

May 15, 2017

**BY HAND DELIVERY AND ELECTRONIC MAIL**

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

**RE: Docket 4592 - Electric Infrastructure, Safety, and Reliability Plan  
Quarterly Update – Fourth Quarter Ending March 31, 2017**

Dear Ms. Massaro:

On behalf of National Grid,<sup>1</sup> I have enclosed ten copies of the Company's fiscal year (FY) 2017 Electric Infrastructure, Safety, and Reliability (ISR) Plan quarterly update for the fourth quarter ending March 31, 2017. Pursuant to the provisions of the approved FY 2017 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 4592 Service List  
Leo Wold, Esq.  
Steve Scialabba  
Al Contente

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

## **Electric Infrastructure, Safety, and Reliability Plan**

### **FY 2017 Quarterly Update**

#### **Fourth Quarter Ending March 31, 2017**

### **EXECUTIVE SUMMARY**

For fiscal year 2017 (FY 2017), the Company<sup>1</sup> spent \$84.1 million for capital investment projects against a FY 2017 budget of \$83.4 million. Spending for FY 2017 was within 1% of budget, with an over-budget variance of \$0.7 million. For the fiscal year, the Non-Discretionary category was approximately \$4.9 million over-budget, and the Discretionary category was approximately \$4.2 million under-budget. The primary driver of the Non-Discretionary category budget over-spending variance was the Damage/Failure category, which was \$4.1 million over-budget, while the primary driver of the Discretionary category budget under-spending variance was the Asset Condition category (absent South Street), which was approximately \$2.3 million under-budget and the System Capacity & Performance category which was approximately \$2.0 million under-budget for FY 2017. Each category is addressed in more detail below.

On July 11, 2016, the Rhode Island Public Utilities Commission (PUC) issued an Order<sup>2</sup> directing the Company to provide more detail on capital spending in the Damage/Failure category. Particularly, the information would 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.

In Order No. 22471, the PUC also directed the Company to manage the South Street FY 2017 ISR Plan budget separate from other discretionary projects in the Plan. The Company also agreed to provide a quarterly budget and project management report on the South Street project. The latest report for April 2017 is included as Attachment G of this report.

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

<sup>2</sup> Written Order No. 22471 (Issued on July 11, 2016 in Docket No. 4592).

## **I. FY 2017 Capital Spending by Key Driver Category**

### **1. Non-Discretionary Spending**

#### **a. Customer Request/Public Requirement - \$0.8 million over-budget variance.**

Capital spending for FY 2017 in the Customer Request/Public Requirement category (*previously called the Statutory/Regulatory category*) was \$20.2 million, which was approximately \$0.8 million over the FY 2017 budget of approximately \$19.4 million. This over-budget variance was driven primarily by the following:

- Capital spending for FY 2017 on the Block Island Transmission System (BITS) Wakefield Substation Upgrades project was over-budget by approximately \$1.9 million. This variance is driven by higher than expected soil remediation environmental costs, an increase project estimate based on final engineering detail, and carry-over charges the Company originally expected would be complete in FY 2016 but which were delayed into FY 2017.
- Capital spending for FY 2017 on Distributed Generation projects was approximately \$0.8 million over-budget, due to reimbursements collected in prior fiscal years for construction that occurred in FY 2017.
- Capital spending for FY 2017 on New Business Residential and Commercial projects was a combined \$3.1 million over-budget. Customer connections increased relative to prior years. In addition, capital spending on the LNG Plant service terminal in Providence was over-budget by approximately \$1.2 million for the fiscal year due to a reimbursement received in early April 2017, which was expected in late March 2017.

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

- Capital spending for FY 2017 on the Public Requirements projects was a combined \$3.9 million under-budget due to reimbursements collected on projects that were completed in prior fiscal years, such as the I-195 and Apponaug Circulator Department of Transportation projects.
- Capital spending for FY 2017 on the Transformer Purchase blanket was \$0.9 million under-budget, primarily due to the ability to utilize excess stock already in inventory.

