

August 15, 2018

BY HAND DELIVERY AND ELECTRONIC MAIL

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

**RE: Docket 4783 - Electric Infrastructure, Safety, and Reliability Plan
Quarterly Update – First Quarter Ending June 30, 2018**

Dear Ms. Massaro:

On behalf of National Grid,¹ I have enclosed ten copies of the Company's fiscal year (FY) 2019 Electric Infrastructure, Safety, and Reliability (ISR) Plan quarterly update for the first quarter ending June 30, 2018. Pursuant to the provisions of the approved FY 2019 Electric ISR Plan, the Company committed to providing quarterly updates on the progress of its Electric ISR program to the Rhode Island Public Utilities Commission and the Rhode Island Division of Public Utilities and Carriers.

Thank you for your attention to this matter. If you have any questions, please contact me at 781-907-2121.

Very truly yours,



Raquel J. Webster

Enclosures

cc: Docket 4783 Service List
Leo Wold, Esq.
Al Contente

¹The Narragansett Electric Company d/b/a National Grid (National Grid or the Company).

Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate was electronically transmitted to the individuals listed below.

The paper copies of this filing are being hand delivered to the Rhode Island Public Utilities Commission and to the Rhode Island Division of Public Utilities and Carriers.



Raquel J. Webster, Esq.

August 15, 2018
Date

Docket No. 4783 National Grid's Electric Infrastructure, Safety and Reliability Plan FY 2019 - Service List as of 2/21/18

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Electric Infrastructure, Safety, and Reliability Plan

FY 2019 Quarterly Update

First Quarter Ending June 30, 2018

EXECUTIVE SUMMARY

For the first quarter of fiscal year 2019 (FY), the Company¹ spent \$18.5 million for fiscal year-to-date (FYTD) capital investment projects against a FYTD 2019 budget of \$23.7 million. Overall, spending for FYTD 2019 was under-budget by approximately \$5.2 million. For the first quarter of FY 2019, spending for the Non-Discretionary category was \$3.7 million, which was approximately \$4.6 million under-budget. This variance was driven primarily by the \$4.4 million under-budget variance in the Customer Request/Public Requirement Category. FYTD spending for the Discretionary category was approximately \$14.8 million, which was approximately \$0.6 million under-budget. Each of these categories is addressed in more detail below.

On July 11, 2016, the Rhode Island Public Utilities Commission (PUC) issued an Order² directing the Company to provide more detail on capital spending in the Damage/Failure category. The detail on capital spending must include work type, location, and, where applicable, Level 1 Inspections and Maintenance (I&M) repairs completed with Damage/Failure funding. The Company has included additional detail on Level 1 I&M repairs in Section 5 of this report and has included summary information on capital spending in the Damage/Failure category in Attachment F of this report. Attachment F is also included as an executable Excel file that organizes raw data captured in the Company's financial, asset, and work management systems.

The Company and the Rhode Island Division of Public Utilities and Carriers (Division) agreed for FY 2019, to provide a quarterly budget and project management report on the Southeast project. The latest report is included as Attachment G of this report.

In Order No. 22955, the PUC directed that, commencing with the FY 2018 RI Electric ISR Third Quarter Report, the Company include an explanation of all new technologies that National Grid is exploring to assist in distribution planning, particularly related to the integration of distributed energy resources or providing additional visibility on the distribution grid.³ The most recent update is provided in Section 2 (e) below.

¹ The Narragansett Electric Company d/b/a National Grid (National Grid or the Company).

² Written Order No. 22471 (issued on July 11, 2016 in Docket No. 4592), at pages 16, 29.

³ Written Order No. 22955 (issued on November 14, 2017 in Docket No. 4682) at page 19.

I. FY 2019 Capital Spending by Key Driver Category

1. Non-Discretionary Spending

a. Customer Request/Public Requirement - \$4.4 million under-budget FYTD variance

Capital spending for the first quarter of FY 2019 in the Customer Request/Public Requirement category (*previously called the Statutory/Regulatory category*) was approximately \$0.5 million, which was \$4.4 million under the FY 2019 budget of \$4.9 million. This under-budget variance was driven primarily by the following:

- The net YTD spending on “Distributed Generation” project spending is a credit of 4.4 million, which results in a total under-budget balance of \$4.4 million. This variance was driven primarily by the Company’s collection of reimbursements for the Green Development and Southern Sky Projects prior and future capital spending on projects.
- Capital spending for the first quarter of FY 2019 on New Business Residential and Commercial projects was a combined \$0.9 million under-budget. This under-budget variance was primarily driven by lower spending on the New Business Commercial Blanket Project.

