Statistics - Weighted Average of Upstate Counties - May 2016

AREA_NAME	OCC_CODE	OCC_TITLE	OCC_GROUP	TOTAL_EMPLOYMENT	HOURLY_MEDIAN_WAGE	WEIGHT_FACTOR
Albany-Schenectady-Troy, NY	00-0000	All Occupations	total	442,510	$ 19.83	8774973.3
Binghamton, NY	00-0000	All Occupations	total	101,790	$ 16.19	1647980.1
Buffalo-Cheektowaga-Niagara Falls, NY	00-0000	All Occupations	total	548,620	$ 17.37	9529529.4
Elmira, NY	00-0000	All Occupations	total	36,060	$ 17.25	622035
Glens Falls, NY	00-0000	All Occupations	total	51,510	$ 16.58	854035.8
Ithaca, NY	00-0000	All Occupations	total	50,590	$ 21.13	1068966.7
Kingston, NY	00-0000	All Occupations	total	58,700	$ 17.20	1009640
Rochester, NY	00-0000	All Occupations	total	512,090	$ 18.27	9355884.3
Syracuse, NY	00-0000	All Occupations	total	301,720	$ 18.13	5470183.6
Utica-Rome, NY	00-0000	All Occupations	total	119,640	$ 16.83	2013541.2
Watertown-Fort Drum, NY	00-0000	All Occupations	total	41,200	$ 16.23	668676
TOTAL				2,264,430	$ 18.11	$ 18.11

United States Census Bureau in Past 12 Months (in 2015 dollars), 2011 - 2015

Per Capita Income in Past 12 Months (in 2015 dollars), 2011- 2015, Yealy Salary	$ 33,236.00
Per Capita Income in Past 12 Months (in 2015 dollars), 2011- 2015, Per Hour Salary	$ 15.98

Entity	Link
US Census Bureau	https://www.census.gov/quickfacts/fact/map/NY/INC910215#viewtop
Bureau Of Labor Statistics	https://www.bls.gov/oes/current/oes_ny.htm
Bureau Of Labor Statistics	https://www.bls.gov/oes/current/oes_3600001.htm
Bureau Of Labor Statistics	https://www.bls.gov/oes/current/msa_def.htm#3600001

Niagara Mohawk Power Corporation
d/b/a National Grid
Case 17-E-0238 and 17-G-0239
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UNY Elec CY16 Meter Changes													
Category	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**CY16 Total**
Meter Change - Capital Total	1,684	1,717	1,823	2,147	1,429	1,344	1,083	1,359	1,497	1,721	1,346	1,485	**18,635**
Meter Change - O&M Total	58	15	12	21	6	13	8	9	16	31	18	20	**227**
Total UNY Elec	**1,742**	**1,732**	**1,835**	**2,168**	**1,435**	**1,357**	**1,091**	**1,368**	**1,513**	**1,752**	**1,364**	**1,505**	**18,862**

UNY Gas CY16 Meter Changes													
Category	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**CY16 Total**
Meter Change - Capital Total	1,516	1,670	1,484	2,037	2,000	1,153	686	1,506	1,120	1,105	1,246	1,204	**16,727**
Meter Change - O&M Total	138	99	186	253	221	198	145	178	154	217	204	244	**2,237**
Total UNY Gas	**1,654**	**1,769**	**1,670**	**2,290**	**2,221**	**1,351**	**831**	**1,684**	**1,274**	**1,322**	**1,450**	**1,448**	**18,964**

UNY CY16 Meter Changes													
Category	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**CY16 Total**
Meter Change - Capital Total	3,200	3,387	3,307	4,184	3,429	2,497	1,769	2,865	2,617	2,826	2,592	2,689	**35,362**
Meter Change - O&M Total	196	114	198	274	227	211	153	187	170	248	222	264	**2,464**
Total UNY Gas	**3,396**	**3,501**	**3,505**	**4,458**	**3,656**	**2,708**	**1,922**	**3,052**	**2,787**	**3,074**	**2,814**	**2,953**	**37,826**

Appointments - 2016

INDICATOR	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	YTD Total	YTD Avg
Appointments made	2,083	2,203	2,332	2,721	2,699	2,738	2,115	2,964	2,673	2,908	2,671	2,185	**30,292**	**2,524**
Appointments kept	2,068	2,174	2,292	2,698	2,674	2,717	2,095	2,936	2,647	2,869	2,629	2,149	29,948	**2,496**
Appt kept $	99%	99%	98%	99%	99%	99%	99%	99%	99%	99%	98%	98%	99%	99%

Niagara Mohawk Power Corporation
d/b/a National Grid
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Month Name	Year	Appointment Renegotiated	Count - Other Orders Completed	Count - Other Orders UTC	Count - Elec and Gas WrkOrders	Count - Electric Orders Completed	Count - Electric Orders UTC	Count - Gas Orders Completed	Count - Gas Orders UTC	# Early Appointments	# Late Appointments	# On Time Appointments	# Total Appointments
JAN	2016	N	38	9	641	345	89	726	143	5	8	1978	1991
JAN	2016	Y	0	0	21	21	1	49	0	0	2	90	92
FEB	2016	N	44	3	686	428	89	758	110	6	21	2091	2118
FEB	2016	Y	1	0	24	18	0	40	2	0	2	83	85
MAR	2016	N	82	9	711	449	98	754	133	14	25	2197	2236
MAR	2016	Y	4	0	32	25	2	33	0	1	0	95	96
APR	2016	N	48	4	861	462	78	1,055	130	12	11	2615	2638
APR	2016	Y	2	0	26	22	0	32	1	0	0	83	83
MAY	2016	N	46	0	998	453	82	893	117	5	19	2565	2589
MAY	2016	Y	1	0	40	21	2	41	4	0	1	108	109
JUN	2016	N	69	8	1,113	513	81	748	107	6	14	2619	2639
JUN	2016	Y	3	0	48	20	4	23	1	0	1	98	99
JUL	2016	N	39	3	1,007	439	74	409	71	8	11	2023	2042
JUL	2016	Y	2	0	26	16	4	23	2	1	0	72	73
AUG	2016	N	50	4	1,238	559	91	796	143	8	19	2854	2881
AUG	2016	Y	0	0	37	15	1	30	0	1	0	82	83
SEP	2016	N	47	2	1,091	508	97	721	122	7	19	2562	2588
SEP	2016	Y	1	0	36	16	1	31	0	0	0	85	85
OCT	2016	N	55	3	1,032	497	100	976	139	8	31	2763	2802
OCT	2016	Y	0	1	32	21	3	46	2	0	0	105	105
NOV	2016	N	68	5	952	487	107	807	149	9	31	2535	2575
NOV	2016	Y	1	0	27	27	3	35	3	0	2	94	96
DEC	2016	N	52	4	760	434	101	623	113	15	22	2050	2087
DEC	2016	Y	2	0	28	15	3	46	6	0	1	99	100
2016			**655**	**55**	**11,467**	**5,811**	**1,111**	**9,695**	**1,498**			**29,946**	**30,292**
TOTALS			**Total Other =**	**710**		**Total Elec =**	**6,922**	**Total Gas =**	**11,193**				

Date of Request: August 14, 2017
Due Date: August 24, 2017

Request No. DPS-730 AAM-45
NMPC Req. No. NM-1623

NIAGARA MOHAWK POWER CORPORATION d/b/a NATIONAL GRID
Case No. 17-E-0238 and 17-G-0239 –
Niagara Mohawk Power Corporation d/b/a National Grid – Electric and Gas Rates

Request for Information

FROM: DPS Staff, Allison Manz

TO: National Grid, Information Services Panel

SUBJECT: **IS**

Request:

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

Provide the FY18 IS budget and year to date spending, by project, by month.

Response:

Please see Attachment 1 for the FY18 project budget and year to date spending. Please note that the Company provided a more refined view of IS project costs in its response to DPS-501 (AAM-23) that filtered out projects that do not allocate costs to Niagara Mohawk, and new demand that was not included in the Company's base rate case filing. The Company's response also adjusted accounting entries for projects that were completed prior to FY18. For FY18, IS project spending is ramping up slowly, which is normal for the start of a fiscal year for IS projects, as the start of a year is typically spent preparing sanction requests and requirements to get projects sanctioned prior to incurring significant project spending towards the end of the fiscal year. IS's current focus on efforts to bring project management in-house has also resulted in a slow ramp up of FY18 spend on projects with a variance to budget that the Company fully expects will be eliminated by fiscal year end. There are seven projects that make up the vast majority of the $17.8 million YTD variance to budget

- $5M - Customer Contact Center

- The contract for services is currently being finalized with the vendor. The Company has opted not to purchase software and instead will be implementing a Software as a Service arrangement (SaaS). This reduced the early year capital spend forecast, and shifted some of those costs to RTB (expense). Additional scope items are being evaluated for inclusion in the project. This will impact the overall capital requirement, and will be finalized as part of the contract finalization.

- $3M - CNI SCADA Upgrade
  - The SCADA Program is scheduled to receive a full sanction in October 2017 and capital expenditures will ramp up after that point. The FY18 budget for this project also reflects milestone payments scheduled for later in the year. .
- $2M - Future Cyber Program (Cyber Security 2 Program)
  - The first quarter costs were lower than budget as a result of the need to finalize design and resource requirements prior to the sanctioning of various projects under the Future Cyber Security Program (INVP 3683). As each project released under the Future program is sanctioned, spending will begin to ramp up in the next fiscal quarter and, overall, program costs are expected to be incurred in line with the program sanction amounts.
- $2M - Document Management System Replacement
  - Delays in the required procurement and establishment of the server environment have occurred. Capital expenditures are expected to ultimately align with the year to date budget upon resolution of the delays.
- $2M - Regulatory Mandates
  - There are a number of new mandates where requirements are currently being determined and project spending is expected to ramp up in the second half of the year.
- $1M - Data Visualization Program
  - The project has experienced a delay with Verizon in establishing connectivity. Capital expenditures are expected to ultimately align with the year to date budget upon resolution of the delay.
- $1M - Storms / iScheduler
  - The project has experienced a delay for DXC, National Grid's infrastructure vendor partner, to build the necessary infrastructure to support the build and test phases resulting in an impact to planned spending. This delay also impacted the fixed milestone payments to CGI, the vendor that owns and supports STORMS/iScheduler. As a result, build and test spend is expected to be incurred in the next fiscal quarter. National Grid anticipates that the project will meet its timeline despite the delays.