**b. Damage/Failure - \$4.1 million over-budget variance.**

Capital spending for FY 2017 in the Damage/Failure category was \$15.6 million, which was approximately \$4.1 million over the FY 2017 budget of \$11.5 million. This variance was driven primarily by the following over-budget projects:

- Capital spending for FY 2017 on the unbudgeted Valley 102 22T Replacement project was \$1.7 million. The failed 22T transformer was replaced in the first quarter to ensure that the unit was on-line for peak summer load. This project is complete.
- Capital spending for FY 2017 on the distribution line Damage/Failure blanket was approximately \$10.2 million, which was approximately \$1.9 million more than the budget of \$8.2 million for the fiscal year. The Company monitors charges to this blanket to minimize discretionary work from being incorrectly charged to this project.

Finally, in summary, as shown in Attachment A, capital spending for FY 2017 in the Non-Discretionary Sub-category was \$35.8 million, which was approximately \$4.9 million over the FY 2017 budget of \$30.9 million. This variance was driven primarily by the unbudgeted Valley 102 22T Replacement project and distribution line damage/failure spending.

**2. Discretionary Spending**

**a. Asset Condition - \$2.3 million under-budget variance.**

Capital spending for FY 2017 in the Asset Condition category (excluding the South Street project) was approximately \$16.2 million, which was \$2.3 million under the FY 2017 budget of \$18.5 million. The total variance for this category was driven primarily by the following under-budget projects:

- Capital spending for FY 2017 for the Ocean State Asset Replacement Blanket was under-budget by approximately \$0.9 million due to lower than anticipated spending on small-scale asset replacement work.
- Capital spending for FY 2017 on the Underground Residential Development Injection/Rehabilitation (IRURD) and the RI Underground Replacement Program projects was a combined \$0.9 million under-budget. This variance was primarily a timing issue due to a delay in invoicing for the projects in FY 2017.
- For FY 2017, the Company budgeted approximately \$0.5 million for a spare substation transformer which resulted in an under-budget variance due to the Company deferring the purchase of this equipment.

Among the major projects in this category, the following over-budget projects offset under-spending projects were:

- Capital spending for FY 2017 on the Inspections & Maintenance program was \$3.0 million, which was approximately \$0.5 million over- the budget of \$2.5 million. This variance due to the Company advanced more work than originally planned.

**c. Non-Infrastructure – \$0.3 million over-budget variance.**

Capital spending for the FY 2017, Non-Infrastructure category was \$0.6 million, which was \$0.3 million over the FY 2017 budget of approximately \$0.3 million. The primary drivers of this variance were due to higher than budgeted general equipment purchases.

**d. System Capacity and Performance - \$2.0 million under-budget variance.**

Capital spending for FY 2017 for the System Capacity and Performance category was approximately \$16.4 million, which was approximately \$2.0 million under the FY 2017 budget of approximately \$18.4 million. This variance was driven primarily by the following under budget projects:

- As noted in the FY 2017 Third Quarter Report Electric ISR Report, the New London Avenue project was deferred into FY 2018 in order to offset other over spending in the Discretionary portfolio (except South Street). Therefore, capital spending for FY 2017 was under-budget by approximately \$3.8 million.
- Capital spending for FY 2017 on the Aquidneck Island projects was a combined \$1.4 million under-budget. This variance was primarily driven by delays in securing rights and permitting for the new substations.
- The Long Terms Study funding project for FY 2017 was \$0.8 million under-budget. The Company transferred approximately \$1.0 million of Providence area study costs, which were prior fiscal charges, into the South Street project during FY 2017. The Company did not advance any additional construction in the discretionary category (excluding South Street) as a result of this transfer. This is in-line with the Company's agreement not to advance or delay works in the discretionary category as a result of changes to the South Street spending.

Among the major projects in this category, the following over-budget projects partially offsetting the under-budget projects were as follows:

- Capital spending for FY 2017 on the Chase Hill substation project was \$4.9 million which was \$1.3 million over the budget of \$3.6 million. As previously noted in the Company's FY 2017 Third Quarter Electric ISR Report, the Company reallocated FY 2017 funding from the New London substation project to this project in order to complete sufficient work to energize the substation in FY 2017.
- Capital spending for FY 2017 on the projects related to Kilvert Street 87 was approximately \$1.4 million over budget. These projects were originally expected to be complete in FY 2016, and the budget for FY 2017 was for final charges during the closeout of the project. However, construction for these projects was partially delayed into FY 2017, contributing to the over spending variance.
- Capital spending on the Volt/Var Pilot Project for FY 2017 was \$1.3 million which was approximately \$0.6 million over the fiscal year budget of \$0.7 million. The variance was primarily due to increased costs for the communications solution for the project.