Among the major projects in this category, the following over-budget projects offset these under-budgets projects:

- Capital spending for the first quarter of FY 2019 on Transformer Purchases was \$1.3 million, which was \$0.7 million over the FYTD 2019 budget of \$0.6 million due to the earlier than planned delivery of the transformer inventory.

At this time, the Company forecasts that the Customer Request/Public Requirement category will be \$8.5 million over budget at the end of the fiscal year primarily due to higher activity in the Distributed Generation category.

b. Damage/Failure - \$0.2 million under-budget FYTD variance

Capital spending for the first quarter of FY 2019 in the Damage/Failure category was \$3.2 million, which was approximately \$0.2 million under the FYTD 2019 budget of \$3.4 million for this category. This under budget variance was driven primarily by the following:

- Capital spending on the Ocean State Damage/Failure Blanket was \$2.1 million which was \$0.5 million under the FYTD 2019 budget of \$2.6 million. The Company monitors charges to this blanket to minimize discretionary work from being incorrectly charged to this project.
- Capital spending on the Storm Capital Confirming program was \$0.8 million which was \$0.4 million over the FYTD 2019 budget of \$0.4 million.

At this time, the Company forecasts that the Damage Failure category will be on-budget at the end of the fiscal year.

In summary, as shown in Attachment A, capital spending for the first quarter of FY 2019 in the Non-Discretionary Sub-category was \$3.7 million, which was approximately \$4.6 million under the FYTD 2019 budget of \$8.3 million.

2. **Discretionary Spending**

a. Asset Condition (without Southeast Substation) - \$0.1 million under-budget FYTD variance

Capital spending for the first quarter of FY 2019 in the Asset Condition category (absent the Southeast Substation project) was approximately \$5.1 million, which was \$0.1 million under the FYTD 2019 budget of \$5.2 million primarily driven by lower spending in the I&M program.

At this time, the Company forecasts that the Asset Condition category (absent the Southeast Substation Project) will be \$2.1 million under-budget at the end of the fiscal year.

b. Non-Infrastructure – \$0.7 million over-budget FYTD variance

Capital spending for the first quarter of FY 2019 for the Non-Infrastructure category was \$0.7 million over the FYTD 2019 budget due to accounting overhead charges. These charges will be cleared to the appropriate work orders through the normal capital allocation process.

At this time, the Company forecasts that the Non-Infrastructure category will be on-budget at the end of the fiscal year.

c. System Capacity and Performance - \$1.1 million under-budget FYTD variance

Capital spending for the first quarter of FY 2019 for the System Capacity and Performance category was \$8.6 million, which was \$1.1 million under the FYTD 2019 budget of \$9.8 million. This variance was driven primarily by the following under-budget projects:

- Capital spending for the first quarter on the Chase Hill substation project was \$0.1 million which was \$1.0 million under the FYTD 2019 budget of \$1.1 million primarily due to phasing the work within the second and third quarter of FY 2019.
- Capital spending for the first quarter on the New London programs was \$2.2 million which was \$0.6 million under the FYTD 2019 budget of \$2.8 million. This first quarter variance reflects the shifting of this project work from FY 2018 into later in FY 2019.

Among the major projects in this category offsetting the under-budget variance were:

- Capital spending for the first quarter of FY 2019 on the VVO project was \$0.6 million over-budget as a portion budgeted for later in FY 2019.

At this time, the Company forecasts that the System Capacity and Performance category will be \$1.9 million over-budget at the end of the fiscal year.

d. Southeast Substation Projects – \$0.1 million under-budget FYTD variance

In the FY 2019 ISR proceeding, with the South Street rebuilding project nearing completion, the Company agreed with the Division to eliminate the separate tracking of this project and to begin separately tracking the Southeast Substation project budget variances and construction progress beginning with the FY 2019 quarterly reports. Capital spending for the first quarter of FY 2019 on the Southeast Substation project was \$0.11 million, which is \$0.15 million over/under the FYTD budget of \$0.26 million.