Name of Respondent:
Alex Likerman
Thomas Gill

Date of Reply:
August 24, 2017

Form 103

			Apr-2017			May-2017			Jun-2017			Jul-2017			YTD FY18			Aug-2017	Sep-2017	Oct-2017	Nov-2017	Dec-2017	Jan-2018	Feb-2018	Mar-2018	Total
Investment Name	Programs	INVP #	Budget		Variance	Budget	Actual	Variance	Budget	Actual	Variance	Budget	Actual	Variance	Budget	Actual	Variance	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget
INVP 3614D1 Ent Network Security	Cyber Security	3614D1	607,336	981,728	(374,392)	752,094	16,436	735,658	433,379	377,060	56,319	177,885	158,658	19,227	1,970,693	1,533,882	436,812	212,385	372,885	192,885	192,885	52,886	13,300	11,900	-	3,019,819
INVP 3614B7 CNI Network Security	Cyber Security	3614B7	-	-	-	-	-	-	-	-	-			-	-	-	-									-
INVP 3614E4 US CNI Security I&E	Cyber Security	3614E4	-	-	-	-	-	-	-	-	-			-	-	-	-									-
INVP 4045 Double Pole Mgmt. DB	FY18 Plan	4045	-	(8,986)	8,986	-	12,215	(12,215)	-	-	-	-	-	-	-	3,228	(3,228)	-	-	-	-	-	-	-	-	-
INVP 4373 Contingent Labor Admin Replac	FY18 Plan	4373	-	3,017	(3,017)	-	(1,732)	1,732	-	394	(394)	-	-	-	-	1,679	(1,679)	-	-	-	-	-	-	-	-	-
INVP 3955 EJ Ward Upgrade	FY18 Plan	3955	-	9,093	(9,093)	-	(36,541)	36,541	-	(3,526)	3,526	-	1,088	(1,088)	-	(29,886)	29,886	-	-	-	-	-	-	-	-	-
INVP 4188 Aging System Stabilize	FY18 Plan	4188	-	104,334	(104,334)	-	26,655	(26,655)	-	94,073	(94,073)	-	237,615	(237,615)	-	462,678	(462,678)	-	-	-	-	-	-	-	-	-
INVP 4280 US VSTIG Bandwidth Ph2	FY18 Plan	4280	-	146,224	(146,224)	-	(308,755)	308,755	-	22,272	(22,272)	-	36,620	(36,620)	-	(103,639)	103,639	-	-	-	-	-	-	-	-	-
INVP 4307 US Win 7 Refresh Ph 3	FY18 Plan	4307	-	1,408,887	(1,408,887)	-	(538,478)	538,478	-	707,657	(707,657)	-	(184,962)	184,962	-	1,393,105	(1,393,105)	-	-	-	-	-	-	-	-	-
INVP 4364 Wireless Network	FY18 Plan	4364	-	(336,548)	336,548	-	(441,500)	441,500	-	4,943	(4,943)	-	(26,761)	26,761	-	(799,867)	799,867	-	-	-	-	-	-	-	-	-
S005242 M112 Systemic Improvement	FY18 Plan	N/A	-	-	-	-	-	-	-	-	-			-	-	-	-									-
INVP 4289 US Network Improvement	FY18 Plan	4289	-	15,149	(15,149)	-	318,321	(318,321)	-	68,459	(68,459)	-	34,671	(34,671)	-	436,599	(436,599)	-	-	-	-	-	-	-	-	-
INVP 2577C ArcFM Software Upgrade	FY18 Plan	2577C	106,955	148,170	(41,215)	-	22,048	(22,048)	-	(26,357)	26,357	-	(18,308)	18,308	106,955	125,552	(18,597)	-	-	-	-	-	-	-	-	106,955
INVP 4631 Box Enablement	FY18 Plan	4631	111,000	25,482	85,518	-	134,581	(134,581)	-	(150,532)	150,532	-	63,772	(63,772)	111,000	73,304	37,696	-	-	-	-	-	-	-	-	111,000
INVP 4170 Time Transformation	FY18 Plan	4170	200,000	(1,185,462)	1,385,462	-	1,129,030	(1,129,030)	-	(590,364)	590,364	-	28,161	(28,161)	200,000	(618,635)	818,635	-	-	-	-	-	-	-	-	200,000
INVP 4420 US CNI OMSFocalPoint Infrastru	FY18 Plan	4420	45,000	15,310	29,691	45,000	633	44,367	-	(46,024)	46,024	-	(5,804)	5,804	90,000	(35,886)	125,886	-	-	-	-	-	-	-	-	90,000
INVP 4274 VSTIG Hardware Refresh	FY18 Plan	4274	34,000	(293,382)	327,382	34,000	139,516	(105,516)	34,000	(96,859)	130,859	-	85,149	(85,149)	102,000	(165,576)	267,576	-	-	-	-	-	-	-	-	102,000
INVP 4464 Data Visualization	FY18 Plan	4464	286,436	610,976	(324,540)	118,687	(249,835)	368,522	692,026	289,314	402,712	564,693	14,269	550,424	1,661,842	664,724	997,118	138,158	-	-	-	-	-	-	-	1,800,000
INVP 4461 Unix51 Interface Migration	FY18 Plan	4461	159,477	30,880	128,597	159,477	(14,308)	173,785	159,477	146,561	12,916	159,477	(25,296)	184,773	637,907	137,837	500,071	159,477	159,477	-	-	-	-	-	-	956,861
INVP 4287 Active Directory Upgrade	FY18 Plan	4287	110,775	-	110,775	110,775	-	110,775	110,775	-	110,775	52,500	-	52,500	384,825	-	384,825	52,500	52,500	52,500	52,500	52,500	52,500	52,500	52,500	804,825
INVP 4408 Doc Mgmt. Systems Replaceme	FY18 Plan	4408	588,988	20,878	568,110	449,609	81,077	368,532	499,066	274,447	224,619	620,461	250,138	370,323	2,158,124	626,541	1,531,584	465,346	566,508	51,705	53,953	53,953	53,953	-	-	3,403,542
INVP 3486 US MDS-Itron Enterprise Edition	FY18 Plan	3486	64,618	59,768	4,850	130,699	59,901	70,798	265,781	80,772	185,009	-	156,478	(156,478)	461,098	356,919	104,179	-	-	-	-	-	-	-	-	461,098
INVP 4390 Plastic Fusion II	FY18 Plan	4390	-	-	-	-	-	-	-	-	-	182,000	897	181,103	182,000	897	181,103	157,000	77,000	-	8,000	-	-	-	-	424,000
INVP 4397 Ariba TLS and CI Update	FY18 Plan	4397	208,500	77	208,423	208,500	190,690	17,810	208,500	220,249	(11,749)	208,500	509,103	(300,603)	834,000	920,118	(86,118)	-	-	-	-	-	-	-	-	834,000
Call Center Customer Contact Center/SDC T	FY18 Plan	3932	159,083	69,683	89,400	96,380	381,462	(285,082)	5,140,564	146,399	4,994,165	202,437	144,497	57,940	5,598,464	742,041	4,856,423	296,649	297,871	5,190,770	194,298	1,259,771	562,285	564,054	565,838	14,530,000
INVP 4398 Storms/ISched Upgrade	FY18 Plan	4398	580,000	99,293	480,707	517,000	389,660	127,340	514,000	27,132	486,868	516,000	600,306	(84,306)	2,127,000	1,116,391	1,010,609	543,320	596,000	652,000	607,000	216,491	282,189	-	-	5,024,000
INVP 3737 US CNI GMS SCADA Upgrade &	FY18 Plan	3737	399,339	266,367	132,972	874,703	339,972	534,731	2,168,102	292,431	1,875,671	1,365,936	969,291	396,645	4,808,080	1,868,061	2,940,019	431,834	1,129,556	457,090	1,118,893	400,998	381,887	379,290	422,172	9,529,800
INVP 3882 NYS Pipeline Safety CMS	Other Mandates	3882	-	33,080	(33,080)	-	(34,517)	34,517	-	4,617	(4,617)	-	-	-	-	3,179	(3,179)	-	-	-	-	-	-	-	-	-
INVP 3851 Consolidated Voice Recorder for US Electric Control Rooms	Other Mandates	3851	-	6,525	(6,525)	-	2,691	(2,691)	-	(1,131)	1,131	-	2,108	(2,108)	-	10,193	(10,193)	-	-	-	-	-	-	-	-	-
Physical Security Replacements - FY17	Physical Security	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Physical Security Replacements - FY18	Physical Security	N/A	79,167	43,320	35,847	79,167	52,904	26,263	79,167	183,942	(104,775)	79,167	62,892	16,275	316,667	343,057	(26,391)	79,167	79,167	79,167	79,167	79,167	79,167	79,167	79,167	950,000
All NIMO Physical Security Replacements -	Physical Security	N/A	40,833	-	40,833	40,833	5,598	35,235	40,833	33,841	6,992	40,833	-	40,833	163,333	39,439	123,894	40,833	40,833	40,833	40,833	40,833	40,833	40,833	40,833	490,000
INVP 4451 Gas Transportation System Phas	PSC Mandate	4451	231,910	138,615	93,295	234,851	106,646	128,205	120,239	164,803	(44,564)	-	22,845	(22,845)	587,000	432,908	154,092	-	-	-	-	-	-	-	-	587,000
INVP 4347 NYC Leave on for Landlord Prog	PSC Mandate	4347	160,265	56,134	104,130	113,455	75,302	38,153	120,041	80,460	39,581	132,930	7,881	125,049	526,691	219,778	306,913	46,489	-	-	-	-	-	-	-	573,180
INVP 4124 Auto Remote Net Meter	PSC Mandate	4124	250,000	276,173	(26,173)	236,000	188,264	47,736	260,000	180,528	79,472	150,000	111,896	38,104	896,000	756,861	139,139	174,436	150,000	150,000	150,000	-	-	-	-	1,520,436
INVP 3839A NY Retail Access Ph2	PSC Mandate	3839A	323,112	357,059	(33,947)	286,637	(501,995)	788,632	245,183	1,123,981	(878,798)	203,662	87,964	115,698	1,058,594	1,067,008	(8,414)	139,637	131,144	126,852	72,340	-	-	-	-	1,528,567
INVP 4411AB Distributed Generation Porta	PSC Mandate	4411A+B	527,731	152,779	374,952	66,000	243,575	(177,575)	189,000	258,408	(69,408)	182,000	76,952	105,048	964,731	731,714	233,017	187,000	196,000	200,000	140,000	178,000	182,000	198,000	36,000	2,281,731
INVP 4383 NY Community Choice Aggregat	PSC Mandate	4383	75,897	-	75,897	69,189	23,759	45,430	69,766	67,549	2,217	65,961	33,680	32,281	280,813	124,988	155,825	65,200	65,743	66,291	66,843	6,557	-	-	-	551,447
INVP 4448 Low Income Order CRIS	PSC Mandate	4448	461,349	357,575	103,774	461,137	447,031	14,107	464,939	393,623	71,315	458,075	331,164	126,911	1,845,500	1,529,393	316,107	455,858	459,659	449,839	450,472	417,421	-	-	-	4,078,748
INVP 4448 Low Income Order CSS	PSC Mandate	4448			-			-			-			-	-	-	-									-
INVP 4411C New Electric Connections	PSC Mandate	4411C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
INVP 4411D New Gas Connections	PSC Mandate	4411D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
DR&S Future Cyber Program	Cyber Security	3683	-	-	-	-	-	-	-	-	-	1,978,054	-	1,978,054	1,978,054	-	1,978,054	1,978,054	1,978,054	1,978,054	1,978,054	1,978,054	1,978,054	1,978,054	1,978,054	17,802,486
HANA License Costs	FY18 Plan	4649	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Microsoft ELA Renewal	FY18 Plan	4642	-	3,227,919	(3,227,919)	-	(3,167,562)	3,167,562	-	20,119	(20,119)	-	(80,801)	80,801	-	(325)	325	-	-	-	-	-	-	-	-	-
Mobile Device Refresh - FY17	FY18 Plan	4671	-	(300,953)	300,953	-	140,355	(140,355)	-	9,722	(9,722)	-	11,913	(11,913)	-	(138,963)	138,963	-	-	-	-	-	-	-	-	-
Zscaler	FY18 Plan	4681	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
US Video Conferencing upgrade for RW	FY18 Plan	4632	25,833	859,145	(833,312)	25,833	(182,417)	208,250	25,833	(129,152)	154,985	25,833	46,134	(20,300)	103,333	593,710	(490,377)	25,833	25,833	-	-	-	-	-	-	155,000
Hix D/C Improvement Server Refresh	FY18 Plan	4676	33,333	4,678	28,655	33,333	(292,854)	326,187	33,333	303,744	(270,411)	33,333	39,547	(6,214)	133,332	55,115	78,217	33,333	33,335	-	-	-	-	-	-	200,000
Mobility - (MDM) Mobile Device	FY18 Plan	3430	-	4,742	(4,742)	-	55,267	(55,267)	-	(19,602)	19,602	-	54,225	(54,225)	-	94,632	(94,632)	-	-	-	-	-	-	-	-	-
Changes to ACIS for PMCC Civil Vendor Billi	FY18 Plan	4487	-	-	-	-	-	-	-	-	-	191,000	-	191,000	191,000	-	191,000	191,000	-	-	-	-	-	-	-	382,000
US Control-Gas System Operating Procedur	FY18 Plan	4480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	180,667	180,667	180,667	-	-	-	-	-	542,000
Enterprise Labs	FY18 Plan	4693	-	57,234	(57,234)	-	63,228	(63,228)	-	264,363	(264,363)	-	(88,505)	88,505	-	296,320	(296,320)	-	-	-	-	-	-	-	-	-
Cascade Electric Application Upgrade Proje	FY18 Plan	3986	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	187,500	187,500	-	-	-	-	-	375,000
WIFI for Fleet Services Diagnostic Laptops	FY18 Plan	3956	200,000	(19,086)	219,086	-	35,822	(35,822)	-	24,566	(24,566)	-	3,921	(3,921)	200,000	45,223	154,777	-	-	-	-	-	-	-	-	200,000
Gas Service Database - UNY	FY18 Plan	3949	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81,250	81,250	81,250	81,250	-	-	-	325,000
Gas Service Database - DNY (LI and NYC)	FY18 Plan	3948	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75,000	75,000	75,000	75,000	-	-	-	300,000
Substation Monitoring-DobleARMS	FY18 Plan	3982	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	155,500	155,500	155,500	155,500	-	-	-	622,000
Gas Capital Investment Planning Tool	FY18 Plan	4466	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	190,667	190,667	190,667	-	-	572,000
Computapole Enhancements to Support Ins	FY18 Plan	4462	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64,000	64,000	64,000	64,000	64,000	64,000	66,000	450,000
Travel & Expense Management (T&E) and Global Master Service Provider (MSP) Strategy	FY18 Plan	4578	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Ageing System Stabilization/Upgrades - FY1	FY18 Plan	4389	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	214,286	214,286	214,286	214,286	214,286	214,286	214,286	1,500,000
US Mobile Device Refresh	FY18 Plan	4395	-	-	-	-	21,976	(21,976)	-	83,756	(83,756)	-	90,382	(90,382)	-	196,114	(196,114)	-	714,286	714,286	714,286	714,286	714,286	714,286	714,286	5,000,000
US SAP: Infrastructure Landscape	FY18 Plan	4348	358,515	-	358,515	396,730	-	396,730	397,547	772,984	(375,437)	343,593	112,866	230,727	1,496,385	885,850	610,535	343,872	343,931	343,992	344,052	344,114	344,175	344,238	698,241	4,603,000
US CNI Tech Services-Network Equipment Lifecycle Replacements	FY18 Plan	4570	62,500	32,005	30,495	62,500	(606,195)	668,695	62,500	430,319	(367,819)	62,500	(6,914)	69,414	250,000	(150,784)	400,784	-	-	-	-	-	-	-	-	250,000
US CNI-EMS Lifecycle Hardware and Softwa	FY18 Plan	4568	-	1,341,176	(1,341,176)	-	20,938	(20,938)	-	27,268	(27,268)	-	22,487	(22,487)	-	1,411,868	(1,411,868)	-	692,857	692,857	692,857	692,857	692,857	692,857	692,857	4,850,000
Network Transformation Completion - CEM	FY18 Plan	4647	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Application monitoring, Network/IDS, Oper	FY18 Plan	4677	83,333	12,179	71,154	83,333	22,921	60,412	83,333	(4,869)	88,202	83,333	52,594	30,739	333,332	82,827	250,505	83,333	83,335	-	-	-	-	-	-	500,000
Aged Printer refresh	FY18 Plan	4689	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
RSA Token refresh	FY18 Plan	4683	-	3,274	(3,274)	-	231,806	(231,806)	-	(228,057)	228,057	-	3,247	(3,247)	-	10,271	(10,271)	-	-	-	-	-	-	-	-	-
Acquisition of Remote Sensing Data - Mass	FY18 Plan	4670	-	647,370	(647,370)	-	(601,761)	601,761	-	35,840	(35,840)	-	(254,316)	254,316	-	(172,867)	172,867	-	-	-	-	-	-	-	-	-
Host Transition	FY18 Plan	3924	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
IDS Next Generation 2.0	FY18 Plan	3976	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Data Centre Decommission D&I	FY18 Plan	4001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
INVP4288-AD Data Cleanse	FY18 Plan	4288	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
INVP4298-NY REV Clifton Park Demo Inform	FY18 Plan	4298	149,398	150,964	(1,566)	80,357	44,497	35,860	-	63,406	(63,406)	-	122,797	(122,797)	229,755	381,663	(151,908)	-	-	-	-	-	-	-	-	229,755
INVP4306- Juniper VPN upgrade	FY18 Plan	4306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Legacy DMZ Migration to Vstig	FY18 Plan	4368	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
INVP4377- Data Centre Decommission Mel	FY18 Plan	4377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
INVP4386- Verizon Audio to Webex	FY18 Plan	4386	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
INVP4392- PPMI	FY18 Plan	4392	-	30,763	(30,763)	-	31,389	(31,389)	-	203,499	(203,499)	-	363	(363)	-	266,013	(266,013)	-	-	-	-	-	-	-	-	-
INVP4394-NE Gas Leak Recheck (next Phase	FY18 Plan	4394	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
FSSC&HR Systems (Non-SAP) Operational	FY18 Plan	4399	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
SAP/PowerPlan/Front Office Maintenance	FY18 Plan	4401	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
US SAP Regulatory Requirements, Reportin	FY18 Plan	4402	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Annual Ariba upgrades - FY18	FY18 Plan	4403	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
INVP4449 - EPA File	FY18 Plan	4449	58,333	-	58,333	58,333	-	58,333	58,333	-	58,333	58,333	59,502	(1,169)	233,333	59,502	173,831	58,333	58,333	58,333	58,333	58,333	58,333	58,333	58,333	700,000
Voice Recording	FY18 Plan	4473	-	-	-	-	1,884	(1,884)	-	4,126	(4,126)	-	(66,012)	66,012	-	(60,002)	60,002	-	-	-	-	-	-	-	-	-
New Medical System	FY18 Plan	3718	-	-	-	-	-	-	-	3,913	(3,913)	-	2,584	(2,584)	-	6,496	(6,496)	-	-	-	-	-	-	-	-	-
FERC Wholesale Customer System	FY18 Plan	4214	15,000	1,524	13,476	-	1,524	(1,524)	-	16,567	(16,567)	-	-	-	15,000	19,616	(4,616)	-	-	-	-	-	-	-	-	15,000
Payment Processing for CRIS	FY18 Plan	4484	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
INVP4529- Service Now Deployment - Relea	FY18 Plan	4529	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Nightcrawler Asset Update	FY18 Plan	4554	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
SAP Business Objects Report Optimization	FY18 Plan	4557	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
US SAP: Solution Manager Upgrade	FY18 Plan	4588	-	(299,056)	299,056	-	-	-	-	301,724	(301,724)	-	1,410	(1,410)	-	4,078	(4,078)	-	-	-	-	-	-	-	-	-
Operation Telecommunication Optimizatio	FY18 Plan	4651	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
MyAccount Technical Blueprint F&A	FY18 Plan	4653	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
MaaS 360 Payoff	FY18 Plan	4682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Informatica Upgrade/Microstrategy Replac	FY18 Plan	4469	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	547,833	547,833	547,833	547,833	547,833	547,835	3,287,000
US MDS-Energy Accounting System (EAS) m	FY18 Plan	4481	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	257,167	257,167	257,167	257,167	257,167	257,167	1,543,000
General Ledger Interface CRIS SAP	FY18 Plan	4486	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	225,000	225,000	225,000	225,000	-	-	900,000
CRIS Data Archival	FY18 Plan	4485	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200,000	200,000	200,000	200,000	-	-	800,000
Inventory Management Handheld Devices	FY18 Plan				-			-		-	-	-	-	-	-	-	-									-
Customer Bill Redesign	FY18 Plan	4704Q	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-

Investment Name	Programs	INVP #	Apr-2017 Budget	Apr-2017	Apr-2017 Variance	May-2017 Budget	May-2017 Actual	May-2017 Variance	Jun-2017 Budget	Jun-2017 Actual	Jun-2017 Variance	Jul-2017 Budget	Jul-2017 Actual	Jul-2017 Variance	YTD FY18 Budget	YTD FY18 Actual	YTD FY18 Variance	Aug-2017 Budget	Sep-2017 Budget	Oct-2017 Budget	Nov-2017 Budget	Dec-2017 Budget	Jan-2018 Budget	Feb-2018 Budget	Mar-2018 Budget	Total Budget
HRIS Simplification Programme	FY18 Plan	4144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Cisco Prime	FY18 Plan	4679	4,500	-	4,500	4,500	-	4,500	4,500	-	4,500	4,500	-	4,500	18,000	-	18,000	4,500	4,500	-	-	-	-	-	-	**27,000**
Customer Experience Transformation-Com	Growth Play Book-CXT	4426	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Customer Experience Transformation-MyA	Growth Play Book-CXT	4427	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
DRMS for C&I Demand Response	NY REV/grid modernization				-			-			-	-	-	-	-	-	-									-
Load and DER Forecasting (Acquisition of R	NY REV/grid modernization	4729	-	806,656	(806,656)	-	(693,344)	693,344	-	54,297	(54,297)	-	(298,486)	298,486	-	(130,876)	130,876	-	-	-	-	-	-	-	-	-
Annual HR & Payroll Mandatory Service Pa	Other Mandates	4400	-	(19,035)	19,035	192,000	401,311	(209,311)	192,000	(278,312)	470,312	197,000	31,506	165,494	581,000	135,471	445,529	4,000	5,000	178,000	178,000	180,000	-	-	-	**1,126,000**
Regulatory Mandates - FY18	Other Mandates				-			-			-	-	-	-	-	-	-									-
US Control-Gas Electronic Bulletin Board (E	Other Mandates	4479	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	613,750	613,750	613,750	613,750	**2,455,000**
CPE Buyback	Tech. Modernization	4684	-	5,183,947	(5,183,947)	-	(5,205,035)	5,205,035	-	-	-	-	-	-	-	(21,088)	21,088	-	-	-	-	-	-	-	-	-
Active Directory Improvements	Tech. Modernization	4489	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	137,500	137,500	-	-	-	-	**275,000**
Application Performance Management (AP	Tech. Modernization	4490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125,000	125,000	125,000	-	-	**375,000**
RAS/VPN Re-Platform/Mobile	Tech. Modernization	4269	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200,000	200,000	200,000	-	-	-	**600,000**
US Network Programme	Tech. Modernization	4496	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	432,143	432,143	432,143	432,143	432,143	432,143	432,143	**3,025,000**
US VSTIG Programme	Tech. Modernization	4498	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	385,714	385,714	385,714	385,714	385,714	385,714	385,714	**2,700,000**
US Wireless Programme	Tech. Modernization	4499	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	278,571	278,571	278,571	278,571	278,571	278,571	278,571	**1,950,000**
Monitoring and Alerting	Tech. Modernization	4493	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	150,000	150,000	150,000	-	-	-	-	**450,000**
RSA Re-platform	Tech. Modernization	4270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70,000	70,000	70,000	70,000	**280,000**
Cloud Broker - Hybrid Enablement	Tech. Modernization	3899	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Office 2010 Upgrade	Tech. Modernization	4265	-	-	-	-	-	-	-	-	-	100,000	-	100,000	100,000	-	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	-	**800,000**
Citrix Infrstructure Upgrade (Xenapp and N	Tech. Modernization	4279	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100,000	100,000	100,000	100,000	100,000	-	-	**500,000**
Business Innovation Projects 1	Tech. Modernization	4707	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	481,233	481,230	481,230	481,230	481,230	481,230	481,230	**3,368,613**
Data Security	Tech. Modernization	4710	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	262,500	262,500	262,500	262,500	262,500	262,500	**1,575,000**
Orchestration and Self Service	Tech. Modernization	4726	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	107,142	107,143	107,143	107,143	107,143	107,143	107,143	**750,000**
Virtual Desktop - DaaS	Tech. Modernization	4727	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78,574	78,571	78,571	78,571	78,571	78,571	78,571	**550,000**
Mobility BYOD F&A	Tech. Modernization	3998	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
INVP4192-Windows 2000 web servers risk	Tech. Modernization	4192	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
SCI connections	Tech. Modernization	4495	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100,000	-	-	-	-	-	-	**100,000**
ICE Replacement	Tech. Modernization	4491	-	-	-	-	-	-	-	495,534	(495,534)	477,778	(11,939)	489,717	477,778	483,595	(5,817)	477,778	477,778	477,778	477,778	477,778	477,778	477,778	477,778	**4,300,000**
Data Visualisation Expansion	Tech. Modernization	4606	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	142,857	142,857	142,857	142,857	142,857	142,857	142,857	**1,000,000**
US SAP: Business Warehouse (BW) Consoli	Tech. Modernization	4562	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
MWORK and Netmotion Risk Avoidance	Tech. Modernization	4725	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Improving End User Experience- Cloud based DMZ Service Platform	Tech. Modernization	4723	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Mobile Broadband POC	Tech. Modernization				-			-			-	-	-	-	-	-	-									-
Digital Asset Management (DAM)	Tech. Modernization	4711	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Business Innovation Projects 1	Tech. Modernization	4707	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
EUC, network, and data center strategy	Tech. Modernization	4715	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	128,571	128,571	128,571	128,571	128,571	128,571	**771,429**
1327 Interfaces - 523 FTS, 340 RDX, 245 MQSI, 253 JCAPS, 44 PM4D, 7 VB	Tech. Modernization	4706	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	371,426	371,429	371,429	371,429	371,429	371,429	371,429	**2,600,000**
US Video Conference Programme	Tech. Modernization	4497	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28,571	28,571	28,571	28,571	28,571	28,571	28,571	**200,000**
IS Tools	Tech. Modernization	4513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
US SAP: Enhancement Pack 9 Upgrade	Tech. Modernization	4564	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Service Now - Release 3	Tech. Modernization	4261	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200,000	200,000	-	-	**400,000**
EMM Licenses	Tech. Modernization	4713	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
Hardware and Software Upgrades	Tech. Modernization	4722	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71,426	71,429	71,429	71,429	71,429	71,429	71,429	**500,000**
INVP4605 - IS Sourcing Renewal	Tech. Modernization	4605	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
EMM Phase2	Tech. Modernization				-			-			-	-	-	-	-	-	-									-
Azure Core Service Enablement	Tech. Modernization				-			-			-	-	-	-	-	-	-									-
Enterprise Data Management Platform	Tech. Modernization	4582	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-
New England Retail Access Mandates	Other Mandates	4137	203,313	247,758	(44,445)	23,687	(41,626)	65,313	-	(3,737)	3,737	-	16,892	(16,892)	227,000	219,286	7,714	-	-	-	-	-	-	-	-	**227,000**
Network Tx-CEMS		4648	-	3,437	(3,437)	-	12,821	(12,821)	-	(14,146)	14,146	-	130	(130)	-	2,242	(2,242)	-	-	-	-	-	-	-	250,000	**250,000**
Concur Licenses		4662	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	154,000	154,000	154,000	154,000	154,000	154,000	154,000	154,000	**1,232,000**
Data Centre Consolidation efforts		4709	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	333,333	333,333	333,333	333,333	333,333	333,333	**2,000,000**
Mandate Balance - Mandates not assigned	Other Mandates	N/A	608,011	-	608,011	608,011	-	608,011	608,011	-	608,011	608,011	-	608,011	2,432,045	-	2,432,045	608,011	608,011	608,011	608,011	608,011	608,011	608,011	608,011	**7,296,136**
FY18 Capital Contingency		N/A	(69,138)	-	(69,138)	(68,458)	-	(68,458)	(72,164)	-	(72,164)	246,629	-	246,629	36,868	-	36,868	302,572	219,995	489,320	135,324	138,669	151,787	269,382	206,589	**1,950,505**
Physical Security Replacements - FY18	Physical Security	N/A	107,917	20,599	87,318	107,917	41,336	66,581	107,917	261,870	(153,954)	107,917	(72,658)	180,574	431,667	251,147	180,520	107,917	107,917	107,917	107,917	107,917	107,917	107,917	107,917	**1,295,000**
INVP1041-NY EMS Replacement		1041	-	18,322	(18,322)	-	-	-	-	-	-	-	-	-	-	18,322	(18,322)	-	-	-	-	-	-	-	-	-
INVP1043-NE EMS REPLACEMENT		1043	-	-	-	-	770	(770)	-	(41,140)	41,140	-	41,140	(41,140)	-	770	(770)	-	-	-	-	-	-	-	-	-
INVP1172-AMAG Upgrades		1172	-	3,754	(3,754)	-	(3,153)	3,153	-	-	-	-	-	-	-	601	(601)	-	-	-	-	-	-	-	-	-
INVP1185-DMS/OMS Replace- BP231		1185	-	(8,430)	8,430	-	-	-	-	-	-	-	-	-	-	(8,430)	8,430	-	-	-	-	-	-	-	-	-
INVP2927-Desktop Aged Asset Refresh		2927	-	-	-	-	(58,121)	58,121	-	-	-	-	-	-	-	(58,121)	58,121	-	-	-	-	-	-	-	-	-
INVP2935-US Mobile Device Refresh		2935	-	(1,243,237)	1,243,237	-	2,693	(2,693)	-	21,867	(21,867)	-	22,191	(22,191)	-	(1,196,485)	1,196,485	-	-	-	-	-	-	-	-	-
INVP3644-Internet Explorer Upgrade - IE11		3644	-	1,239	(1,239)	-	(14,601)	14,601	-	(2,873)	2,873	-	1,115	(1,115)	-	(15,120)	15,120	-	-	-	-	-	-	-	-	-
INVP3896-Athena		3896	-	42,500	(42,500)	-	-	-	-	42,500	(42,500)	-	-	-	-	85,000	(85,000)	-	-	-	-	-	-	-	-	-
INVP3915-Annual HR & Payroll Mandatory Service Pack Upgrade (HRSP)		3915	-	4,731	(4,731)	-	(8,275)	8,275	-	-	-	-	-	-	-	(3,544)	3,544	-	-	-	-	-	-	-	-	-
INVP3922-Access Violation (& Regulation) Management		3922	-	10,490	(10,490)	-	88,456	(88,456)	-	-	-	-	78,146	(78,146)	-	177,092	(177,092)	-	-	-	-	-	-	-	-	-
INVP4172-Cross Company Enhancements		4172	-	(12,300)	12,300	-	23	(23)	-	(4,901)	4,901	-	-	-	-	(17,177)	17,177	-	-	-	-	-	-	-	-	-
INVP4218-Blanket Work Order Pilot		4218	-	6,956	(6,956)	-	1,150	(1,150)	-	-	-	-	(64,312)	64,312	-	(56,206)	56,206	-	-	-	-	-	-	-	-	-
INVP4219-PowerPlan upgrade		4219	-	13,556	(13,556)	-	1,150	(1,150)	-	-	-	-	3,160	(3,160)	-	17,866	(17,866)	-	-	-	-	-	-	-	-	-
INVP4223-US SAP: Business Objects Environment (BOE) Update (annual)		4223	-	(45,045)	45,045	-	1,600	(1,600)	-	-	-	-	865	(865)	-	(42,580)	42,580	-	-	-	-	-	-	-	-	-
INVP4224-US SAP: Annual HANA update		4224	-	(34,874)	34,874	-	1,600	(1,600)	-	-	-	-	-	-	-	(33,274)	33,274	-	-	-	-	-	-	-	-	-
INVP4225-US SAP: Ancillary SAP Application Updates		4225	-	6,956	(6,956)	-	10,791	(10,791)	-	(0)	0	-	-	-	-	17,747	(17,747)	-	-	-	-	-	-	-	-	-
INVP4263-US Web Auth		4263	-	(791)	791	-	911	(911)	-	93,025	(93,025)	-	(216,511)	216,511	-	(123,366)	123,366	-	-	-	-	-	-	-	-	-
INVP4266-Windows 7 Phase 3		4266	-	139,835	(139,835)	-	125,938	(125,938)	-	137,360	(137,360)	-	23,517	(23,517)	-	426,651	(426,651)	-	-	-	-	-	-	-	-	-
INVP4323-US Mainframe Upgrade		4323	-	-	-	-	(66,000)	66,000	-	-	-	-	-	-	-	(66,000)	66,000	-	-	-	-	-	-	-	-	-
INVP 4575 Software Defined Networking		4575	-	19,611	(19,611)	-	29,839	(29,839)	-	18,070	(18,070)	-	36,843	(36,843)	-	104,363	(104,363)	-	-	-	-	-	-	-	-	-
INVP 4577 Call Manager Upgrade		4577	-	2,271	(2,271)	-	303,898	(303,898)	-	(110,561)	110,561	-	65,751	(65,751)	-	261,360	(261,360)	-	-	-	-	-	-	-	-	-
INVP 4645 Refresh of network equipment at Verizon supported Sites (transform		4645	-	16,337	(16,337)	-	206,880	(206,880)	-	(127,444)	127,444	-	35,552	(35,552)	-	131,325	(131,325)	-	-	-	-	-	-	-	-	-
INVP 4673 - PI Enterprise Deployment		4673	-	51,491	(51,491)	-	51,491	(51,491)	-	508,926	(508,926)	-	(158,381)	158,381	-	453,526	(453,526)	-	-	-	-	-	-	-	-	-
INVP 4674 Log Logic		4674	-	7,614	(7,614)	-	5,037	(5,037)	-	(11,503)	11,503	-	7,840	(7,840)	-	8,990	(8,990)	-	-	-	-	-	-	-	-	-
INVP 4680 WAP Density deployment		4680	-	68,371	(68,371)	-	(54,294)	54,294	-	85,097	(85,097)	-	637,162	(637,162)	-	736,335	(736,335)	-	-	-	-	-	-	-	-	-
INVP 4687 Network Tx-NB/MTC		4687	-	(61,016)	61,016	-	153,159	(153,159)	-	(102,335)	102,335	-	6,212	(6,212)	-	(3,980)	3,980	-	-	-	-	-	-	-	-	-
INVP 4688 Legacy DMZ Firewalls		4688	-	9,246	(9,246)	-	434,733	(434,733)	-	(417,346)	417,346	-	74,706	(74,706)	-	101,339	(101,339)	-	-	-	-	-	-	-	-	-
INVP 4705 - NG Labs_US		4705	-	(21,158)	21,158	-	613	(613)	-	613	(613)	-	613	(613)	-	(19,318)	19,318	-	-	-	-	-	-	-	-	-
INVP3617C-NE Capitalize Asset Replacement & Installation		3617C	-	-	-	-	30,782	(30,782)	-	921	(921)	-	69	(69)	-	31,772	(31,772)	-	-	-	-	-	-	-	-	-
		Total Project CapEx	**7,652,619**	**14,605,869**	**(6,953,250)**	**6,692,270**	**(6,156,338)**	**12,848,608**	**13,315,981**	**7,119,141**	**6,196,841**	**9,880,330**	**4,155,509**	**5,724,822**	**37,541,200**	**19,724,180**	**17,817,020**	**8,298,491**	**13,667,369**	**19,490,245**	**14,601,062**	**14,734,111**	**12,945,078**	**11,699,699**	**12,013,677**	**144,990,933**