**d. South Street Project – \$0.3 million under-budget variance.**

Capital spending for FY 2017 on the South Street Indoor Substation Replacement project was approximately \$15.1 million, which was approximately \$0.3 million under-budget for the fiscal year. A status update for the South Street project is provided in Attachment G.

As noted in Attachment A, capital spending for FY 2017 in the entire Discretionary category was \$48.3 million, which is \$4.2 million under the fiscal year budget of \$52.5 million. This under-budget variance was predominately driven by the delays in the New London and Aquidneck Island projects, with offsets of over-budget spending on other projects.

In Docket No. 4473, the PUC ordered the Company to include in the FY 2017 Electric ISR Plan filing a proposal to identify and report in quarterly and annual reconciliation filings the projects that either exceeded or were under the fiscal year-to-date and fiscal year-end budgets by ten percent (10%).<sup>3</sup> 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 projects<sup>4</sup> with variances that exceed +/- 10% of the annual fiscal year budget. These projects represent approximately

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<sup>3</sup> Docket No. 4473 Order No. 21559 at p. 25.

<sup>4</sup> Large projects are defined as projects that exceed \$1.0 million in total project cost.

\$18.2 million of the FY 2017 budget of \$83.4 million. This information is provided in Attachment E.

### **3. Investment Placed-in-Service**

In total, \$75.5 million of investment was placed-in-service for FY 2017, which was approximately \$3.0 million below the original FY 2017 Electric ISR Plan planned amount of \$78.5 million. Details by spending rationale are included in Attachment B.

The Non-Discretionary Sub-category had \$28.6 million of plant additions placed in service, which was \$2.8 million under the planned amount of \$32.4 million. The Discretionary Sub-category had \$46.9 million of plant additions placed in service, which was \$0.2 million under the planned amount of \$47.1 million.

### **4. Vegetation Management (VM)**

For FY 2017, the Company completed 100% of its annual distribution mileage cycle pruning goal of 1,224 miles. This represented an associated spend of 99% of the FY 2017 budget for the cycle pruning program. Overall, for FY 2017, the Company's VM operation and maintenance (O&M) spending was on budget at \$8.7 million.

Attachment C provides the FY 2017 spending for all sub-components in the VM category.

### **5. Inspection and Maintenance (I&M)**

For FY 2017, the Company completed 100% of its annual structure inspection goal of 50,567 with an associated spend of \$0.9 million or approximately 71% of the I&M Repair and Inspection budget of approximately \$1.3 million. The Repairs and Inspection Related Costs subcategory includes the FY 2017 mobile elevated voltage testing and repairs, which the PUC approved in Docket No. 4237. Attachment D provides the total FY 2017 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 this time, the Company has completed repairs reported for approximately 33% of the total deficiencies found. Total deficiencies found and repairs made-to-date are shown in the table below.

<b>Summary of Deficiencies and Repair Activities RI Distribution</b>				
<b>Year Inspection Performed</b>	<b>Priority Level/Repair Expected</b>	<b>Deficiencies Found (Total)</b>	<b>Repaired as of 03/31/17</b>	<b>Not Repaired as of 03/31/17</b>
<b>FY 2011</b>	I	18	18	0
	II	13,146	13,128	18
	III	28	28	0
<b>FY 2012</b>	I	17	17	0
	II	15,847	15,454	393
	III	626	567	59
<b>FY 2013</b>	I	15	15	0
	II	26,882	14,906	11,976
	III	9,056	4,165	4,891
<b>FY 2014</b>	I	11	11	0
	II	23,196	2,612	20,584
	III	8,776	1,350	7,426
<b>FY 2015</b>	I	5	5	0
	II	21,549	1	21,548
	III	4,391	0	4,391
<b>FY 2016</b>	I	2	2	0
	II	11,596	0	11,596
	III	6,498	0	6,498
<b>FY 2017</b>	I	2	2	0
	II	8,300	0	8,300
	III	7,539	0	7,539
<b>Total Since Program Inception</b>	<b>I, II, III</b>	<b>157,500</b>	<b>52,281</b>	<b>105,219</b>

<b>FY 2017 – I&amp;M Level 1 Deficiencies Repaired</b>						
<b>Year Inspection Performed</b>	<b>Deficiencies Found</b>	<b>Structure Number</b>	<b>Location</b>	<b>Description of Work Performed</b>	<b>Inspection Date</b>	<b>Repaired Date</b>
	1	5	Audrey St, Providence	Service taps lifted wire on ground	2/11/2017	2/22/2017
	1	280-31	Mendon Fd 7 Rd, Cumberland	Abandoned property, lift secondary taps from service	4/22/2016	4/22/2016



As shown in the table below, results of the Company's manual elevated voltage testing for FY 2017 identified only nine instance of potential elevated voltage through either overhead or manual elevated voltage inspections.