At this time, the Company forecasts that the Southeast Substation category will be on-budget at the end of the fiscal year.

Finally, as shown in Attachment A, total capital spending for FYTD 2019 in the Discretionary Sub-category was approximately \$14.8 million, which was \$0.6 million under the FYTD 2019 budget of \$15.4 million.

e. Large Project Variances

In Docket No. 4473, the PUC ordered the Company to include, beginning with the FY 2017 Electric ISR Plan filing, a proposal to identify and report in quarterly and annual reconciliation filings the projects that exceeded or were under the fiscal year-to-date and fiscal year-end budgets by ten percent (10%).⁴ For the identified projects, the Company must note whether variances were due to the project being accelerated or delayed, or whether the variances were due to an increase or decrease in total project cost. The Company agreed to provide in the quarterly reports explanations for the portfolio of large projects⁵ with variances that exceed +/- 10% of the annual fiscal year budget. These FYTD projects represented \$4.4 million of the total FY 2019 budget of \$102.8 million. Specific project information is provided in Attachment E.

f. New Distribution System Technology Update

In Order No. 22955, the PUC directed that, commencing with the FY 2018 RI Electric ISR Third Quarter Report, the Company include an explanation of all new technologies that National Grid is exploring to assist in distribution planning, particularly related to the integration of distributed energy resources or providing additional visibility on the distribution grid.⁶

The Company has the CYME hosting capacity software installed and running. Analysis is underway and results are being obtained.

To improve the visibility of the distribution grid to distributed energy resource providers, the Company completed the first phase of a Data Portal as described within the 2018 System Reliability Procurement (SRP) Report. National Grid remains on track to deliver the second phase by September 2018.

3. Investment Placed-in-Service

For the first quarter of FY 2019, \$23.8 million of investment was placed-in-service, which was 28% of the annual forecasted plant-in-service of \$85.3 million. Details by spending rationale are included in Attachment B.

⁴ Docket No. 4473 Order No. 21559 at p. 25.

⁵ Large projects are defined as exceeding \$1.0 million in total project cost.

⁶ Written Order No. 22955 (issued on November 14, 2017 in Docket No. 4682), at page 19.

For the first quarter of FY 2019, the Non-Discretionary Sub-category had \$14.6 million of plant additions placed in service, which was 47% of the planned amount of \$31.0 million.

For the first quarter of FY 2019, the Discretionary Sub-category had \$9.2 million of plant additions placed in service, which was 17% of the planned amount of \$54.3 million.

4. Vegetation Management (VM)

For the first quarter of FY 2019, the Company completed 243 miles or 18% of its annual distribution mileage cycle pruning goal of 1,374 miles. This represents an associated spend of 10% of the FY 2019 budget for the cycle pruning program. Overall, for the first quarter of FY 2019, the Company's VM operation and maintenance (O&M) spending was \$980,000. The Company expects to complete 100% of their work plan for FY 2019 within the budget of \$9.8 million. In addition, at the March 20, 2018 Open Meeting in Docket 4783, the Commission directed the Company to include a summary in its FY 2019 ISR quarterly reports of the gypsy moth and other pest-related damage tracked by the Company.

Attachment C provides the FY 2019 YTD spending for all sub-components in the VM category and an update of the gypsy moth and other pest related damage tracked by the Company in the first quarter of FY 2019.

5. Inspection and Maintenance (I&M)

For the first quarter of FY 2019, the Company completed 35% of its annual structure inspection goal of 56,613 with an associated spend of approximately \$0.2 million, or approximately 28% of the Repair and Inspections Related Cost subcategory budget. The Repairs and Inspection Related Costs subcategory forecast includes the FY 2019 mobile elevated voltage testing and repairs, which the PUC approved in Docket No. 4237. Attachment D provides the FY 2018 spending for all components in the I&M category.