Date of Request: July 27, 2017 Request No. DPS-689 AT-15
Due Date: August 7, 2017 NMPC Req. No. NM-1361

NIAGARA MOHAWK POWER CORPORATION d/b/a NATIONAL GRID
Case No. 17-E-0238 and 17-G-0239 –
Niagara Mohawk Power Corporation d/b/a National Grid – Electric and Gas Rates

Request for Information

FROM: DPS Staff, Andy Timbrook

TO: National Grid, Gas Infrastructure and Operations Panel

SUBJECT: **GAS BUSINESS ENABLEMENT (GBE)**

Request:

In this interrogatory, all requests for data, workpapers or supporting calculations should be construed as requesting any Word, Excel, or other computer spreadsheet models in original electronic format with all formulae intact.

The alternatives considered for the GBE program are shown in Slide 36, Attachment 9 to your response to DPS-275. With reference to that response:

1. Provide a description of each alternative. Include the project scope (e.g., what would be replaced, how it would be replaced, and with what new programs and in what timeframe it would be replaced) and identify how well the alternative met the following GBE needs and objectives:

    a. Platform Consolidation;

    b. Regulatory Compliance;

    c. Workforce/Asset Management;

    d. Customer Service Improvements; and

    e. Training

For the alternatives that were not selected, explain why not and how far along in development the rejected alternative had proceeded, in terms of cost estimation and implementation schedule

as compared to the selected alternative, before the decision was made not to continue with the rejected alternative.

Response:

Below is a brief summary of each of the options considered on Slide 36, Attachment 9 of DPS-275:

Option 1: Tech Stabilization

Description: The Tech Stabilization option would extend the life of National Grid's current systems by 1) sourcing incremental system support, where available, for the systems that are no longer fully supported; and 2) updating the supporting infrastructure and devices, where possible.

Project Scope: No existing systems would be replaced. This option would involve a number of tactical investments.

Delivery/Time Frame: This would be on-going until the systems are ultimately replaced.

Reasons Rejected: The Tech Stabilization option would have a limited positive impact on system down time due to the overall age of the current systems, which limits the availability of support and upgrade infrastructure. There are no further anticipated benefits with this option. This option would further defer the necessary investments to upgrade/replace near obsolete and unsupported systems and, therefore, would not be a sustainable solution. For the above-mentioned reasons, the Tech Stabilization option was rejected early in the strategic assessment in August 2016 and only a high level cost estimate and implementation schedule were developed.

Option 2: Like for Like Replacements

Description: This option provides the minimum required investment to upgrade or replace current core unsupported and aging IS systems to modern, supported equivalents with no focus on enhancing capability.

Project Scope/Delivery: The main solutions that would be upgraded or replaced for Niagara Mohawk include Mwork and Storms for work delivery, iScheduler for scheduling, Gas Asset Management System ("GAMS") for asset management and engineering.

Delivery/Time Frame: This option would be delivered over at least four years using waterfall techniques where a solution is not delivered until all business requirements have been designed and developed.

Reasons Rejected: This option would be a pure technology remediation project and would not look to align processes, increase integration between systems, or address the broader challenges and opportunities that Niagara Mohawk's gas business faces. There would be a moderate improvement to application availability, but limited other improvements. Specifically, this option would not address performance improvements in gas safety and compliance that require

process improvements, systems integration, technical training and data improvements. As a result, this option was rejected early in the strategic assessment in August 2016 and only a high level cost estimate and implementation schedule were developed.

Option 3: Backbone

Description: This option is the minimum required investment to address the system requirements to support performance improvements in gas safety and compliance and mitigate key risk. It should be noted that this option does not address all elements in these areas nor does it enable many of the improvement opportunities, but it would improve system downtime and data sharing between teams and enable more consistent reporting.

Project Scope: The Backbone option would focus on replacing the multiple legacy work and asset management systems with a core enterprise work and asset management system (EAM). It would deliver process, integration and capability improvements limited to the work and asset management systems. The main solutions upgraded or replaced for Niagara Mohawk would be Mwork, Storms, Public Building, and Cascade (gas) for work delivery; iScheduler for resource scheduling; GAMS, Meter Inventory Tracking System ("MITS"), Pictometry, MapFrame, and Gas Leak Tracking for asset management and engineering; Fortis for document management; and Smallworld for GIS. The legacy systems will be replaced with Maximo for work and asset management, ESRI for GIS, and a Scheduling/Dispatch/Mobile application.

Delivery/Time Frame: The backbone only option would be implemented over 3.5 years using the more traditional waterfall implementation method on premise (*i.e.*, no Software as a Service or cloud solutions).

Reasons Rejected: The backbone option would be a largely focused on technology implementation. Specifically, it would not fully address performance improvements in gas safety and compliance that require behavioral/technical training, data improvements, such as mapping of services that are on paper today, and the focus on change management to support the organization through the implementation. As discussed in the Company's response to DPS-660, the backbone only option also does not provide the call center with visibility to work or the customer experience elements. It also does not fully integrate asset management and work management solutions including supporting graphical electronic data capture (*i.e.*, red lining) in the field. Other capabilities that would not be delivered include advanced analytics for work and asset management, supply chain solutions, and strategic change, which help to mitigate operational and technical risk of implementation. With the reduced focus on the operating model and change management, it is anticipated that any financial benefits would be offset by inefficient and inconsistent use of the new systems. A timeline and costs (leveraging some input from Accenture's model) were developed for this option but it was ultimately rejected by the Steering Group in December 2016 for the reasons noted above.

Option 4: Value Oriented – Jurisdiction Deployment

Description: This option was selected as the minimum required investment to address the risk of the legacy systems and performance improvements in gas pipeline safety and compliance, provide improvements in business performance and enhancements in the customer experience,

and create a platform for the future. Specifically, the Value Oriented – Jurisdiction Deployment includes the scope of Option 3 (Backbone) with additional enhanced capabilities such as:

- advanced asset management capabilities to enable graphical work design and electronic field data capture. This will improve record accuracy and increase the speed to update maps with new assets. It also will link the EAM to an Asset Investment Planning and Management (AIPM) tool to enable prioritizing asset investments across a number of criteria including risk as discussed in the Company's response to EDF-1(NK-4);

- advanced work management capabilities that include integrating resource management and planning to improve the effectiveness and efficiency of delivered work;

- a customer interaction layer that places the front line employee, dispatch, the call center and ultimately the customer on the same platform to provide visibility of the work to all stakeholders and enable customers the flexibility to book, move and get information on appointments using their preferred communication channel. This also includes a new call center front end so that customer representatives have visibility to the work in the field;

- change management capabilities reflecting lessons learned from past programs and industry best practice that (1) are delivered throughout the program lifecycle; (2) engage users in the actual process of developing the solution; and (3) involve support from the program team, business leadership, and support organizations such as Supply Chain and Information Services;

- field training via multiple media (including mobile) to improve employees' technical skills and simplify work methods resulting in enhanced field employees' capabilities to consistently deliver work safely for customers, follow the correct procedures and record the required information correctly;

- supply chain integration to the EAM to improve effectiveness of the supply chain in supporting capital project delivery;

- automated testing capabilities that would enable agile development techniques; and

- cloud and SaaS solutions where available to move this solutions onto modern platforms that will make it easier for the Company to keep the solutions up-to-date and supported against the latest cyber security threats.

Project Scope: The main solutions to be upgraded or replaced for Niagara Mohawk include Mwork, Storms, Public Building, and Cascade (gas) for work delivery; iScheduler for resource scheduling; GAMS, MITS, Pictometry, MapFrame, and Gas Leak Tracking for asset management and engineering; Fortis for document management; Smallworld for GIS; and CSS for call center terminals only. The solutions will be replaced with integrated versions of Maximo for work and asset management, Copperleaf for asset investment planning and management, ESRI for GIS and Salesforce for scheduling, dispatch, mobility, call center terminals and customer interaction.

Delivery/Time Frame: The Value Oriented – Jurisdiction Deployment option will be delivered using predominately cloud solutions and hybrid agile development techniques over 5 years. Under the agile development methodology, business and IS development teams work collaboratively in short-cycles to prioritize functionality and get to a minimum viable product (*i.e.*, the simplest solution that can be implemented) allowing earlier release of initial functionality and reprioritization of enhancements based on learning. It should be noted that despite the overall longer five year implementation timeframe for the enhanced capabilities in this option, implementation of the enhanced capabilities will not extend the 3.5 year timeframe of the backbone capabilities as the focus remains on risk prioritized replacement of the core systems.

Reasons Selected: This option would be a broader transformation project focused on people, process and technology designed to address gas pipeline safety and compliance, customer experience and improved business performance. Solutions will be developed on a modern technical architecture to support the business for a long period of time. Approximately $39M a year in measurable benefits would be realized, as detailed in Exhibit __ (GIOP-12), page 1, once the solutions are fully embedded, including Type I savings to Niagara Mohawk as shown on Exhibit __ (GIOP-12), page 2. Additional customer benefits that do not impact the Company's revenue requirements, including saving customers time by increasing the number and reducing the length of appointment windows, are discussed in detail in the Company's response to DPS-658.

This was the minimum cost solution to deliver the desired program outcomes. For all of the above-mentioned reasons, this option was recommended by the Steering Group in December 2016, and includes most refined timeline and cost modeling, as reflected in the Company's responses to DPS-431 and DPS-654. Importantly, National Grid did look at developing the solutions independently for each operating company, rather than consolidated as an enterprise-wide solution, but ruled it out as it was more costly (requiring duplicative design, development and testing of core functionality) than doing an enterprise-wide solution with individual releases across the operating companies as functionality is demonstrated.

Option 5: Value Oriented – Accelerated Deployment

Description/Project Scope/Delivery/Time Frame: The Value Oriented – Accelerated Deployment looked to implement the same scope as Option 4, but on an accelerated implementation timeframe for four and a half years.

Reasons Rejected: Accelerated deployment increased delivery costs as well as implementation risks. This option was further developed similar to Option 4 in terms of timeline and costs utilizing the detailed cost model developed with Accenture. However, the option was ultimately rejected by the Steering Group in December 2016 given the higher delivery costs, implementation risk, and recognition that implementation of a complex program such as GBE requires a measured approach, allowing sufficient time for comprehensive change management and system/regression testing.

The following summary table depicts how each of the options meet each of the GBE objectives of platform consolidation, regulatory compliance, workforce/asset management, customer

service improvements and training discussed in detail above. Red circles (R) denote that the objective is not met by the option, amber (A) that they are partially met and green (G) that they are fully met.

	Platform Consolidation	Regulatory Compliance	Workforce/ Asset Management	Customer Service Improvements	Training
Option 1: Tech Stabilization	R	R	R	R	R
Option 2: Like for Like Replacements	R	R	A	R	R
Option 3: Backbone	G	A	G	R	R
Option 4: Value Oriented – Jurisdiction Deployment	G	G	G	G	G
Option 5: Value Oriented – Accelerated Deployment	G	G	G	G	G

Name of Respondent:
Johnny Johnston

Date of Reply:
August 7, 2017

Date of Request: June 12, 2017 Request No. DMINF-1
Due Date: June 22, 2017 NMPC Req. No. NMINF-1

NIAGARA MOHAWK POWER CORPORATION d/b/a NATIONAL GRID
Case No. 17-E-0238 and 17-G-0239 –
Niagara Mohawk Power Corporation d/b/a National Grid – Electric and Gas Rates

INFORMAL Request for Information

FROM: DPS Staff, Davide Maioriello

TO: National Grid, Johnny Johnston

SUBJECT: ***Gas Business Enablement Tech Session with Staff***

Request:

1. At this point in the proposed program does the Company envision the use of GBE with the NMPC retail access program and participating ESCOs? If so, can the Company please describe how GBE will work or become a new interface for the retail access program?

Response:

1. The Company does not envision the use of the capabilities delivered by the Gas Business Enablement Program for Niagara Mohawk's retail access program or participating ESCOs.

Name of Respondent: Date of Reply:
Johnny Johnston June 21, 2017

Form 103

Date of Request: May 17, 2017
Due Date: May 30, 2017

Request No. DPS-094 MOA-1
NMPC Req. No. NM-481

NIAGARA MOHAWK POWER CORPORATION d/b/a NATIONAL GRID
Case No. 17-E-0238 and 17-G-0239 –
Niagara Mohawk Power Corporation d/b/a National Grid – Electric and Gas Rates

Request for Information

FROM: DPS Staff, Jeremy Routhier-James

TO: National Grid, Keri Sweet Zavaglia

SUBJECT: ***MANAGEMENT AND OPERATIONS AUDITS***

Request:

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

1. Provide the following information related to cost recovery for the conduct of management and operations audits:

    a. All costs reflected in the Company's historic test year for the conduct of management and operations audits.
    b. All costs reflected in the Rate Year for the conduct of projected management and operations audits.

2. Provide the following information related to recently completed management audits in a format that demonstrates the individual costs and savings for each recommendation, as well as the aggregated costs and savings for all recommendations:

    a. Identify all capital and/or O&M costs reflected in the Company's historic test year resulting from the implementation of any of the recommendations from Cases 08-E-0827, 10-M-0451, and 13-G-0009.
    b. Identify any savings reflected in the Company's historic test year resulting from the implementation of any of the recommendations from Cases 08-E-0827, 10-M-0451, and 13-G-0009.
    c. Identify all capital and O&M costs reflected in the Rate Year resulting from the implementation of any of the recommendations from Cases 08-E-0827 and

10-M-0451, as well as any recommendations from Case 13-G-0009 which were not discussed in your Pre-Filed Direct Testimony.

d. Identify any savings reflected in the Rate Year resulting from the implementation of recommendations from Cases 08-E-0827 and 10-M-0451.