The Company began performing inspections on its overhead distribution system in FY 2011, and, in FY 2012, began performing the repairs based on those inspections. The Company categorizes the deficiencies found as Level I, II, or III, and repairs Level I deficiencies either immediately or within approximately one week of the inspection. The Company bundles Level II and III work for planned replacement. At the end of the first quarter of FY 2019, the Company has completed repairs reported for approximately 34% of the total deficiencies found. Total deficiencies found and repairs made-to-date is shown in the table below.

Summary of Deficiencies and Repair Activities RI Distribution				
Year Inspection Performed	Priority Level/Repair Expected	Deficiencies Found (Total)	Repaired as of 6/30/18	Not Repaired as of 6/30/18
FY 2011	I	18	18	0
	II	13,146	13,128	18
	III	28	28	0
FY 2012	I	17	17	0
	II	15,847	15,454	393
	III	626	567	59
FY 2013	I	15	15	0
	II	26,877	16,145	10,732
	III	9,052	4,598	4,454
FY 2014	I	11	11	0
	II	23,196	2,969	20,227
	III	8,776	1,527	7,249
FY 2015	I	5	5	0
	II	21,549	1	21,548
	III	4,391	0	4,391
FY 2016	I	2	2	0
	II	11,596	0	11,596
	III	6,498	0	6,498
FY 2017	I	2	2	0
	II	8,300	0	8,300
	III	7,539	0	7,539
FY 2018	I	2	2	0
	II	2,499	0	2,499
	III	1,863	0	1,863
Total Since Program Inception	I, II, III	161,855	54,489	107,366

FY 2019 – I&M Level 1 Deficiencies Repaired						
Year Inspection Performed	Deficiencies Found	Structure Number	Location	Description of Work Performed	Inspection Date	Repaired Date
2018	1	9030	Wellington Ave, Cranston	Addressed Missing Nomenclature	6/4/2018	6/6/2018
	1	64-1	Chestnut Hill, Rd, Gloucester	Repaired neutral	5/15/2018	5/15/2018
	1	10-1	Wood Rd, Gloucester	Crew opened fuse at Pole 10 to kill service that was on the ground	5/15/2018	5/15/2018

As shown in the table below, results of the Company’s manual elevated voltage testing for FY 2019 have not indicated any instances of elevated voltages found through either overhead or manual elevated voltage inspections.

Manual Elevated Voltage Testing				
Manual Elevated Voltage Testing	Total System Units Requiring Testing	FY 2019 Units Completed thru 06/30/18	Units with Voltage Found (>1.0v)	Percent of Units Tested with Voltage (>1.0v)
Distribution Facilities	259,225	17,398	0	0%
Underground Facilities	12,438	883	0	0%
Street Lights	4,328	0	0	0%

Attachment A
US Electricity Distribution - Rhode Island
Capital Spending by Spending Rationale
FY 2019 through June 30, 2018
(\$000)

	FYTD			FY 2019 Total		
	Budget	Actual	Variance	Budget	Forecast	Variance
Customer Request/Public Requirement	\$4,887	\$455	(\$4,432)	\$19,005	\$27,544	\$8,539
Damage Failure	\$3,417	\$3,257	(\$160)	\$13,674	\$13,770	\$96
<i>Subtotal Non-Discretionary</i>	\$8,304	\$3,712	(\$4,592)	\$32,679	\$41,314	\$8,635
Asset Condition	\$5,224	\$5,113	(\$111)	\$27,067	\$24,978	(\$2,089)
Non-Infrastructure	\$189	\$933	\$744	\$556	\$692	\$136
System Capacity & Performance	\$9,780	\$8,642	(\$1,138)	\$39,765	\$40,823	\$1,058
<i>Subtotal Discretionary (Without Southeast Substation)</i>	\$15,194	\$14,689	(\$505)	\$67,388	\$66,493	(\$895)
Southeast Substation Project	\$260	\$114	(\$146)	\$2,700	\$2,817	\$118
<i>Subtotal Discretionary</i>	\$15,453	\$14,803	(\$650)	\$70,088	\$69,310	(\$778)
Total Capital Investment in System	\$23,758	\$18,515	(\$5,242)	\$102,767	\$110,624	\$7,858

* () denotes an underspend for the period.

Attachment B
US Electricity Distribution - Rhode Island
Plant Additions by Spending Rationale
FY 2019 through June 30, 2018

(\$000)

	FY 2019 Annual ISR Forecast	FYTD Actual in Service	FY 2019 Year-end Forecast	% of FY 2019 Year-end Forecast Placed in Service
Customer Request/Public Requirement	\$17,938	\$6,111	\$18,215	34%
Damage Failure	\$13,053	\$8,474	\$18,078	65%
<i>Subtotal Non-Discretionary</i>	\$30,991	\$14,586	\$36,292	47%
Asset Condition (w/Southeast Substation)	\$31,939	\$4,343	\$27,607	14%
Non- Infrastructure	\$494	\$105	\$858	21%
System Capacity & Performance	\$21,913	\$4,766	\$33,133	22%
<i>Subtotal Discretionary</i>	\$54,346	\$9,213	\$61,599	17%
Total Capital Investment in System	\$85,337	\$23,799	\$97,891	28%

Attachment C
US Electricity Distribution - Rhode Island
Vegetation Management O&M Spending
FY 2019 through June 30, 2018
(\$000)

	FY 2019 Annual ISR Budget	FYTD Actual	FY 2019 Year- End Forecast	FYTD % Spend
Cycle Pruning (Base)	\$6,150	\$316	\$6,150	5%
Hazard Tree	\$1,250	\$257	\$1,250	21%
Sub-T (on & off road)	\$325	\$12	\$325	4%
Police/Flagman Details	\$850	\$136	\$850	16%
Core Crew (all other activities)	\$1,225	\$262	\$1,225	21%
Total VM O&M Spending	\$9,800	\$983	\$9,800	10%
* () denotes an underspend for the period				

	FY 2019 Goal	FY YTD Goal	FY YTD Complete	FY YTD % Complete	FY 2019 % Complete
Distribution Mileage Trimming	1,374	344	243	71%	18%

FY 2019 1Q Gypsy Moth Update

Circuit	Location	Date Complete	Total Trees	Gypsy Moth Trees	Gypsy Moth Spend
15F2	Scituate	In Progress	57	14	\$ 15,868.62
33F4	Tiverton-Little Compton	In Progress	328	168	\$ 98,014.06
Totals			385	182	\$ 113,882.68

Avg. Cost/Tree	Gypsy Moth Trees	Gypsy Moth Spend
\$625.73	182	\$ 113,882.68

Attachment D
US Electricity Distribution - Rhode Island
Inspection and Maintenance Program O&M Spending
FY 2019 through June 30, 2018

(\$000)

	FY 2019 Annual ISR Budget	FYTD Actual	FY 2019 Year- End Forecast	FYTD % Spend
Opex Related to Capex	\$255	\$40	\$255	16%
Repair & Inspections Related Costs	\$612	\$172	\$612	28%
System Planning & Protection Coordination Study	\$25	\$0	\$25	0%
VVO/CRV Program	\$244	\$4	\$244	2%
Total I&M O&M Spending	\$1,136	\$216	\$1,136	19%
* () denotes an underspend for the period				

	FY 2019 Goal	FYTD Goal	FYTD Complete	FYTD % Complete	FY 2019 % Complete
RI Distribution Overhead Structures Inspected	56,613	14,153	19,743	139%	35%

Attachment E
US Electricity Distribution - Rhode Island
Project Variance Report
FY 2019 through June 30, 2018
(\$000)