Response:

1.

a. Since rates were last reset in Cases 12-E-0201 and 12-G-0202, NMPC incurred incremental costs for three management and operations audits – 13-G-0009 (Gas Management Audit), 13-M-0314 (Data Audit), and 13-M-0449 (Staffing Audit). In the Historic Test Year, the Company incurred $0.074 million in expenses for payments to the auditor in the Staffing Audit. Audit work associated with the Gas Management and Data Audits was completed before the start of the Historic Test Year. Therefore, there are no costs associated with the conduct of these audits during the Historic Test Year.

b. The Rate Year reflects $0.077 million in expenses related to the Historic Test Year expense for the Staffing Audit discussed in Part a., above. As part of its Corrections and Updates filing, the Company will make an adjustment to include incremental forecast audit costs associated with the anticipated electric and gas management audit for National Grid's New York Operating Companies.

2.

a. Recommendation VI-2 from the Gas Management Audit, which involved the development of a gas estimating department with seven incremental FTEs, was completed during the Historic Test Year. One third of the related costs are assigned to NMPC. With implementation at approximately 50 percent of the Historic Test Year and an 85 percent capital ratio, the Historic Test Year cost for 2.3 FTEs is approximately $0.019 million expense and $0.110 million capital. There are no specifically identified costs reflected in the Historic Test Year associated with implementing recommendations from Cases 08-E-0827 or 10-M-0451. The recommendations from those audits were implemented before the start of the Historic Test Year and therefore any costs would be embedded in the Historic Test Year.

b. For reasons stated in response to Part d. below, there are no specifically identified cost savings in the Historic Test Year associated with the Gas Management Audit. There are also no savings associated with the recommendations in Case 10-M-0451, as the recommendations involved qualitative improvements to service company policies and procedures. With respect to Case 08-E-0827, to the extent there were any savings, the recommendations were implemented prior to the Historic Test Year. Therefore, any savings would be embedded in the Historic Test Year.

c. As discussed in the testimonies of Keri Sweet Zavaglia, Book 1, pages 11 through 15 and Elizabeth D. Arangio, Book 3, page 32, the Company included in its filing the costs associated with one incremental FTE (hired in January 2017) in response to recommendation IX-4 in the Gas Management Audit. The Rate Year expense for this FTE (100% expense) is $0.023 million and is detailed in Exhibit ___ (RRP-11), Workpapers to Exhibit ___ (RRP-3), Schedule 27, Workpaper 5. In addition, the Rate Year cost associated with the 2.33 FTEs discussed in response to Part a., above, are approximately $0.041 million expense and $0.233 million capital.

   Recommendations VII-1 and 2 in the Gas Management Audit are still in progress. As discussed in the Company's recent Implementation Plan, the Company has identified short term solutions to address these recommendations. These short term solutions will be managed within current budgets. For the longer term solution, the Company will utilize its Gas Business Enablement program. This program, which is explained in the testimony of the Gas Infrastructure and Operations Panel ("GIOP"), has a broad scope and is being undertaken independent of these two recommendations.

   There are no specifically identified costs reflected in the Rate Year associated with implementing recommendations from Cases 08-E-0827 and 10-M-0451, as recommendations from those audits were implemented prior to the Historic Test Year and therefore any costs would be embedded in the Historic Test Year.

d. As discussed at pages 104-105 of the GIOP, forecast savings related to the Gas Business Enablement program have been reflected in the case. Aside from this adjustment, the remaining recommendations in the Gas Management Audit involve qualitative benefits with no identified savings in the Rate Year (aside from pass through items such as recommendations relating to gas supply procurement). See the testimony of Keri Sweet Zavaglia, Book 1, pages 11 through 15.

   There are no specifically identified cost savings reflected in the Rate Year associated with implementing recommendations from Cases 08-E-0827 and 10-M-0451, as recommendations from those audits were implemented prior to the Historic Test Year, and any savings would be embedded in the Historic Test Year.

Name of Respondent:
Keri Sweet Zavaglia
Mark Stiner

Date of Reply:
May 30, 2017

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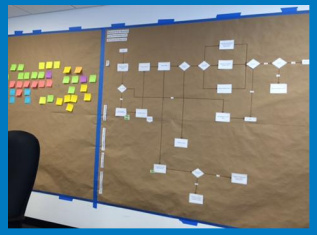
Gas Business Enablement

Steering Group Pack



Johnny Johnston

1 August 2016 @ 1300 GMT, W3.003

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Agenda

Topic	Time	Presenter
Opening Remarks / Meeting Objectives	1300-1305	JJ
Action Item Follow Up	1305-1310	KC
Phase One Procurement Outcomes	1310-1320	JJ
Pilot – Technical Phase Update	1320-1325	JJ
Program Baselines: Plan, Resources, Budget	1325-1340	JJ / KC
Program Status	1340-1345	KC
Partner Introductions	1345-1355	JJ
Meeting Close & Feedback	1355-1400	JJ

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Meeting Objectives

1. Obtain Steering Group endorsement of the Program plan, budget and resource model base-line
2. Review the plan for Phase 1 executive engagement and sanctioning
3. Provide an update on Phase 1 commercial activities and introduce consulting partners

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Action Item Follow Up

	Action	Owner	Assigned	Due	Comment	Complete?
2	To provide visibility of the expect impact of Gas Business enablement on the ability to run the business due to a potential talent drain.	JJ	10 Mar 16	1 May16	Phase 1 key roles have been filled with Business Leadership engagement and support. Subsequent staffing requirements will be reviewed regularly with the Design Authority Gas business impact to date: 1 VP, 4 Directors, 3 Managers	Aug 16
3	To identify the appropriate approach to ensure that the SG has visibility to the level of customization being undertaken by the project.	JJ	10 Mar 16	1 Oct16	Pending	
4	To share the rate case strategy and ensure that any appropriate costs are included in the MA Gas rate case.	JJ	10 Mar 16	1 Jul 16	Action Plan: 1) Engaging with NY team to align NY compliance fines to Gas Enablement spend 2) Coordinating with MA to include GE costs in the MA Gas case 3) Will work with Finance to deploy effective tools and processes to capture and report rate case data 4) Insure regulatory strategy is included as part of the business case	Aug 16
5	Advise SG on Powerplan solution options impacting the Program	JJ	5 May 16	Nov 16	Rescheduled for Nov Update	
6	Review GBE Scope with Finance Remediation	KH	5 May 16	June 16	Rescheduled by Fin – working with RQ for new date	
9	Align CWIP and GE programs and incorporate into GE program risk matrix as appropriate	KC	24 June 16	Aug 16	Coordinating with CWIP team to set up initial coord meeting	Proj Aug 16
10	Invite Internal Assurance to participate in vendor oral presentations and proposal review	KC	24 June 16	July 16	Complete – Input received	Yes

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Execution of the Gas Enablement Phase 1 procurement strategy is complete

Subsequent to our 24 June 2016 Steering Group, final vendor down-select has been completed, agreements in principle have been reached and contracts are being finalized

Strategic Assessment Partner (RFP1)

[redacted]

Business Assurance Partner (RFP2)

[redacted]

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Following multiple technical and commercial evaluations, Accenture was selected as the Strategic Assessment partner

Criteria	Section Weight	Overall Weight
[redacted]		

Overall Bid Rank	
Bidder Name	[redacted]
[redacted]	

[redacted]

Lead Engagement Partner:
Sandra Jones
Mobile: 1-703-582-6274
Email: sandra.l.jones@accenture.com

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Following selection of Accenture as our Strategic Assessment partner, PWC was identified as our best value Assurance partner

Criteria	Section Weight	Overall Weight
[redacted]		

Overall Bid Rank	
Bidder Name	[redacted]
[redacted]	

[redacted]

Lead Engagement Partner:
Christopher C Fynn
Mobile: 1-646-284-6562
Email: christopher.c.fynn@pwc.com

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We are currently on-boarding our partners and completing mobilization activities

- Finalizing terms and conditions
- Initiating on-boarding procedures
- Joint National Grid / Accenture / PWC relationship alignment and planning meeting planned for 27 July 16 in 2nd Ave
- Defining performance score cards
- Current state documentation collection is underway
- Kick-off meeting being planned for 1 or 2 August

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The Steering Group will have ongoing engagement with our partners

- Steering Group meeting attendance: Both lead engagement partners will attend on a regular "as needed" basis
- The Business Assurance lead engagement partner will provide a monthly assessment of program performance to the Steering Group
- Ad hoc engagement per your request

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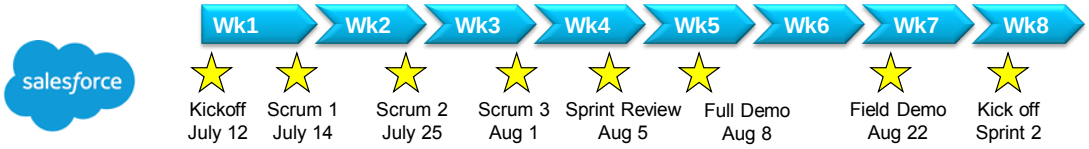
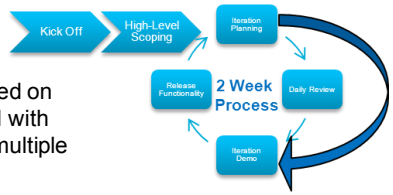
The technology pilots are progressing at a pace:

- We planned the pilots to build learning and demonstrate value in key areas that we believe will differentiators in the success of gas enablement
- Following successfully completing the process standardization pilot we are taking two of the standardized processes into an agile technology pilot (collections & stopped meter)
- Agile development is fast with field pilotable solution due in less than 8 weeks:

LI Field Collections Pilot



- We are also progressing a Stopped Meter back office pilot with Oracle, but need to realign solution so moving to August.
- We had planned a pilot in RI with IBM but have had to stop based on solution proposed. We are exploring extending the LI pilot to RI with Salesforce to show how we explore expanding one solution to multiple jurisdictions



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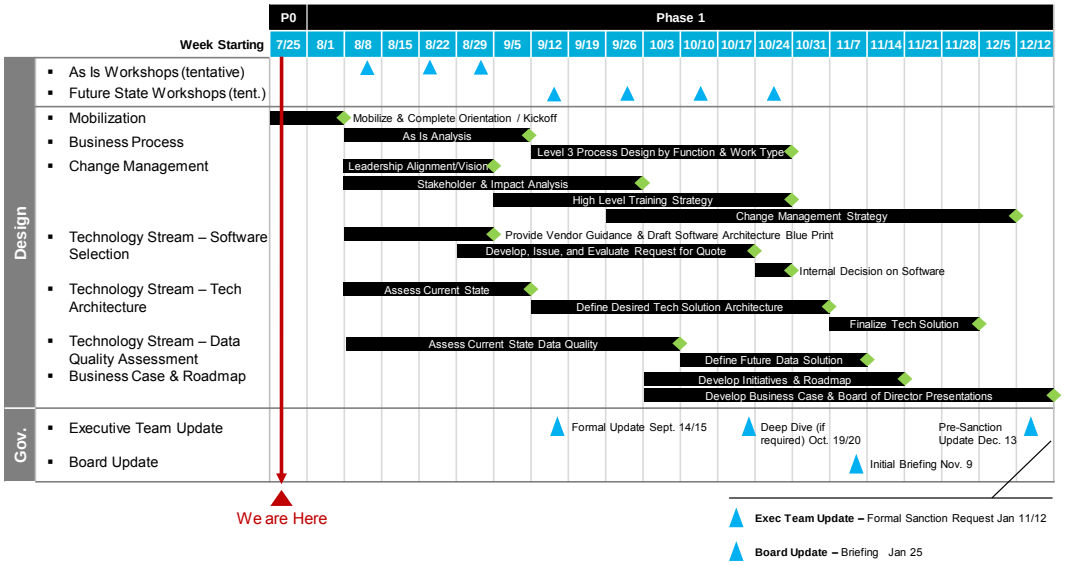
High level design and governance activities have been incorporated into the Integrated Program Plan



A full plan for all work streams can be found in the appendix

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Legend: Key Milestone Key Meetings Planned workstream

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The Program has the National Grid resources it needs to effectively begin Phase 1

Of the 31 FTE required to support Phase 1, we currently have 14 vacancies (excluding GDP analysts) however none of these vacancies will impede the ability to commence work on 1 August

	Program Sponsor – *Johnny Johnston*					
Team	**Portfolio and Program Management**	**Process and Business Requirements**	**Solution Design and Delivery**	**Business Design and Readiness**	**Pipeline Safety and Compliance**	**Advanced Field Technology**
Lead	*KC Healy*	*Chris Connolly*	*Chris Murphy*	*Reihanah Irani-Famili*	*Dan McNamara*	*Dennis Ruppert*
Phase 1 Wave 1*	Fin Mgr: T Andrews Program Coord: - G Prescott - K McAuliffe PM Specialist: Open Resrce Analyst: Open Analyst (GDP): TBC	Process Leads: • Capabilities: - D Morrissey • Customer: - M Piccaretto • Asset Mgt: - P DiGiglio • Work Mgt: - M Scapparotti • Data: - TBC Delivery Lead • Process Gov: Open • Fin Controls: Open Analyst (GDP): TBC	Program Directors • Ron Krantz • Rory Abbazio Pilot Prod Owner: • P DiGiglio Pilot Business SME; 3 each, TBC Solution Architect: TBC Analyst: Open Analyst (GDP): TBC	Program Director: • E Poyant HR Business Partner: • J'Wynn DeRamos Analyst (GDP): TBC	Project Manager: Open Analyst (GDP): TBC	Project Mgr 1: Open Project Mgr 2: Open Project Mgr 3: Open Analyst (GDP): TBC
				Staffing the remaining open positions in a timely manner will support completion of post August activities		

- The Program staffing will be performed in three "waves"
  - Wave 1 (April – August): Staff required to support delivery of Phase 1 scope
  - Wave 2 (Sep – Nov): Staff identified to develop depth of capability, support Phase 2 ramp up and serve in key leadership and SME roles during Phase 2
  - Wave 3 (Dec – Mar 17): Staff required to support execution of April 2017 Phase 2 programs and projects
- Waves will be "activated" based on leadership evaluation of criteria TBD

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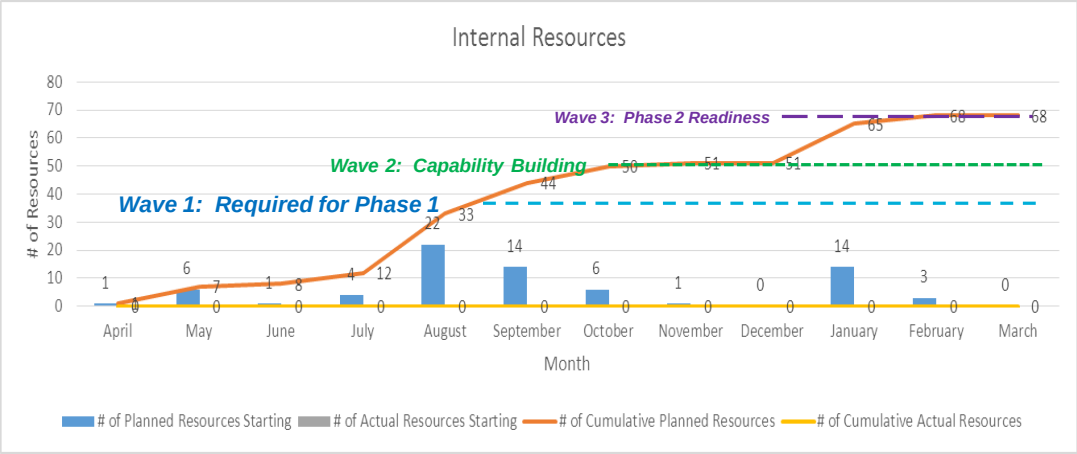
The Program sanction will support activation of all three staffing waves



Staffing Process Highlights:

- While the program sanction will support activation of all three waves, evaluation of all staffing requirements will be ongoing
- The decision to activate Waves 2 and 3 will be based on criteria including
  - Timing, scope and likelihood of the Phase 2 sanction and kick-off
  - Early indications from the developing road map and business case
  - Value and quality

A budget has been prepared that supports our scope and timeline while remaining within the sanctioned $25.5M for Phase 1

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Expense Type	Leadership	Phase 1 Assessment	Pilot	Safety and Compliance	Advanced Field Technology	Total	Key Assumptions
Labor	$2.6M	$5.3M	$0.55M	$4.1M	$0.95M	$13.5M	• Includes Burden • Total including Wave 1, 2, 3
Wave 1	*$2.3M*	*$2.2M*	*$0.44M*	*$0.55*	*$0.95*	*$6.44M*	
Wave 2, 3	*$0.3M*	*$3.1M*	*$0.11M*	*$3.5M*		*$7.02M*	
Expenses	$0.26M	$0.53M	$0.05M	$0.4M	$0.1M	$1.4M	• Assumes Expenses are 10% of Labor
Non Labor	$0.46M	$0.05M	$0.01M	$0.04	$0.01M	$0.57M	• Facilities, equipment etc. • IS Infrastructure, telcom, etc.
Consulting	$0.3M	$4.1M	$0.25M	$1.5M		$6.2M	• Strategic Assessment/Assurance • 3rd Party Compliance / Actions
Contingency	$3.8M					$3.8M	
Total	$7.5M	$10.0M	$0.86M	$6.1M	$1.1M	**$25.45M**	

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The Gas Enablement Program requests of the Steering Group:

- Your endorsement of the Program plan, resource model and budget

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Agenda

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Meeting Close & Feedback	1355-1400	JJ

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Gas Enablement Program Status

Scope Status And Impacts

1. Scope Status: Unchanged from 5 May 16 SG endorsement
2. Scope Change Requests: None pending / planned
3. Next Scope "Inflection Point": Program charter review with Phase 1 consulting partners (July 27 – Aug 5)
4. Delivery Approach changes: Evaluating Agile Technology Pilot however no impact to Program timelines, scope or budget is anticipated
5. Major Schedule / Deliverable Changes: None planned / anticipated
6. Customization KPI (TBD)

Schedule

1. Key Upcoming Milestones:
   a) Phase 1 mobilization meeting: 27 July
   b) Phase 1 Kick Off: 1 or 2 August
   c) Initiate Current State Assessments 8 Aug
   d) Phase 1 completion: End Dec 16
2. Activities completed
   a) Technology pilot demonstration kick-offs complete
   b) RFP 1 / 2 consulting contracts awarded
   c) Key Phase 1 resources identified
   d) Plan, staffing model and budget prepared for "baseline"
3. Upcoming activities:
   a) Continue onboarding NG and Consulting team members
   b) Continue Phase 1 preparations (discovery, planning, etc.)

Resources

Category	Budget FY17	Budget To date	Actual to date	Forecast	Trend
Total	$25.45M	$3.2M	$0.28M	$25.45M*	
		*Major cost drivers: commercial proposals, facilities, pilot and Pipeline Safety/Compliance			

Staffing	Plan	Actual	In-progress	Open	Trend
Under Construction – Pending SVP and SG Review					

1) The Program is under- burning largely due to timing of consulting spend. Additionally, NG time reporting needs review
2) Staffing Wave 1, 2, 3 model to be endorsed by LT and SG
3) Working with Finance, Facilities, Procurement and Consulting partners to finalize non-labor costs and work plan detail

Risk

Note: A formal risk review will be performed during the mobilization phase

Risk	Actions
Missing expectations on progress due to slow start	• Key LT members completing legacy commitments • Remaining LT member being on-boarded • Detailed plan and staffing model being developed concurrently with Partner proposals
Unsuccessful delivery due to scope creep and overlap with other initiatives	• Building scope around business case – will use Steering Group to baseline scope and any changes going forwards • Reporting spending to plan (i.e., budget) monthly • Coordinating with Growth Playbook initiatives to avoid duplication or gaps with other activities
Risk to delivery due to business/IS capacity imitations	• Will track progress and escalate specific areas of risk/ concern to Steering Group and through cadence • Proactively engaging with Business and Function stakeholders to identify support requirements and potential staffing constraints • Developing integration model to identify IS dependencies and constraints

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Meeting close

- AOB
- New Action Item Summary
- Leadership Pulse Check and Closing Remarks

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Phase 1 Partner Introductions

- Accenture: Sandra Jones – Lead Engagement Partner
- PWC: Chris Fynn – Lead Engagement Partner

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Appendices

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Steering Group Action Item List (complete)

	Action	Owner	Assigned	Due	Comment	Complete?
1	Ensure that Enablement is added to the QPR agenda	PS	10 Mar 16	1 Apr 16		Yes
2	To provide visibility of the expect impact of Gas Business enablement on the ability to run the business due to a potential talent drain.	JJ	10 Mar 16	1 May16	Phase 1 key roles have been filled with Business Leadership engagement and support. Subsequent staffing requirements will be reviewed regularly with the Design Authority	Aug 16
3	To identify the appropriate approach to ensure that the SG has visibility to the level of customization being undertaken by the project.	JJ	10 Mar 16	1 Oct16	Pending	
4	To share the rate case strategy and ensure that any appropriate costs are included in the MA Gas rate case.	JJ	10 Mar 16	1 Jul 16	Action Plan: 1) Engaging with NY rate case team 2) Coordinating with MA to include GE costs in the MA Gas case 3) Will work with Finance to deploy effective tools and processes to capture and report rate case data 4) Insure GE business case is rate case enabling	Aug 16
5	Advise SG on Powerplan solution options impacting the Program	JJ	5 May 16	Nov 16	Rescheduled for Nov Update	
6	Review GBE Scope with Finance Remediation	KH	5 May 16	June 16	Rescheduled by Fin – working with RQ for new date	
7	Add controls development to design phase success criteria	KH	5 May 16	June 16		Yes
8	Update the SG on proposal detail and procurement process status and selection criteria	JJ	5 May 16	June 16		Yes
9	Align CWIP and GE programs and incorporate into GE program risk matrix as appropriate	KC	24 June 16	Aug 16	Coordinating with CWIP team to set up initial coord meeting	Proj Aug 16
10	Invite Internal Assurance to participate in vendor oral presentations and proposal review	KC	24 June 16	July 16	Complete – Input received	Yes

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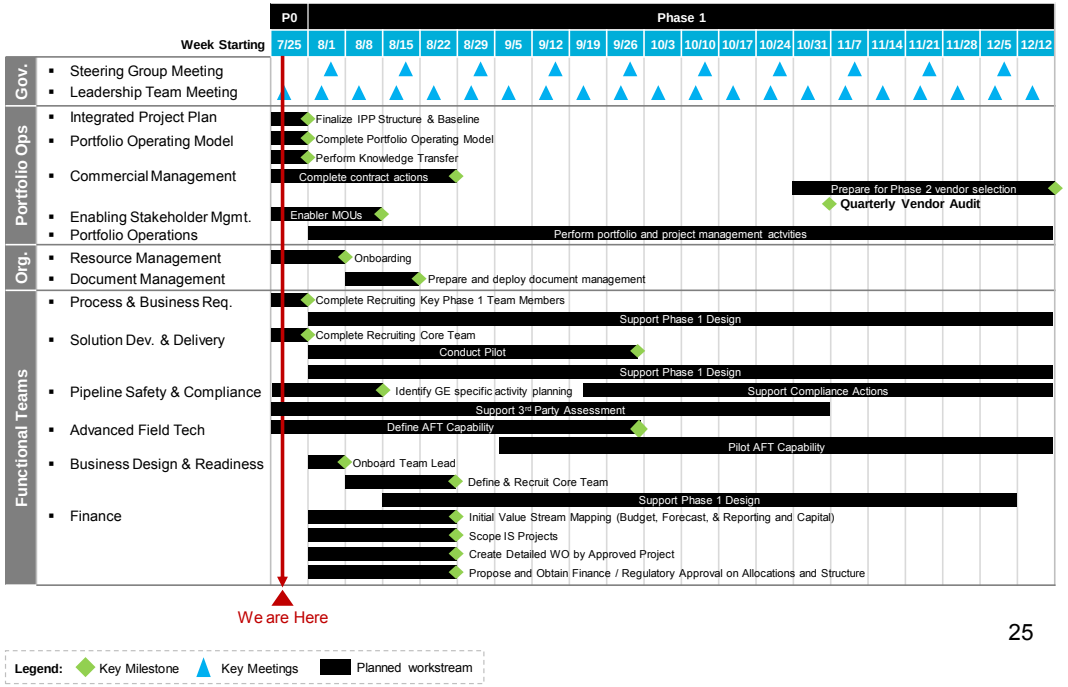
An Integrated program has been developed and subject to final detailed planning with our partners can be base-lined



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Legend: Key Milestone Key Meetings Planned workstream

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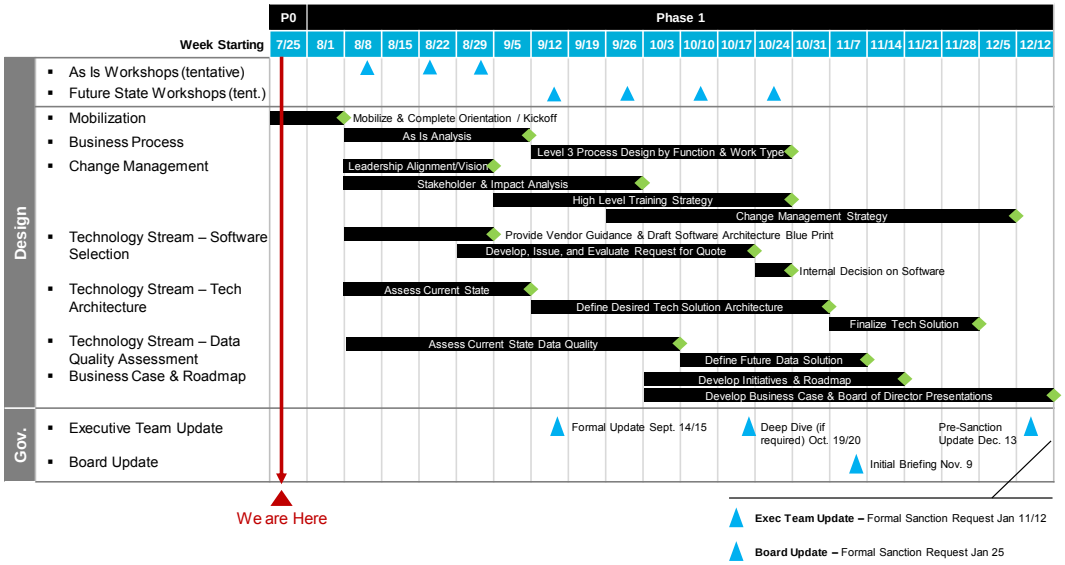
High level design and governance activities have been incorporated into the Integrated Program Plan



A full plan for all work streams can be found in the appendix

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Legend: Key Milestone Key Meetings Planned workstream

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The Gas Enablement pilot has successfully entered Phase 2 – Technology Demonstration

Phase 1 – Process Standardization - Complete

- 4 "Meter to Cash" processes standardized
  - Collections
  - Stopped Meter
  - Long Term Estimates
  - Advanced Consumption
- Process Sponsors and Leads Identified

Gas Enablement M2C Process Leads and Exec Spoonsor		
Process	Steering Group Executive Sponsor	Process Lead
Collectons	Doneen Hobbs	Dave Hillery
LTE	Tim Graham	Chris Gibb
Stopped Meters	Doneen Hobbs	Pam Ingersoll
Advanced Consumption	Sue Mais	Arlene Gans

Phase 2 – Technology Demonstration - Goals

- Demonstrate 2 newly developed "Standard" Processes (Collections & Stopped Meter) using Agile methods
- Sustain engagement with business community into GE phase I
- Expose the workforce to modern field force capabilities
- Trial highly engaged deployment practices
- Confirm guiding principles utilized during process standardization (i.e. Workflow Logic, Geo based Field Order Routing, Optimization of Field Order Selection…)
- Transfer learnings to larger Gas Business Enablement strategic assessment effort

Collections Pilots

- Long Island Pilot (Partner Vendor Salesforce)
  - Engagement with Bargaining Leaders Completed
  - Data Gathering and Agile development process underway
  - On track for demo to business early August
- Rhode Island Pilot
  - Program / Vendor meeting resulted in removing IBM from Pilot process as intended platform was not aligned with agile development process and live field use
  - Potential for deploying LI Pilot System in RI to demonstrate ability to deploy "standard" process across multiple jurisdictions (conference room pilot with RI data)

Stopped Meter Pilot

- Syracuse Pilot (Partner Vendor Oracle)
  - Initial meeting findings discovered some mis-alignment between proposed solution, and pilot goals and objectives
  - Revised method and potential data requirements currently in development.
  - Technical requirements & product fit being reviewed with business

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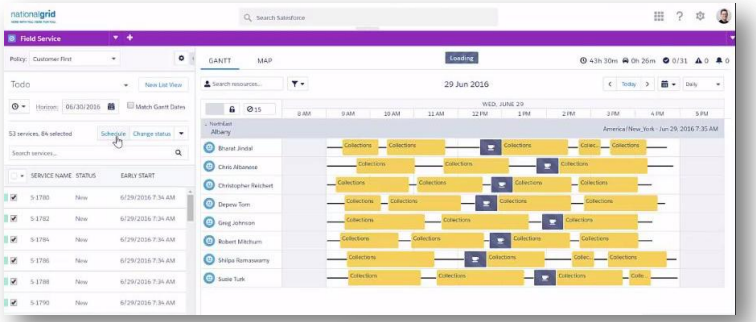
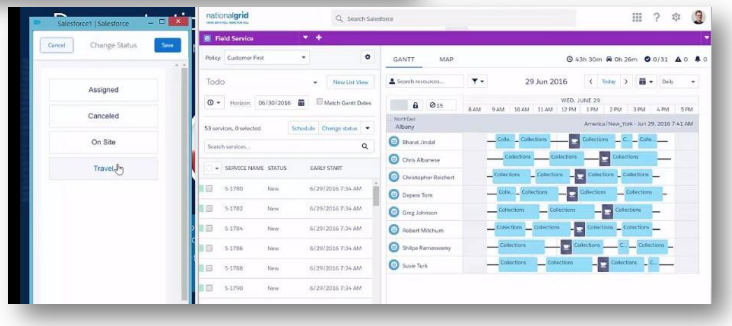
Screen shots of our collections pilot in the Salesforce.com application





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Sandy Jones, Accenture
Strategic Assessment, Engagement Partner

Sandy Jones is the North America Digital Field Worker Lead and a Managing Director for Accenture. In this leadership role Sandy is responsible for Accenture's projects in work/asset management, scheduling and mobility. Sandy has 25 years of experience working with gas transmission and distribution organizations and specializes in large scale program change with process re-engineering. Sandy led Accenture's Midstream Pipeline Market from 2013-2015 and is published in the Pipeline & Gas Journal.
Sandy received her M.B.A. in Business Strategy and Organizational Behavior from Rennselaer Polytechnic Institute and her B.S. in Industrial Distribution from Clarkson University.

Selected Relevant Experience

- Large Gas Pipeline and Gas Distribution Company—4 Year Transformation Program
  - Developed operating model design and corresponding organization structural design.
  - Generated business case with detailed cost estimates and benefits for a multi-faceted program of over 20 initiatives delivered within approved budget
  - Delivered key organizational changes across 2800 employees.
  - Deployed Maximo, Copperleaf, GIS Consolidation on ESRI and PragmaCad Scheduling and Mobile.

- Mid-sized Gas and Electric Utility—6 Year Program Leadership for:
  - Development of a service-oriented architecture and deployed governance model.
  - Deployment of a new Network Operations Center fitted with tools and dashboards integrated with Systems Operations Center.
  - Asset Management and Operations operating model design and organization restructuring including process ownership and improvement function.
  - Procurement category analysis to identify tangible operational savings.
  - Capital Projects management analysis and roadmap development.
  - Customer service system replacement (SAP CR&B) with integration to Meter Data Management, etc.

- Large Southeast Gas and Electric Utility—Operations Transformation Multi-Year Program
  - Business case development and detailed estimate of end to end Operations Technology program
  - Managed business process standardization and alignment through change management
  - Deployed Maximo for work management, asset management, and supply chain for gas and electric organizations
  - Operational performance management process and tool deployment.
  - Business case development with detailed cost estimates and benefits identification.

- North America Pipelines Market Lead—2 Year Leadership for:
  - Managed diverse portfolio of clients from the energy and utilities sector that span upstream, midstream and downstream sectors.
  - Assisted trade organizations with thought leadership development on intelligent pipeline management and asset data roadmap strategies.

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Chris Fynn, PWC
Business Assurance Engagement Partner

Office Location:
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Email:
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Background
Chris has 30 years of experience implementing value-driven programs in T&D (electric & gas), power generation, and nuclear, including multiple Maximo and SAP-enabled projects. He focuses on driving targeted outcomes from strategic asset management programs and is partner sponsor of PwC's ***leap for Utilities***, our leading practice process/content repository. He has spent the majority of his career focused on EAM/ERP, implementing leading practices and processes enabled by technology.

Certifications/professional designations
- BSc/BEng in Engineering, Manufacturing and Management, University of Manchester
- Graduate Diploma in Project Management, University of South Africa

Executed projects of similar size and scope
- Led a number of successful utility transformational EAM/ERP programs.
- Leads PwC's EAM practice, providing direct leadership and quality oversight of design, development, and execution of strategic asset management improvement programs based on developing leading core capabilities in asset operations management enabled by technology (asset management, work management, optimized work execution, performance management and supporting functions).
- Engagement partner for EAM programs at Laclede Gas, PG&E Gas operations, South Jersey Gas, Spectra Energy - Union Gas.

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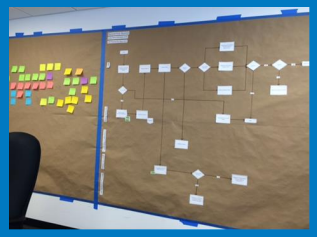
Gas Business Enablement

Steering Group Pack



Johnny Johnston

19 January 2017 @ 1200 EST, Res Woods Board Room

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Agenda

Topic	Time	Presenter
Opening Remarks Meeting Objectives Action Item Follow Up	5 min	JJ/KC
Executive Committee Materials	15 min	JJ
Regulatory Strategy Update	10 min	PV
Program Cost Reduction Options	10 min	JJ
Phase 2 Procurement Plan	10 min	NR
Program Update	5 min	KC
Meeting Close & Feedback	5 min	JJ

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Meeting Objectives

1. Obtain feedback on the draft deck and questions for the February Group Executive Committee
2. Update on regulatory strategy and discuss options to enhance recovery
3. Discuss options available to reduce program costs
4. Gain endorsement of our approach on procurement activities for the next phase

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Action Item Follow Up

	Action	Owner	Assigned	Due	Comment	Complete?
12	Provide a summary of actions taken / planned to address Business Assurance Partner observations	JJ	2 Dec	20 Dec	• Plan to be reviewed during 12/20 Steering Group meeting	Complete

For complete list see Appendix A

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Agenda

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Phase 2 Procurement Plan	10 min	NR
Program Update	5 min	KC
Meeting Close & Feedback	5 min	JJ

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Executive Committee Materials

- GBE has been asked to present at the February 16, Group Executive Committee
- Slides 7 – 30 in this pack are the draft story slides taking the feedback from the December Steering Group (Not planning on going through at Steering Group)
- We are currently drafting the Group Exec paper to answer the following questions:
  1. What is Gas Enablement and why is it needed now?
  2. What is your approach to the solution and are we doing anything unique?
  3. What is the investment, are there opportunities to reduce or defer it?
  4. What are the anticipated benefits and business case for this investment?
  5. What visibility/controls do we have to ensure the program does not go off track?
  6. What are the key risks to the program and how are you mitigating them?

Steering Group Discussion/Questions

- Any further feedback on the slide story, articulation and ask for Gas Business Enablement
- Do the questions above cover the key points or are there any other points that need to be answered?

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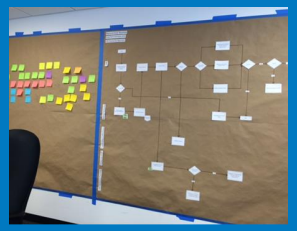
Gas Business Enablement Program

Draft Presentation to the Group Executive Committee



February 16, 2017

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The US Gas Business is facing significant challenges that are putting our future growth at risk

We hold an unsustainable level of operational risk

- 90% of our 'front office' **systems will have reached end of life within 2 years,** making it increasingly more challenging to maintain reliability of critical operational systems.
- **Aging, disparate, and duplicative systems** impede a 'single version of the truth' making it difficult to demonstrate compliance, manage performance, and lack the flexibility to address a changing regulatory & customer environment.
- **$40M in gas safety compliance penalties** received or in negotiation over the last 3 years, the majority of which could have been avoided with modern systems.
- **Gas safety compliance challenges** stem from not only systems gaps but also insufficient technical training and complicated work methods and procedures.

We need a step change in operational performance

- Our capital plan has tripled over recent years to $2B a year and our **systems and Op Model need to be updated** to secure delivery.
- We **lack standard processes, performance metrics, and tools** to clearly understand current performance, report consistently to our regulators and support future regulatory frameworks.
- Our **customer are expecting more** (e.g., proactiveness) and **~%50 prefer web & mobile interactions** which we currently can't deliver.
- We **lack the resource capacity** to deliver the growth in capital spend as well as **a standard platform** to drive inorganic growth.
- A **culture of "make due"** and **diffuse accountability** for operating performance is the norm.

Our market framework is changing dramatically

- Incidents resulting in significant cost to gas utilities are **increasing regulator scrutiny and requirements** (e.g., API1173).
- **Public sentiment** on gas is changing (e.g., environmental).
- **Competition and opportunities** from alternative energy sources continue to evolve and become economically viable.
- The **impact of digital on energy system** is transforming how utilities go to market and operate.