Project Description	Spending Rationale	Project Funding	FYTD			FY 2019 Total			Variance Cause
			Budget	Actual	Variance	Budget	Forecast	Variance	
Aquidneck Island Projects (Gate 2, Newport, Jepson)	System Capacity & Performance	CD00649, C024159, C015158, C028628, C054054, CD00656	\$4,254	\$4,201	(\$53)	\$21,543	\$22,423	\$880	No significant change to overall project cost. Contractor costs in FY 19 expected to be higher than previously estimated in given FY.
Volt/Var Program	System Capacity & Performance	C077201, C075571, C053111, C076367, C046352, C075573, C076365, C077200, C052708, C079282, C079288	\$0	\$576	\$576	\$1,900	\$2,437	\$537	FY 2018 program lagged due to priority for storm restoration during three back to back Nor'Easters. Remaining work slipped into FY 2019.
Lafayette Substation Transformer Replacement	Asset Condition	C051824	\$86	\$164	\$78	\$1,150	\$1,399	\$249	Crews were able to mobilize earlier than originally planned
Flood Contingency Plan NECOD	System Capacity & Performance	C059882	\$1,329	\$1,096	(\$233)	\$1,020	\$199	(\$821)	Long term flood scope removed as short term scope is mitigating flood risk adequately.
Green Development LLC	Customer Request	C078529, C078827, C078825, C078820, C078824	\$0	(\$3,446)	(\$3,446)	\$0	\$2,051	\$2,051	Customer driven project with a CIAC paid prior to construction costs occurring. Remaining FY variance is due to other CIAC payments for work received in previous FY. Overall the project will be fully reimbursed by the customer.
New South St. Substation D-Line and D-Sub	Asset Condition	C053657, C053658	\$783	\$1,156	\$373	\$3,720	\$3,772	\$52	Cable cutovers ahead of schedule
Southern Sky - Johnston & Cranston RI	Customer Request	C079031, C079081	\$0	(\$2,507)	(\$2,507)	\$0	(\$79)	(\$79)	Customer driven project with a CIAC paid prior to construction costs occurring. Remaining FY variance is due to other CIAC payments for work received in previous FY. Overall the project will be fully reimbursed by the customer.
New London Avenue Substation	System Capacity & Performance	C028920, C028921	\$2,842	\$2,235	(\$607)	\$6,416	\$7,836	\$1,420	D-line work was supposed to start in Q4 FY 2018 but was deferred as a result of Company and contractor crews supporting Puerto Rico restoration. Work will now be accomplished in FY 2019.
West Cranston Transformer Replacement	Asset Condition	C055844	\$233	\$212	(\$21)	\$2,400	\$1,768	(\$632)	Contracted labor bid lower than planned.
Quonset Sub D-Line and D-Sub	System Capacity & Performance	C053646, C053647	\$722	\$500	(\$222)	\$1,288	\$1,358	\$70	Resources will be working on project throughout the year. Overall cost should remain the same.
Chase Hill D-Line and D-Sub	System Capacity & Performance	C024175, C024176	\$1,072	\$104	(\$968)	\$3,900	\$3,864	(\$36)	Resources will be working on project throughout the year. Overall cost should remain the same. Expected to catch-up in Q2 and Q3.
			\$11,321	\$4,292	(\$7,030)	\$43,337	\$47,028	\$3,691	

* () denotes an underspend for the period

Attachment F
US Electricity Distribution - Rhode Island
Damage/Failure Detail by Work Type
FY 2019 through June 30, 2018