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The program is designed to deliver on three primary objectives to address these challenges

Objectives What we want to achieve?	Value Levers How we will achieve it?	Outcomes What we will accomplish
Reduce Risk	Compliance & Operational Risk	• *Improved prioritization of compliance work* • *Avoided gas safety / compliance fines* • *Greater availability of systems* • *Improved access to data* • *Simplified regulatory reporting*
	Capital Delivery	• *Increased capacity to deliver capital commitments* • *Improved estimating accuracy* • *Improved schedule adherence* • *Improved pre-requisite fulfilment (e.g., materials)* • *Reduced permit fines (e.g., summonses)*
Improve Business Performance	Customer Experience	• *360⁰ view of the customer* • *Improved commitments met* • *Reduced contact center costs* • *Avoided service quality penalties* • *Increased customer satisfaction*
	Productivity & Efficiency	• *Reduced overtime* • *Reduced travel time and non-productive time* • *Reduced repeat & unnecessary visits (e.g., meter # verifications)* • *Reduced jobs unable to complete / CGIs* • *Increased back office productivity*
Support Future Growth Options	Employee Enablement	• *Increased employee commitment* • *Improved technical training & skills* • *Focus on safety, performance, and outcomes* • *Clear accountability for performance and results*
	Agility	• *Flexible core systems* • *IS development operations / automated testing* • *Agile delivery capabilities*

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To meet these objectives, a holistic transformation program is required to modernize systems, standardize & align processes, and build the capabilities of our people

Gas Enablement Program Areas of Focus

Business Enablement

Refined operating model and organization structure, value framework, and performance-oriented culture

- *Implement value framework, refined scorecards, and performance constructs*
- *Develop robust change capabilities and embed culture of accountability*
- *Implement new organization and standardized roles and responsibilities aligned to support new operating model*

Asset Management

Single view of all assets / single "source of the truth" and increase the integrity of assets

- *Implement a modern, enterprise-wide GIS, investment planning, integrity management, and design systems / tools integrated with the work management system*
- *Develop robust, enterprise-wide investment planning / risk management capabilities*

Work Management

Single view of all work / ability to prioritize appropriately

- *Implement a modern, enterprise-wide work management system including scheduling and mobility platforms*
- *Develop robust planning / prioritization capabilities to ensure commitments are met / capital is delivered*
- *Deploy enterprise-wide standardized processes and roles*

Customer Engagement

Develop a 360^0 view of the customer

- *Implement a modern interaction platform with multi-channel, customer self-service options*
- *Access to real-time customer information and history*

Regulatory/ Compliance

Incorporate pipeline safety and compliance standards into all elements of the design

- *Develop robust technical training capability*
- *Simplify and align policies, procedures, work methods and training*
- *Comply with API 1173 – Pipeline Safety Management System (process safety)*

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To ensure the success of the program, we will leverage innovative approaches, modern delivery methods, and robust governance

Innovative release approaches *that segment the program into manageable scope elements.*

- Standardize processes and roles ahead of systems to reduce complexity
- Segment implementation by work type (e.g., Corrosion, I&R) to reduce risk & impact to the business & our customers
- Regionalize implementation leveraging RI as a "test bed concept" to demonstrate successful implementation and bundle proven capabilities for scale rollout to other jurisdictions to avoid regressing of capabilities

Modern delivery methods *to improve the likelihood of success and avoid stranding assets.*

- Agile development where appropriate, starting with and building out minimally viable products to reduce complexity and increase speed to value
- Cloud and software as a service (SaaS) solutions where possible to minimize the need to stand up and maintain expensive and complex infrastructure

Robust governance mechanisms *to ensure the program remains on track.*

- Critical success factors to measure and monitor progress
- Annual sanction process to provide optionality throughout program
- Formal stage gates to manage deployment risk to jurisdictions
- Focus on realizing value

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Four options were assessed, the value-oriented program that optimizes scope, value and risk is recommended

Option	Characteristics	Disposition
1 Tech Stabilization Only	• Focus on stabilizing current systems to reduce risk profile • Postpones required core work and asset platform replacement • No foundation for the future	• Not sufficient to deliver strategic ambition • Not further detailed analysis required
2 Backbone Only *FY18 Spend: $100M*	• Scope limited to what is required to mitigate key risks • Focused on replacing core work and asset platforms • Simplifies, reduces implementation and risk • Limited foundation for the future	• Focused on operational risk only • Not sufficient to deliver our broader strategic ambition • Represents a "fall back" option to option #3, with reduced value/benefits
3 Value Oriented *FY18 Spend: $134M*	• Backbone plus enhanced capabilities to meet objectives • Prioritized investment over 5 years to deliver value • Initial focus on risk reduction • Annual decisions points to create optionality • Addresses risk and desired business performance	• Addresses operational risk • Sufficient to deliver strategic ambition • Optimized scope, value, and risk • Recommended for approval
4 "Big Bang" Approach	• Comprehensive platform & capability scope in 3 years • Minimized deployment time creates delivery risk • Risk that desired performance improvements aren't achieved • Challenges our capability to deliver	• Although sufficient to deliver strategic ambition, approach not aligned with future direction (e.g., agile, reduce delivery risk, etc.) • Not further detailed analysis required

Options deemed not viable

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The value-oriented approach includes the required 'backbone' investment supplemented by enhanced and supporting capabilities

Backbone - $215M ($273 Including IS and Data investments)

$123M — Enterprise Asset Management
- Business Process Architecture
- Work Management & Field Enablement WMFE, Scheduling, & Mobility
- Integrity Management

$41M — Geospatial Information System
- GIS Platform Consolidation
- GIS Data Remediation, Upgrade & Mobility
- GIS-EAM Integration

$23M — Legacy Integration
- PowerPlan Remediation
- SAP / Legacy Integration

$28M — Program Management
- GBE Portfolio Management Office
- Solution Architecture
- Agile Methodology

Enhanced Capabilities- $167M ($193M including Tech Training Investments

$33M — Strategic Change, Talent, & Operating Model
- Operating Model & Value Framework
- Business Readiness & Sustainment
- Program People Strategy

$55M — Customer Experience & Interaction
- Customer & Employee Interaction
- CxT Portal & Channel Management
- CRM Contact Center Front End
- Voice of the Customer, Channel Analytics

$27M — Advanced Asset Management
- Asset Investment Planning & Management
- Advanced Asset Analytics
- Graphic Work Design

$16M — Advanced EAM Platform
- Capital Projects & Program Management
- WMFE Optimization
- Work Forecasting & Planning

$11M — Supply Chain
- Integrated Supply/ Demand Planning
- Inventory Optimization
- Warehouse and Network Optimization

$25M — Legacy Integration & Program Management

Supporting - $84M

$21M — IS Enabling
- Development Operations
- Testing Automation

$37M — Data Management
- Data Quality & Cleansing

$26M — Field Technical Training
- Technical Training Refresh

Size indicates relative cost of initiatives / initiative groupings

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This program will deliver the backbone over three years, prioritized to reduce operational risk and deliver enhanced capabilities over five years

	FY2018	FY2019	FY2020	FY2021	FY2022
Work Types Delivered	RI • Corrosion • I&R Work → Other OpCo's	RI • Customer • Leak survey • Leak investigation → Other OpCo's	RI • Construction • Leak Repair → Other OpCo's		
Capabilities Delivered *Backbone*	• EAM Integration with SAP & Corrosion System • Scheduling & Dispatch w/Spatial Crew Visibility • Basic Field Data Capture • Field Visibility to Maps • Standard GIS Data Model / Improved Data Quality	• Field Visibility to Customer Payment History • Field Acceptance of Credit Card Payments[1] • Field Printing Capability • Call Center Visibility to Collections Status	• Standardized CU Library • Customer Appt. Booking • Contractor Mobility • Mobile Time Tracking • Field Asset Correction and Geolocation • Optimized Routing		
Enhanced Capabilities	• Design & Implemented Operating Model • Defined Value Framework & Value Realization Approach	• Asset Investment Scenario Planning • Leadership Development Capability	• GWD and CU Estimating • 360° View of the Customer • Field Crew Customer Interaction Portal • Customer Self Service • Future State Organization and Sustainment	• Projects and Program Management Platform • Complex Design Tools • Auto Work Notifications • Supervisor Mobile Platform • Field Mobile Red Lining & GIS Mobile Mapping	• PM Platform Integration with GIS, EAM, and Asset Accounting • Design and Estimating Stabilization & Sustainment • Spatial Asset Risk Visibility • Overall Program Sustainment Capability
Operational Risk / Technology Portfolio [2]	5300 → 5250 # of Users on Core Legacy Technology	5000	4550 → 2200	***Off Legacy Work Management, GIS, & Mobility Platforms*** 2000	

[1] *Pending Regulatory Approval*
[2] Legacy backbone applications estimated to go from 42 out of 117 total applications currently to 6 out of 22 post implementation

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This program delivers a broad range of benefits to address the challenges of today while positioning the Gas Business for the future

	Stabilize the Core	Step Change in Core	Grow our Core	Future Proof our Business
Program Investment Scope	🔵	🟢	🔵🟢	🔵🟢
Benefits	• Reduced technical & operational risk • Improved pipeline safety & compliance • Greater availability / reliability of systems • Improved access to information • Simplified regulatory reporting	• Enhanced safety performance • Enhanced pipeline safety & compliance (e.g. eliminating fines) • Improved regulatory relationships • Enhanced efficiency • Improved customer experience and satisfaction • Improved employee technical training & skills • Performance-oriented culture	• Deliver future capital growth • Support new customer acquisitions and conversions • Merger and acquisition platform	• Flexible core systems • IS development operations • Automated testing • Agile development capabilities • Data management capabilities • Advanced work and asset analytics capabilities • Customer engagement platform • Platform for electric

🔵 Backbone Investments

🟢 Performance Investments

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The investment in enhanced capabilities necessary to enable a step change in the core will create significant benefit opportunities

Enhanced Capabilities	Value Drivers	Example Metrics [1]	Aspirational Ann. Benefit (Ms)
Strategic Change, Talent, & Operating Model	• Process efficiency • Improved performance mgmt. • Performance culture	• Supervisor time in the field • Quality of coaching conversations	N/A[2]
Customer Experience & Interactions	• Self-service • New service growth • Increased customer satisfaction	• Services initiated via self-service • Move requests completed via self-service • Status updates received via self-service • Service quality penalties • Contact center call volume • Average time per contact center call	$2.4
Asset Management	• Reduced material spend • Reduced opex spend reduction • Capex effectiveness	• Estimating accuracy • Mapping cycle time • Opex spend • Risk reduced / $ spent	$4.1
EAM / Work Management Platform	• Appointments met / kept • Increase Supervisor time in field • Route optimization • Reduced overtime • Reduced contractor spend • Back office productivity • Improved operational data	• Unable to complete rate • Schedule adherence • Jobs scheduled / dispatched automatically • # / rate of jobs bundled • Travel time • Available / idle time • Pre-requisite fulfillment rate • Summonses / other penalties	$16.7
Supply Chain	• Reduced capex project delays • Reduced material spend • Reduced inventory carrying costs	• Material stock-outs • Rate of jobs requiring expedite • Inventory turnover • Inventory carrying cost	N/A
Field Technical Training	• Reduced compliance violations • Reduced compliance penalties	• # / type compliance violations • Penalties incurred	$13.5
			$36.7

[1] Performance metrics to be defined as part of value framework in Q1 2017
[2] Capabilities Increase likelihood of program success and enhance the probability of delivering program benefits.

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INTERNAL DRAFT ONLY – ANALYSIS ON-GOING

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Regulatory recovery is the core funding mechanism; strategy being developed to minimize regulatory lag

The investments identified in GBE are investments to support core delivery for our customers and so would be traditionally funded by customers through rate agreements. There are a number of issues that make 100% funding a challenge for GBE:

- GBE is currently not in any rate cases so 2017 Opex would not be recoverable
- The next KEDNY/LI rate year is 2020 and so any Opex or depreciation expense before then will be a challenge to recover
- Massachusetts only has backward looking rate cases which will make Opex recovery beyond the test year challenging to recover

4 options main options are being assessed identify optimal recovery strategy:

1. Traditional Recovery
   - High probability of delivery
   - Anticipated recovery: ~75% total costs

2. Program Delay/Slow Down – better aligns costs with future rate cases
   - High probability of delivery
   - Business impact due to being on failing legacy systems for longer
   - Anticipated recovery: ~80+% total costs

3. Enhanced Regulatory Recovery (secure forward looking MA rate case & incremental recovery for KEDNY/LI)
   - Low probability of delivery
   - Anticipated recovery: ~90+% total costs

4. Bankers Lease financing – fund program costs through a bankers lease arrangement – allowing better alignment of lease repayments to rate cases
   - High probability of delivery
   - Anticipated recovery: ~90+% total costs
   - Any under recovery better aligns to when broader benefits are being delivered

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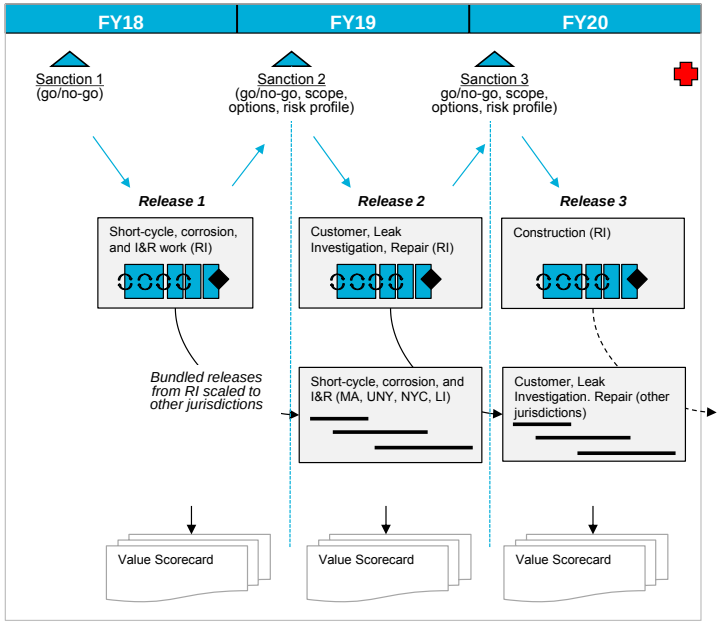
Governance mechanisms and deployment approaches provide optionality to adjust scope and funding over time

Governance Mechanisms

- Annual sanctioning with scope decisions provides options to course correct
- Formal stage gates manage deployment risk to jurisdictions
  - *Using Rhode Island as test bed allows for validation of performance as input into stage gate decisions*
  - *Agile deployment delivering minimal viable products allows for proof of concept as input into stage gate decisions*
- Performance framework defines measurable results of releases and waves
  - *Using value scorecards allows for value to be achieved as input into stage gate / sanctioning decisions*



Stage gate | Sanction Decision | Agile Deployment | Regional Deployments | Landing point

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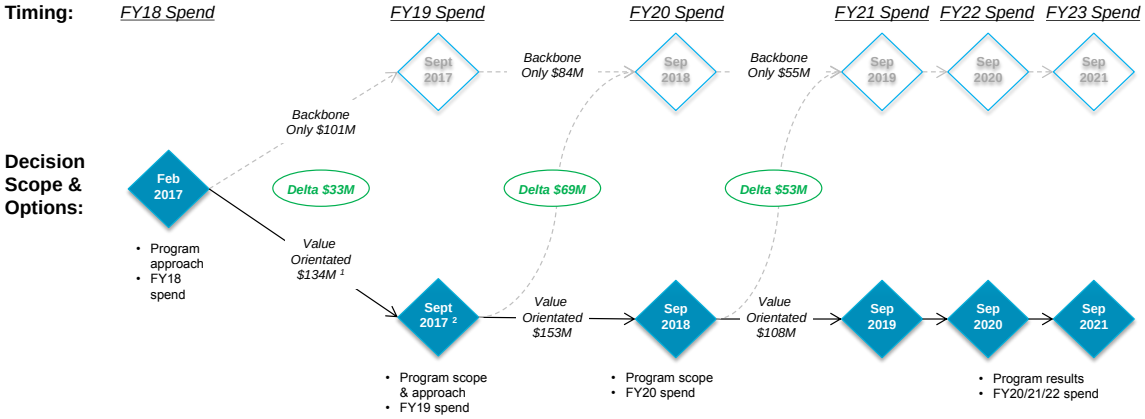
Annual sanctions give clear visibility to incremental investment decisions beyond the backbone

The key decision now involves an incremental $33M to support the value-oriented option, pending further clarification of initial results and commercial approach.



Decision Inputs:				
	• Strategic Assessment • Regulatory Strategy • Confidence in team	• Positive NiMo, MA Gas, & RI rate case feedback • Successful commercial contracting & program mobilization	• Successful rate cases • Enterprise rollout of Corrosion, I&R, and Collections • implementation of CMS in RI	• Enterprise rollout of CMS • Implementation of Construction in RI • Enterprise rollout of Construction

[1] See appendix for first year breakdown
[2] Due to program start up timing, opportunity for further checkpoint March 2018 with further inputs on rate case and updates on program delivery

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Program risks will be actively monitored and mitigation plans developed and executed

Risk	Definition	Mitigations
Business disruption	The program causes performance of the business to be reduced because of disruptions to operations	▪ Disciplined release planning anticipates complications ▪ Change Office reinforces disciplined role and change planning
Market context	Capabilities delivered lose relevance because of dramatic changes in market and or regulatory environment	▪ Waves revisits context of each investment ▪ Agile approaches improve relevance of solution approach
Change in strategic priorities	Business priorities change over time and reduce priority for further program investments	▪ Sanction schedule provides for regular investments ▪ Input from US leadership and Group Executive ▪ Ongoing input from GBE steering group
Sustainment of performance and value	Program fails to realize sustainable improvement in the performance of the business	▪ Value framework identifies specific performance parameters for every initiative ▪ Operating Model strengthens accountability framework for the business
Capacity for change	Organizational inertia and culture prevents program from achieving required pace of change	▪ Change office and ongoing organizational health metrics to diagnose organizational state ▪ GBE manages change portfolio for gas business
Scope creep	Scope and cost of program increases because of failure to stay focused on objectives	▪ Value framework helps manage scope/value tradeoffs ▪ Agile approaches help identify most relevant solutions ▪ Sanctioning waves allow total costs to be reevaluated
Data quality	Cost and complexity of data conversion and cleansing is much greater than anticipated	▪ Data discovery allows bottom up profiling of data and data quality
Resources / Capabilities	Business is unable to provide adequate resources and delivery capabilities to successfully manage the program	▪ Resource plan has manageable rampup ▪ Robust commercial process to find partners with desired capability at the right price

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The Group Executive Committee are asked to:

1. Approval

- Approve a budget of $134M (+$16M contingency) for FY18 to start the Value Oriented Roadmap and proposed regulatory recovery strategy
- Note that the program will be asking for approval for FY19 in September 2018 and that there will be a three-year funding commitment to complete the backbone

2. Gas Business Enablement Roadmap

- Endorse the proposed Value Orientated Gas Business Enablement roadmap and business case. Noting that this is a risk-prioritized asset replacement program costing $466M ($527M including contingency) over 5 years made up of $277M to replace the backbone systems and $189M for enhanced capabilities. Note the aspirational annual benefits of $36M a year.

3. Sanctioning Approach

- Endorse the proposed sanctioning approach of annual requests for funding to ensure the program is being appropriately delivered and prioritized to continue to meet business, regulatory, and customer requirements

4. Governance

- Delegate Authority to the GBE Steering Group (Dean Seavers, Rich Adduci, Peggy Smyth, Vivienne Bracken, John Bruckner, Keith Hutchinson & Lorraine Lynch) to continue oversight of the GBE program

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Appendix

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Key initiatives

Workstreams	Initiatives					
GBE Portfolio Office						
Business Enablement	Program Level People Strategy	Operating Model & Value Framework	Program Business Readiness & Sustainment	Leadership Capability		
Work Management	Process Architecture	Work Management and Field Enablement	Work Management Analytics	Projects & Program Management		
Asset Management	Engineering, Design, Estimating & Mobility	Asset Investment Planning and Management	Integrity Management	Asset - Advanced Analytics		
Regulatory/ Compliance	Standards Operating Procedure Documentation	Document Management	Technical Training			
Customer Engagement	Customer Interaction	Customer Employee Journey	CRM / Contact Center	Channel Analytics		
Data Management	Data Management	Data Quality & Cleansing	Remediation & Integration			
Supply Chain	SC Process Architecture	Integrated Supply & Demand Planning	Capability Building	SC Master Data Improvements	Inventory Optimization	Warehouse & Network Optimization
Information Systems Enabling						

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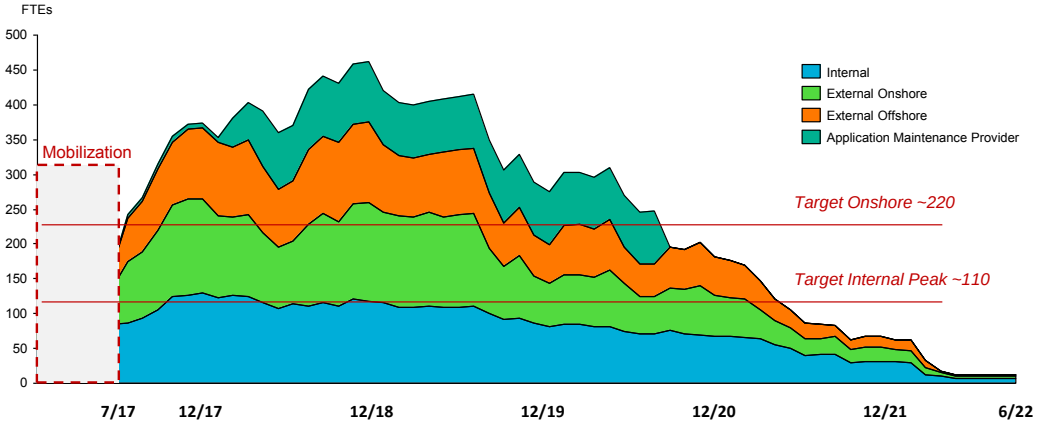
Resource plan

Resource Map by Month[1]



Internal Resource Requirements

	% of Total	Target on 9/2017	Current on 12/2016
Business	45%	50	24
IS	36%	40	9
PM	19%	20	7
Total	**100%**	**110**	**40**

[1]*Source: GBE Master Resource Plan V17 12/14/16*

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Total investment breakdown: $446M (Capex $251M, Opex $215M), $527M including contingency

Initiative Category	Backbone $Ms	Performance $Ms	Supporting Investments $Ms	Total Cost $Ms [1, 2]	% of Total Investment
Advanced Asset Management		$27		$27	6%
Advanced EAM Platform		$16		$16	3%
Core EAM Platform	$123			$123	26%
Customer Experience & Interactions		$55		$55	12%
Data Management			$37	$37	8%
Field Technical Training			$26	$26	6%
GIS	$41			$41	9%
IS Enabling			$21	$21	5%
Legacy Integration	$23	$11		$34	7%
Program Management	$28	$15		$43	9%
Strategic Change, Talent, & Operating Model		$33		$33	7%
Supply Chain		$11		$11	2%
Total before Contingency	**$215**	**$167**	**$84**	**$466**	
% of Total	46%	36%	18%		
Contingency				$61	
Total				**$527**	

[1] Costs include expenses (17% external, onshore labor cost; 10% internal labor costs); cost includes HW/SW)
[2] Average Daily Rates: NG - $845; External - $1,001 (External Onshore - $1,711; External Offshore - $326)
[3] Contingency equals 20% applied to labor cost only; not applied to support (RTB) costs

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Year one investment breakdown: $134M (Capex $77M, Opex $57M), $149M including contingency

Initiative Category	Backbone $Ms	Performance $Ms	Supporting Investments $Ms	First Year Cost $Ms [1, 2]
Advanced Asset Management		$2.6		$2.6
Advanced EAM Platform		$0.2		$0.2
Core EAM Platform	$44.5			$44.5
Customer Experience & Interactions		$2.1		$2.1
Data Management			$13.2	$13.2
Field Technical Training			$3.2	$3.2
GIS	$15.6			$15.6
IS Enabling			$7.5	$7.5
Legacy Integration	$11.7	$6.6		$18.3
Program Management	$7.9	$4.2		$12.1
Strategic Change, Talent, & Operating Model		$11.3		$11.3
Supply Chain		$3.1		$3.1
Total before Contingency	**$79.7**	**$30.1**	**$23.9**	**$133.7**
% of First Year Cost	60%	23%	18%	
Contingency				$15.7
Total				**$149.4**

[1] Costs include expenses (17% external, onshore labor cost; 10% internal labor costs); cost includes HW/SW)
[2] Average Daily Rates: NG - $845; External - $1,001 (External Onshore - $1,711; External Offshore - $326)
[3] Contingency equals 20% applied to labor cost only; not applied to support (RTB) costs

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Investment by OpCo by FY by CapEx and Opex

CapEx Allocated to OpCo's by FY

OpCo	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	Total
Boston Gas	($17,800)	($18,216)	($14,750)	($6,343)	($1,411)	($54)	($58,574)
Brooklyn Union Gas (KEDNY)	($23,005)	($23,542)	($19,063)	($8,198)	($1,823)	($70)	($75,701)
Colonial Gas	($3,982)	($4,075)	($3,300)	($1,419)	($316)	($12)	($13,103)
Keyspan Gas East (KEDLI)	($16,470)	($16,855)	($13,648)	($5,869)	($1,305)	($50)	($54,198)
Narragansett Gas	($5,663)	($5,796)	($4,693)	($2,018)	($449)	($17)	($18,636)
NiagaraMohawk Gas	($9,508)	($9,730)	($7,879)	($3,388)	($754)	($29)	($31,286)
Total CapEx	**($76,427)**	**($78,212)**	**($63,334)**	**($27,235)**	**($6,058)**	**($234)**	**($251,499)**

Opex Allocated to OpCo's by FY

OpCo	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	Total
Boston Gas	($13,336)	($17,471)	($10,334)	($6,241)	($2,417)	($189)	($49,989)
Brooklyn Union Gas (KEDNY)	($17,236)	($22,580)	($13,356)	($8,065)	($3,124)	($245)	($64,606)
Colonial Gas	($2,983)	($3,908)	($2,312)	($1,396)	($541)	($42)	($11,183)
Keyspan Gas East (KEDLI)	($12,340)	($16,166)	($9,562)	($5,774)	($2,237)	($175)	($46,254)
Narragansett Gas	($4,243)	($5,559)	($3,288)	($1,985)	($769)	($60)	($15,905)
NiagaraMohawk Gas	($7,123)	($9,332)	($5,520)	($3,333)	($1,291)	($101)	($26,701)
Total Opex	**($57,262)**	**($75,015)**	**($44,373)**	**($26,795)**	**($10,380)**	**($813)**	**($214,637)**

Total CapEx and Opex Allocated to OpCo's by FY

OpCo	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	Total
Boston Gas	($31,136)	($35,687)	($25,085)	($12,584)	($3,828)	($244)	($108,563)
Brooklyn Union Gas (KEDNY)	($40,240)	($46,121)	($32,420)	($16,263)	($4,948)	($315)	($140,307)
Colonial Gas	($6,965)	($7,983)	($5,612)	($2,815)	($856)	($55)	($24,286)
Keyspan Gas East (KEDLI)	($28,810)	($33,020)	($23,211)	($11,643)	($3,542)	($226)	($100,452)
Narragansett Gas	($9,906)	($11,354)	($7,981)	($4,004)	($1,218)	($78)	($34,541)
NiagaraMohawk Gas	($16,631)	($19,061)	($13,399)	($6,721)	($2,045)	($130)	($57,987)
Total	**($133,689)**	**($153,227)**	**($107,706)**	**($54,030)**	**($16,437)**	**($1,047)**	**($466,136)**

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Aspirational Annual Benefits by Category by Capex / Opex and by Type[1]

Area		Threshold Benefit	Target Benefit	Stretch Benefit
Customer Experience & Interactions	**Total**	**$2.4**	**$3.0**	**$3.9**
	CapEx:	$0.0	$0.0	$0.0
	Opex:	$2.4	$3.0	$3.9
	Type 1:	$0.9	$0.9	$0.9
	Type 2:	$1.5	$2.1	$3.0
Asset Management	**Total**	**$4.1**	**$8.6**	**$12.6**
	CapEx:	$0.9	$5.0	$7.2
	Opex:	$3.2	$3.6	$5.4
	Type 1:	$2.0	$4.4	$6.6
	Type 2:	$2.1	$4.2	$6.0
EAM / Work Management Platform	**Total**	**$16.7**	**$31.7**	**$63.0**
	CapEx:	$7.3	$14.0	$32.5
	Opex:	$9.4	$17.7	$30.5
	Type 1:	$2.0	$2.0	$14.2
	Type 2:	$14.7	$29.7	$48.8
Supply Chain	**Total**	**$0.0**	**$16.0**	**$38.4**
	CapEx:	$0.0	$13.1	$33.1
	Opex:	$0.0	$3.0	$5.3
	Type 1:	$0.0	$0.0	$0.0
	Type 2:	$0.0	$16.0	$38.4
Field Technical Training	**Total**	**$13.5**	**$13.5**	**$13.5**
	CapEx:	$0.0	$0.0	$0.0
	Opex:	$13.5	$13.5	$13.5
	Type 1:	$0.0	$0.0	$0.0
	Type 2:	$13.5	$13.5	$13.5
Totals	**Total**	**$36.7**	**$72.8**	**$131.4**
	CapEx:	**$8.2**	**$32.1**	**$72.8**
	Opex:	**$28.5**	**$40.8**	**$58.6**
	Type 1:	**$4.9**	**$7.3**	**$21.7**
	Type 2:	**$31.8**	**$65.5**	**$109.7**

[1] Type 1 benefits have a direct and certain impact on the bottom line and a clear cause and effect relationship between the project and benefit; direct P&L impact
Type 2 benefits do not have a direct and immediate bottom line impact; they consist of expenses re-assigned, resources freed up, or future cost avoidance

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Example customer experience benefits

Turn On

I could book a convenient appointment online. I could track progress online and I got a txt when service technician was on their way

Customer Inquiry

I was concerned when I saw an NG vehicle on my street. I rang them and they explained what was happening and put me at ease.

Appointment Change

I needed to move my appointment for service. I use the mobile app and made the change in a minute.

Request for Service

I made my request for service online and they kept me updated as it progressed.

Move

Our move was completed as scheduled. We were notified when the service activated

Safety Inspection

National Grid txted me to inform me they needed to inspect my equipment. I clicked on the link and could book an appointment that was convenient for me.

Service Appointment

I scheduled my appointment online and got a txt message to confirm their arrival

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Example employee experience benefits

Supervisor Support

I can video chat with my supervisor while onsite when I have an issue I can't resolve

Procedures

I can easily access the procedures for the work I am doing

Performance Visibility

I have visibility into how I'm performing as jobs are completed

Training

My instructor and video based training is interactive and engaging on my mobile device

Work Scheduling

I can see my schedule for the day in advance and my routes are easy to follow

Enhanced safety

I can take photos of any abnormal conditions I find to share with my supervisor

Less Paper

I can capture the required information on my device and can even print our warning tags with my mobile printer saving time and improving accuracy

Timesheet Completion

My work auto populates my timesheet and my supervisor can quickly and easily approve

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Agenda

Topic	Time	Presenter
Opening Remarks Meeting Objectives Action Item Follow Up	5 min	JJ/KC
Executive Committee Materials	15 min	JJ
Regulatory Strategy Update	10 min	PV
Program Cost Reduction Options	10 min	JJ
Phase 2 Procurement Plan	10 min	NR
Program Update	5 min	KC
Meeting Close & Feedback	5 min	JJ

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Regulatory Strategy Update

- Materials to be provided at the meeting

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Agenda

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Program Update	5 min	KC
Meeting Close & Feedback	5 min	JJ

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Through the SOF calls there has been an ask for GBE to reduce its FY18 opex

The current opex forecast for FY18 is $57M. The following high level opportunities have been identified:

1. Relook at accounting splits to see if more opex can be turned to capex
2. Leverage procurement process to reduce costs
3. De-scope functionality – reduce costs and associated benefits
4. De-scope geography – e.g. remove KEDNY/LI until next rate case
5. Slow program down to desired cost - more costs likely to be in rate cases, slower delivery
6. Alternative financing – e.g. bankers lease

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Agenda

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Program Cost Reduction Options	10 min	JJ
Phase 2 Procurement Plan	10 min	NR
Program Update	5 min	KC
Meeting Close & Feedback	5 min	JJ

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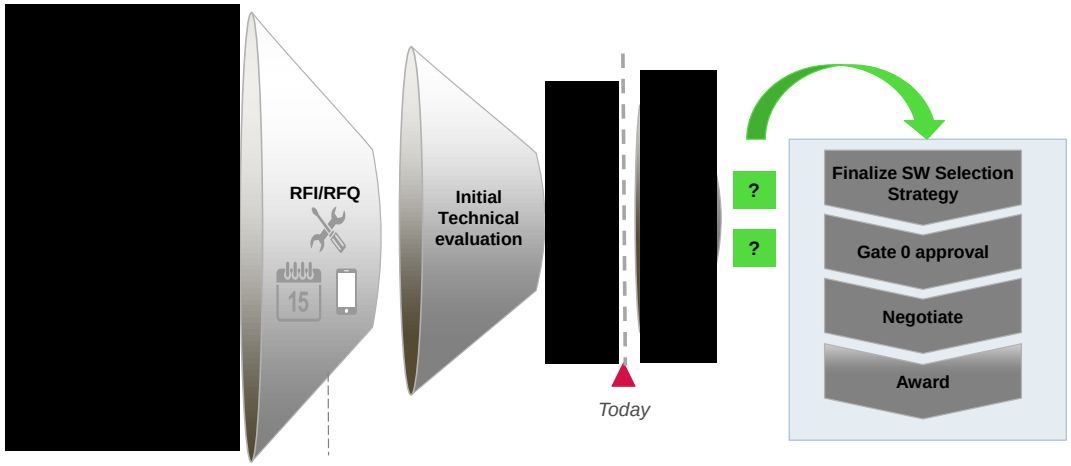
The software selection process presented on 2 December remains on track

Software selection for EAM, Mobility and Resource Management



- *Issued request for information (RFI) to obtain technical solution capabilities / software alignment and fit.*
- *Indicative Pricing (RFQ) also received to formulate business case*

[redacted]

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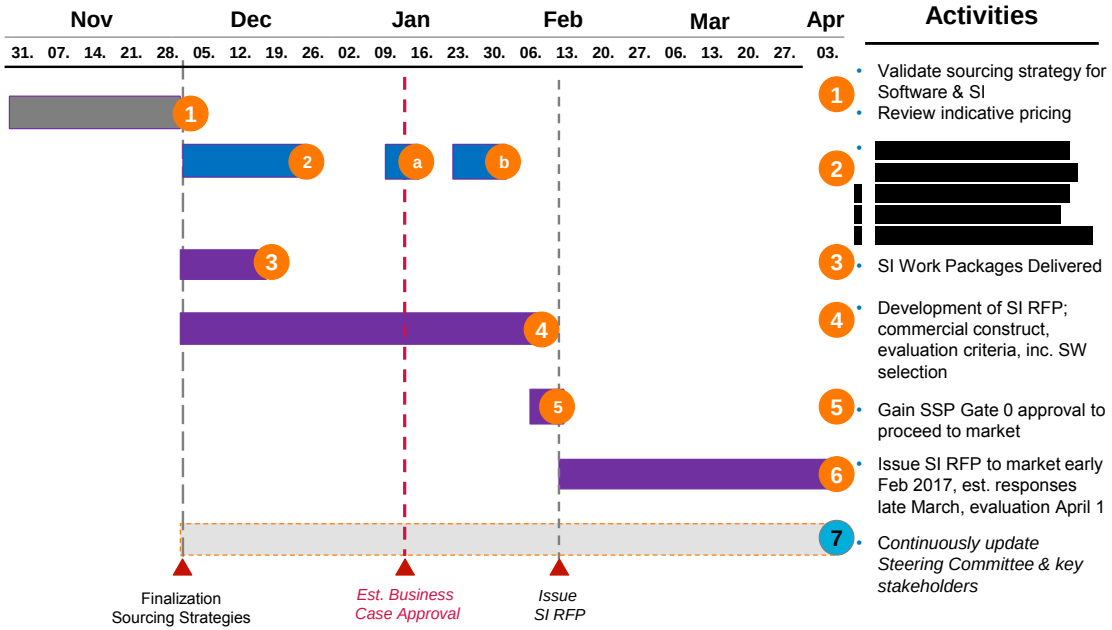
The procurement schedule developed in Nov 2016 was aggressive and assumed an early January sanction



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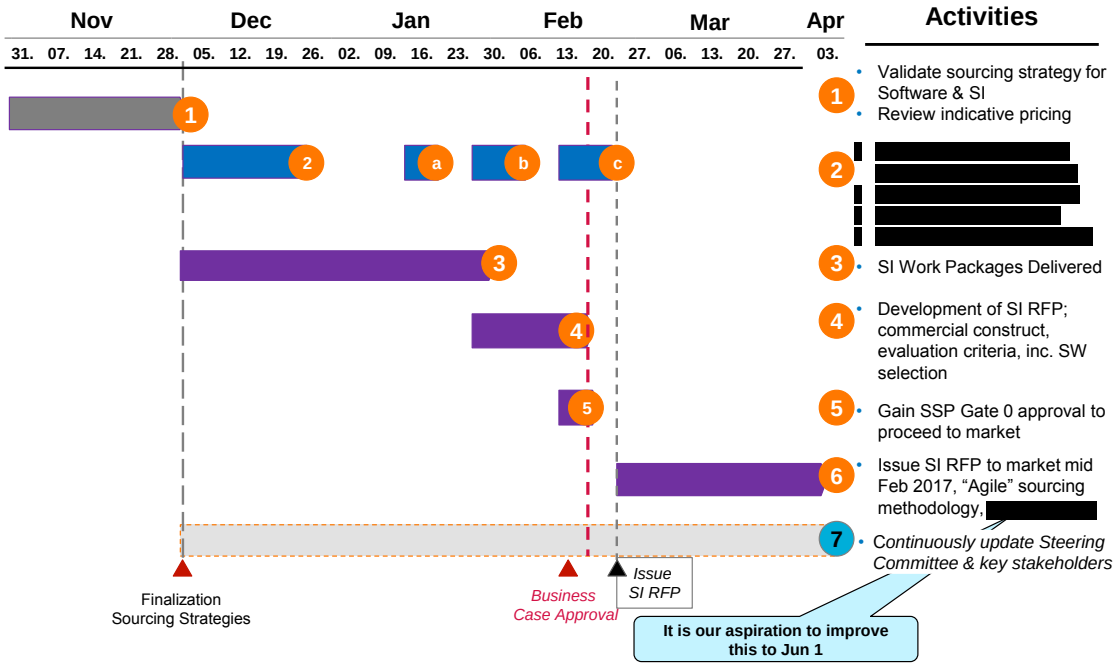
This schedule has been updated to reflect a mid February sanction and further analysis of the complexities involved



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3 Procurement options were considered to identify the SI partner(s) for the next phase:

A	[redacted]	[redacted]
	Risks/Challenges: [redacted]	Benefits: [redacted]
B	[redacted]	[redacted]
	Risks/Challenges: [redacted]	Benefits: 1 [redacted]

[redacted]

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3 Procurement options were considered to identify the SI partner(s) for the next phase:

C	[redacted]	[redacted]
	Risks/challenges: • [redacted]	Benefits: [redacted]

[redacted]

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Recommendation and next steps:

Recommendation:

- [redacted] as it best addresses the priorities of:
  - Getting a competitive price for delivery – good for NG, customers and regulatory recovery
  - Providing flexibility to best structure the contract around a complex program with many moving parts
  - Enables an efficient and effective transition to Phase 2

Next steps:

- [redacted] During this phase it will be identified what resourcing and any incremental support that may be needed through the process
- [redacted]
- Engage external legal support, to support negotiations and contracting
- Return to Steering Group with plan prior to releasing the RFPs in late February

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Agenda

Topic	Time	Presenter
Opening Remarks Meeting Objectives Action Item Follow Up	5 min	JJ/KC
Executive Committee Materials	20 min	JJ
Regulatory Strategy Update	15 min	PV
Phase 2 Procurement Plan	10 min	NR
Program Update	5 min	KC
Meeting Close & Feedback	5 min	JJ

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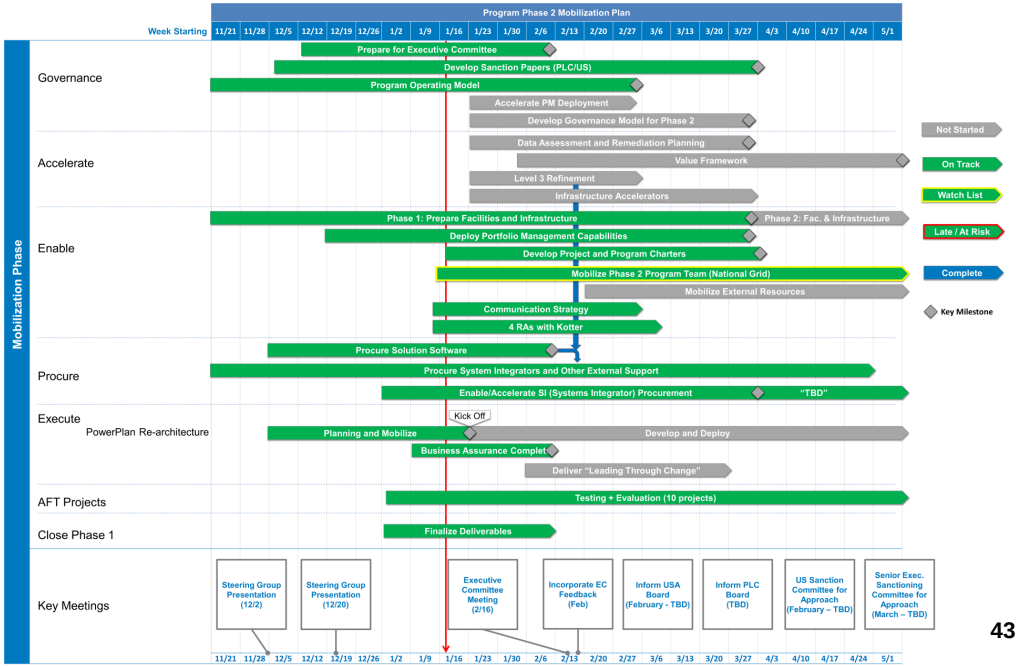
The Program has begun preparation for Phase 2 mobilization