	Project Type					Grand Total
	D-Line Blanket	D-Line Property Damage	D-Line Storm	D-Sub Blanket	D-Sub & D-Line Specific	
AFUDC	\$3,449	\$0	\$6,810	\$960	\$1,664	\$12,882
Default Accounting	\$412,544	\$40,289	\$16,571	\$14,647	\$184,781	\$668,831
Engineering/Design/Supervision	\$214,040	\$7,888	\$56,341	\$17,818	\$92,804	\$388,890
Outdoor Lighting - Cable/Wire	\$3,005	\$333	\$31	\$0	\$0	\$3,369
Outdoor Lighting - Framing	\$32,671	\$1,981	\$3,787	\$0	\$0	\$38,439
Outdoor Lighting - Poles/Foundation	\$10	\$4,906	\$0	\$0	\$0	\$4,916
Overhead Bonding/Grounding	\$8,080	\$404	\$3,147	\$0	\$0	\$11,631
Overhead Services	\$69,906	\$5,325	\$9,284	\$0	\$0	\$84,516
Overhead Switches/Reclosers/Fuses	\$127,959	\$5,224	\$58,042	\$0	\$0	\$191,225
Overhead Transformers/Capacitors/Regulators/Meters	\$162,657	(\$27,884)	\$55,812	\$0	\$0	\$190,585
Overhead Wire & Conductor	\$151,572	(\$15,096)	\$17,177	\$0	\$0	\$153,652
Pole Framing	\$39,834	\$12,940	\$34,769	\$0	\$0	\$87,543
Poles/Anchors/Guying	\$266,909	\$104,881	\$369,674	\$0	\$0	\$741,465
Substation Equipment Installations	\$0	\$0	\$0	\$49,039	\$39,862	\$88,901
Substations Civil/Structural	\$0	\$0	\$0	\$559	\$17,125	\$17,684
Switching and Restoration	\$0	\$0	\$1,074	\$835	\$0	\$1,910
Traffic Control	\$55,249	\$728	\$106,717	\$0	\$0	\$162,694
Underground Cable	\$185,594	(\$14,056)	\$17,644	\$0	\$0	\$189,181
Underground Cable Splicing	\$27,363	\$3,863	\$1,116	\$0	\$0	\$32,342
Underground Civil Infrastructure	\$92,303	(\$18,170)	(\$3,391)	\$0	\$0	\$70,741
Underground Direct-Buried Cable	\$18,211	\$2,144	\$0	\$0	\$0	\$20,355
Underground Services	\$3,646	(\$5,848)	(\$1,273)	\$0	\$0	(\$3,476)
Underground Switches/Reclosers/Fuses	\$39,256	(\$2,528)	\$0	\$0	\$0	\$36,728
Underground Transformers/Capacitors/Regulators/Meters	\$56,601	(\$891)	\$6,080	\$0	\$0	\$61,790
Grand Total	\$1,970,857	\$106,433	\$759,413	\$83,857	\$336,236	\$3,256,795

* () denotes an underspend for the period.
In some cases, the default accounting operation is used to capture work performed.

Attachment G
US Electricity Distribution - Rhode Island
New Southeast Substation Budget and Project Management Report
August 1, 2018 Update

New Southeast Substation

Date: August 1, 2018

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New Southeast Substation Project Agenda

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- Safety Moment
- Background & Drivers
- Scope
- Cost & Major Milestones
- Support Documentation
- Other



New Southeast Substation Project Background & Drivers



- Pawtucket No. 1 substation supplies load in the City of Pawtucket, Rhode Island. It consists of an indoor substation located in a four story brick building constructed in 1907 and an outdoor substation on the yard. It supplies approximately 36,000 customers with a peak electrical demand of 114MW. There are a number of concerns in this area:
 - The equipment in the indoor substation is 40 to 94 years old, obsolete, and no longer supported by any vendor. Parts have to be custom made or salvaged from facilities removed from service.
 - The building has structural issues that cause concern for the continued safe and reliable operation of the substation.
 - There is un-served load for loss of either the 73 transformer or the 74 transformer that exceeds the distribution planning criteria.
 - The loading on a number of feeders is projected to exceed summer normal ratings along with the loading on bus section 73



New Southeast Substation Project Scope



- Construct a new eight feeder 115/13.8kV metal clad station with two transformers and breaker and a half design on a site adjacent to the transmission line right of way on York Avenue in the City of Pawtucket.
 - Supply the new station from the existing 115kV lines crossing the site, X-3 and T-7.
 - Rearrange the 13.8kV distribution system so that the new station supplies most of the load east of the Seekonk River.
 - Install a new control house at the Pawtucket No 1 station site to house the control equipment for the 115 kV station presently located in the four story brick building and upgrade the 115kV Line Protections (P-11,X-3,T-7).
 - Upgrade in Valley station the 115kV Line Protections for P-11.
 - Remove the indoor substation and all electrical equipment from the four story brick building and demolish the building.
-
- A decorative graphic consisting of four horizontal lines of different colors: green, blue, red, and yellow, stacked vertically.

New Southeast Substation Project Cost & Major Milestones



Project Cost

- Total Project Cost of \$23.000M (+50% / - 25%) DOA: \$5.600M

Project Major Milestones

Project Sanction	December 2018
Engineering Design Complete (EDC)	August 2019
Construction Start	October 2019
Construction Complete	December 2020
Ready for Load (RFL)	January 2021
Demolish Pawtucket 1 Station Building	March 2021
Project Closeout	June 2021



Docket No. 1 Station

New Southeast Substation Project Support Documentation

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New Southeast Station (Dunnell Park) – Location