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Gas Enablement Program Status

Scope Status And Impacts

1) Scope Status:
   - For Q4, there are no planned changes. Phase 2 is dependent on PLC approvals
2) Approved changes since last update:
   - Q4 Accelerators (by Steering Group)
3) Next Scope "Inflection Point":
   - PLC Executive Committee guidance on February 16
4) Delivery Approach:
   - The high level Program delivery approach has been defined. Agile methodology training is being planned for end of January
5) Customization KPI: To be developed in Phase 2 Mobilization

Schedule Highlights

1) Key Milestones and Deliverables:
   - We are establishing detailed milestones and deliverables for Q4 mobilization
   - All remaining Phase 1 deliverable finalizations (including Business Assurance Partner reports) will complete before 10 Feb
2) Activities completed
   - Approval for Q4 activities and contingency funds released
3) Upcoming activities:
   - Complete preparation of Executive Committee and Sanction Papers
   - Complete Phase 2 *detailed* mobilization planning
   - Build Project Management Framework and FY18 detailed plan
   - Prepare detailed procurement plans for phase 2 Systems Integration
4) Overall Schedule Status: Tracking to plan

Resources

Staffing	Plan	Actual	In-progress	Trend
Wave 1/2/3	71	45	22	

Finance / Budget Activity	Status	Trend
Program Budget Submitted		
Forecasted spend (against targets)		
Financial Reporting		

1) Recruitment progress is slower than planned. Current planned work is not compromised, however, additional recruiting effort will be pushed into Phase 2 mobilization
2) Forecast Spend –
   - Program is sustaining a positive variance and anticipated spend will be below expectation
   - Final Compliance spend is yet to be confirmed; the impact of which will likely be an increase in the positive variance
3) Financial Reporting – producing monthly reporting on actual, budget, and forecast

Risk

Top Three Risks (Phase 2)

Risk	Prob.	Impact	Mitigation Status
Timely funding of Phase 2n (delays in work start)	Med	Very High	Plan under development
Timely completion of Phase 2 Mobilization (delays in work start)	Med	High	Plan under development
Delays in SI Procurement process will delay start of critical Phase 2 projects	Med	Very High	Plan under development

1) Initialized collaboration between Enterprise and Program risk management in January
2) Program risk review for mobilization and Phase 2 being planned for end of January

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Meeting close

- AOB
- New Action Item Summary
- Leadership Pulse Check and Closing Remarks

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Appendix

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Steering Group Action Item List (complete)

	Action	Owner	Assigned	Due	Comment	Complete?
1	Ensure that Enablement is added to the QPR agenda	PS	10 Mar 16	1 Apr 16		Yes
2	To provide visibility of the expect impact of Gas Business enablement on the ability to run the business due to a potential talent drain.	JJ	10 Mar 16	1 May 16	Phase 1 key roles have been filled with Business Leadership engagement and support. Subsequent staffing requirements will be reviewed regularly with the Design Authority	Aug 16
3	To identify the appropriate approach to ensure that the SG has visibility to the level of customization being undertaken by the project.	JJ	10 Mar 16	1 Oct 16	Phase 1: • Formalize the design principle to minimize, customizations • Provide a view of where customizations might be required in Phase 2 based on what we know. Phase 2: • All customizations will be approved by Chris Murphy and Johnny Johnston and formally reported to the Steering Group.	Oct 24
4	To share the rate case strategy and ensure that any appropriate costs are included in the MA Gas rate case.	JJ	10 Mar 16	1 Jul 16	Action Plan: 1) Engaging with NY rate case team 2) Coordinating with MA to include GE costs in the MA Gas case 3) Will work with Finance to deploy effective tools and processes to capture and report rate case data 4) Insure GE business case is rate case enabling	Aug 16

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Action Items - continued

	Action	Owner	Assigned	Due	Comment	Complete?
5	Advise SG on PowerPlan solution options impacting the Program	JJ	5 May 16	Nov 16	GE, in partnership with Finance, to sponsor study to identify plan, timings and costs to re-architect the integration of SAP / PowerPlan / Front Office	Oct 24
6	Review GBE Scope with Finance Remediation	KH	5 May 16	June 16	Rescheduled by Fin – working with RQ for new date	Sept 14
7	Add controls development to design phase success criteria	KH	5 May 16	June 16		Yes
8	Update the SG on proposal detail and procurement process status and selection criteria	JJ	5 May 16	June 16		Yes
9	Align CWIP and GE programs and incorporate into GE program risk matrix as appropriate	KC	24 June 16	Aug 16	Complete	Yes
10	Invite Internal Assurance to participate in vendor oral presentations and proposal review	KC	24 June 16	July 16	Complete – Input received	Yes
11	Provide a follow-up on staffing progress and plans	JJ	1 Aug 16	23 Aug 16	Complete	Aug 23
12	Provide a summary of actions taken / planned to address Business Assurance Partner observations	JJ	2 Dec	20 Dec	Plan to be reviewed during 12/20 Steering Group meeting	Pending

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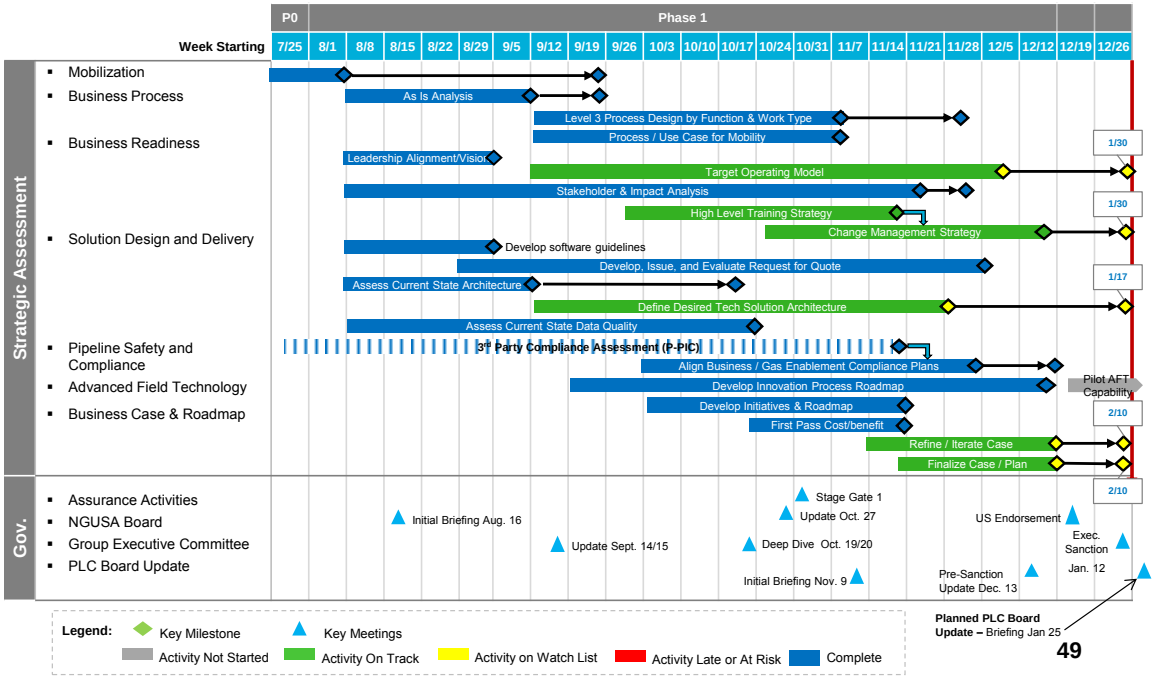
Phase 1 Deliverables



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Phase 2 Mobilization Project Details

Name	Description	Timeframe
Program Operating Model	Develop program operating model	Nov. 22 – Feb. 28
Deploy Portfolio Management Capabilities		Dec. 19 – March 3
Prepare Facilities and Infrastructure	Create Office of the Future work environment	Nov. 22 – March 3
Prepare for Executive Committee	Present Business Case and Roadmap to Executive Committee	Dec. 19 – Jan. 18
Develop Governance Model for Phase 2		Jan. 9 – March 27
Develop Sanction Papers (PLC/US)		Dec. 1 – Jan. 31
PowerPlan Re-Architecture	Re-architect the Front Office - SAP - PowerPlan solution	Jan. 5 – Jan. 23
Develop Project and Program Charters	Description of business purpose and operating structure	Jan. 2 – March 31
Plan Mobilization Activities		Jan. 2 – March 31
Mobilize Phase 2 Program Team (National Grid)	Continue recruitment and office structuring	Jan. 9 – TBD
Mobilize External Resources		March 1 – March 31
Procure Solution Software	Procure software to replace current systems	Nov. 28 - Feb. 6
Procure System Integrators and Other External Support	Ensure systems are integrated for smooth transition	Nov. 7 - TBD

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Phase 2 Mobilization Accelerator Activities

Name	Description	Timeframe	Cost	Support
Accelerate PM Deployment	• Accelerate deployment of robust Phase 2 governance and management capabilities • Value: Reduce overall time/cost to deploy CSF driven capabilities	Jan 9 – Mar 3	$244K	PWC
Data Assessment and Remediation Planning	• Determine current state of data, establish quality baseline, plan data clean up • Value: Mitigate critical program risk, accelerate Phase 2 mobilization	Jan 2- Mar 31	$1000K	PWC
Next Level Operating Model / Mobility Journey Design	• Support project chartering, begin operating model, mobility and program change office foundational activities • Value: Reduce program delivery risk	Jan 2- Mar 31	$1,800	Accenture
Business Assurance Completion	• Support completion of final deliverable reviews • Value: Enhances the quality detailed planning activities	Jan 9 – Feb 3	$100K	PwC
Level 3 Process Refinement	• Expand on high level design deliverables • Value: Improve effectiveness of procurement processes and detailed planning for Phase 2	Jan 9 - Feb 24	$430K	PwC
Infrastructure Accelerators	• Begin planning and capability building for Phase 2 infrastructure related activities • Value: Reduce program delivery risk	Jan 2 – Mar 31	$600K	TBD
Enable/Accelerate SI Procurement	• Provide additional legal and procurement support for timely and effective procurement of software and services • Value: Reduce risk of delaying start of Phase 2	Jan. 2 – Mar 31	$500K	TBD
Facilities / infrastructure expansion	• Enable ramp up of resources and facilities to support Phase 2 mobilization • Value: Reduce risk of delaying start of Phase 2	Jan 2 – Mar 31	$200K	Various
		Total:	**$3,075,800**	

Note: Total does not include already approved activities
(e.g., PowerPlan and ACC Software Procurement)

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Risk Registry (complete)

ID	Risk	Description & Potential Impact	Probability	Impact	Impacted Item	Category	Assigned to	Status	Next Update	Mitigation Date
4	P1 Single solutions to each software category may not be possible	The desired end state is one software solution for each software category. If this is not possible, it will raise the level of complexity of our future state design and increase costs and lengthen timelines in both Phase 1 and Phase 2	M	H	HLD	Program	Houchins, Granville	Monitoring	11/18/16	11/18/16
5	P2 Failure to account for significant ongoing external initiatives	Not accounting for the impacts/integration points/scope overlaps between GE and other programs could create scope overlaps and/or conflicts. This could result in increased costs or delays in schedules	M	H	HLD	Program	Watkins, Wayne S.	Monitoring	12/22/16	
6	Data Quality Data Analysis	Gaps in our understanding of current state data quality and completeness, as well as over-reliance on anecdotal evidence could have negative impacts on our roadmap and business case. - Bad assumptions, unanticipated risks etc	H	H	HLD	Program	Raad, Nicolas	Solution Proposed	12/2/16	12/2/16
7	Program staffing resiliency	Does the program have the sufficient team depth to overcome the effects of unplanned departures	M	M	HLD	Program	DeRamos, J'Wynn	Monitoring	12/22/16	
14	Failure to meet our staffing targets will impact our ability to initiate Phase 2 in a timely manner	If we don't complete our staffing process by our target date will mean that we have insufficient resources to effectively plan and charter Phase 2 projects. This could result in delays, increased costs.	M	H	PM	Staffing	DeRamos, J'Wynn	Monitoring	12/22/16	

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Risk Registry (continued)

ID	Risk	Description & Potential Impact	Probability	Impact	Impacted Item	Category	Assigned to	Status	Next Update	Mitigation Date
15	Mis-alignment / lack of integration and coordination between programs	Potentially a risk around enablement keeping joined up with other initiatives - eg Supervisor Enablement and strategic workforce planning	M	M	HLD	Workforce Planning	Irani-Famili, Reihaneh; DeRamos, J'Wynn	Monitoring	12/22/16	
16	Missing Expectations on progress due to SL start or late Phase 1 Completion	Delays in starting the program in a timely manner will impact long term timelines. Failure to complete Phase 1 deliverables in a timely manner could delay the sanctioning process and further delay kick off of deployment work.	M	VH	HLD	Delivery	Healy III, Kenneth	Solution Proposed	12/22/16	
17	Unsuccessful delivery due to scope creep	Unplanned/unapproved changes to scope can drive program costs, impact timely delivery or compromise the quality of program outcomes	M	VH	HLD	Delivery	Healy III, Kenneth	Solution Proposed	12/22/16	
18	Risk to Delivery Due to IS and Business capacity limitations	The program is dependent on multiple services and SMEs provided by the Functions, Business. Support delays and SME unavailability could impact timelines	H	H	HLD	Delivery	Connolly, Christopher; Murphy, Chris-US IT; Irani-Famili, Reihaneh; Healy III, Kenneth	Solution Proposed	12/22/16	
19	Delays in Labor Union Engagement Could Impact workshop participation	Failure to engage represented employees in the as is/ to be design process could mean that critical information, observations and expert inputs are missing from the HLD process	M	M	HLD	Quality	Connolly, Christopher	Closed	10/21/16	

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Risk Registry (continued)

ID	Risk	Description & Potential Impact	Probability	Impact	Impacted Item	Category	Assigned to	Status	Next Update	Mitigation Date
20	Short term required compliance mitigation activities could negatively impact long term deployment activities	A disproportionate emphasis on short compliance fixes could consume the time, resources and expertise required to launch and sustain longer term fixes	M	H	Comp.	Delivery	McNamara, Daniel F.	Closed	12/22/16	10/20/16
21	Impact Analysis Deliverable Timeline	Impact Analysis milestone date misalignment may impact the downstream delivery of other CM deliverables.	L	L	BDR	BR/CM	Poyant, Ellen L.	Closed	10/3/16	10/7/16
22	Unplanned outages during Implementation	Implementation and subsequent RTB (Run the Business) activities for U.S. Gas Enablement core platforms and products will be impacted by unplanned outages . Program Increments, or releases may be delayed due to resource availability or lack of testing.	H	M	SDD	Schedule	Krantz, Ronald D.	In Progress	2/1/17	
23	Powerplan Disintegration	Implementation Roadmap and removing Powerplan integration from work order creation and work execution processes may impact business/implementation roadmap and cost of program.	H	H	SDD	Budget and Schedule Risk	Geer, William J.	Monitoring	12/22/16	
24	Inappropriate use of Agile Delivery Methods	Applying Agile delivery methods against current application platforms and reporting & analytics environments may be inappropriate. Causing project delays.	H	M	SDD	Scope	Krantz, Ronald D.	In Progress	12/22/16	

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Risk Registry (continued)

ID	Risk	Description & Potential Impact	Probability	Impact	Impacted Item	Category	Assigned to	Status	Next Update	Mitigation Date
25	Constrained Benefits by lack of SCM Implementation	ERP Supply Chain and Materials Management capabilities are not fully deployed. Assumed benefits may be at risk of being attainable.	M	H	PM	Benefits	Connolly, Christopher; Healy III, Kenneth	In Progress	12/2/16	
27	Network Bandwidth	Pain point indicated that wifi availability was not present in barns. Mobile/Disconnected mobility may require increased network bandwidth.	M	M	SDD	IS Solution Architecture	Krantz, Ronald	Solution Proposed	12/22/16	5/1/17
28	ECM and HPUM remaining capabilities not mapped	The remaining capabilities (back office, customer, etc) that are not mapped between NG Enterprise Capability Model and the Accenture Utility Model need to be mapped to ensure process/capability connectivity and in support of future impact analysis.	M	L	HLD	Enterprise Business Architecture/ Solution	Lyba, Svetlana	Solution Proposed	1/12/17	3/31/17
29	Data Accessibility	Data is often not accessible, and when it is the spreadsheets are often too large to work with. Data summary documents provided by data managers are often more useful than the data itself.	H	H	PM	Program	Del Santo, Edward	New	11/30/16	
30	Auto dialing or texting wrong customer number	There is a TPCA compliance change that puts us at risk when we auto dial or text customers and their phone number is not correct. Need data cleansed and controlled to ensure we are not being fined.	H	M	Comp.	Quality	Raad, Nick; Piccarreto, Megan	New	5/1/2017	

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Risk Registry (continued)

ID	Risk	Description & Potential Impact	Probability	Impact	Impacted Item	Category	Assigned to	Status	Next Update	Mitigation Date
31	Benefits Identification	Benefits may not be as high / significant for a program / organization of this size and with respect to the starting point (e.g., 4th quartile in O&M/customer, Capital Unit Cost)	H	VH		PM	Del Santo, Edward; Connolly, Christopher	New	12/2/2016	
32	Benefits Buy In	Gas business leadership may not buy into / take ownership of identified benefits	H	VH		Delivery	Del Santo, Edward; Jones, Sandra; Johnston, Johnny	New	12/16/2016	
33	Risk of insufficient alignment between GBE and SOF	Risk that Supply Chain and overall GBE teams are not fully aligned with Shaping Our Future teams. There may be potential scope overlap/gap, critical dependencies, or even valuable inputs between GBE and SOF.	M	H	PM	SCM	Lynch, Joel	New	1/31/2017	
34	Customer Lens Impact during design and roll out	What mitigation/controls can we put in place to ensure that the customer focus is included in anything involving customer facing	M	M	BDR	Customer	Piccarreto, Megan; Connolly, Christopher	New	1/31/2017	
35	Support organizations (Call Center, AMO, Collections) will be required to use CIS and CRM	Full information is not being converted/visible into CRM for undetermined amount of time. This means the support groups will have to use 2 systems to get additional information/take action any time the field is involved. (ex. Make an appointment)	H	M	BDR	Customer	Piccarreto, Megan; Connolly, Christopher	New	1/31/2017	

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Risk Registry (continued)

ID	Risk	Description & Potential Impact	Probability	Impact	Impacted Item	Category	Assigned to	Status	Next Update	Mitigation Date
36	Delays in the SI procurement process will delay the start of critical Phase 2 projects and programs	There is a risk that delays in the selection and onboarding of the Phase 2 Systems Integrator(s) will delay the start of major elements of the GE phase 2 roadmap. This will have a negative budget impact and could disrupt non GE programs which have key dependencies on GE activities	H	VH	HLD	Portfolio	KC Healy; Nicola Rigby	New	1/20/2017	
37	Delays in completion of key Q4 Enabler initiatives will compromise the quality and timeliness of Phase 2 kickoff	Risk that the GE program team is not ready to effectively support Phase 2 activities in a timely and effective manner	H	M	HLD	Portfolio	KC Healy	New	1/18/2017	