Manual Elevated Voltage Testing				
Manual Elevated Voltage Testing	Total System Units Requiring Testing	FY 2017 Units Completed thru 03/31/17	Units with Voltage Found (>1.0v)	Percent of Units Tested with Voltage (>1.0v)
Distribution Facilities	250,441	50,479	1	0%
Underground Facilities	13,870	4,071	0	0%
Street Lights	5,884	5,884	8	0%

**Attachment A**  
**US Electricity Distribution - Rhode Island**  
**Capital Spending by Spending Rationale**  
**FY 2017 through March 31, 2017**  
**(\$000)**

	<b>FY 2017 Total</b>		
	<b>Budget</b>	<b>Actual</b>	<b>Variance</b>
<b>Customer Request/Public Requirement</b>	\$19,451	\$20,265	\$814
<b>Damage Failure</b>	\$11,467	\$15,614	\$4,147
<i>Subtotal Non-Discretionary</i>	<i>\$30,918</i>	<i>\$35,879</i>	<i>\$4,961</i>
<b>Asset Condition</b>	\$18,520	\$16,204	(\$2,316)
<b>Non-Infrastructure</b>	\$275	\$622	\$347
<b>System Capacity &amp; Performance</b>	\$18,368	\$16,371	(\$1,997)
<i>Subtotal Discretionary (Without South Street)</i>	<i>\$37,163</i>	<i>\$33,198</i>	<i>(\$3,965)</i>
<b>South Street Project</b>	\$15,360	\$15,070	(\$290)
<i>Subtotal Discretionary</i>	<i>\$52,523</i>	<i>\$48,267</i>	<i>(\$4,256)</i>
<b>Total Capital Investment in System</b>	<b>\$83,441</b>	<b>\$84,147</b>	<b>\$706</b>
* ( ) denotes an underspend for the period			

**Attachment B**  
**US Electricity Distribution - Rhode Island**  
**Plant Additions by Spending Rationale**  
**FY 2017 through March 31, 2017**  
**(\$000)**

	<b>FY 2017 Annual ISR Forecast</b>	<b>FY 2017 Year- end Actual</b>	<b>Variance of Actual to Forecast*</b>	<b>% of FY 2017 Year-end Forecast Placed in Service</b>
<b>Customer Request/Public Requirement</b>	\$19,971	\$14,991	(\$4,980)	75%
<b>Damage Failure</b>	\$11,425	\$13,635	\$2,210	119%
<i>Subtotal Non-Discretionary</i>	\$31,396	\$28,626	(\$2,770)	91%
<b>Asset Condition</b>	\$26,481	\$18,726	(\$7,755)	71%
<b>Non- Infrastructure</b>	\$271	\$0	(\$271)	0%
<b>System Capacity &amp; Performance</b>	\$20,330	\$28,170	\$7,840	139%
<i>Subtotal Discretionary</i>	\$47,082	\$46,896	(\$186)	100%
<b>Total Capital Investment in System</b>	<b>\$78,478</b>	<b>\$75,522</b>	<b>(\$2,956)</b>	<b>96%</b>
* ( ) denotes an underspend for the period				

**Attachment C**  
**US Electricity Distribution - Rhode Island**  
**Vegetation Management O&M Spending**  
**FY 2017 through March 31, 2017**  
**(\$000)**

	<b>FY 2017 Annual ISR Budget</b>	<b>FY 2017 Actual Spend</b>	<b>Variance*</b>	<b>% Spend</b>
Cycle Pruning (Base)	\$5,050	\$5,021	(\$29)	99%
Hazard Tree	\$950	\$937	(\$13)	99%
Sub-T (on & off road)	\$780	\$736	(\$44)	94%
Police/Flagman Details	\$714	\$747	\$33	105%
Core Crew (all other activities)	\$1,225	\$1,271	\$46	104%
<b>Total VM O&amp;M Spending</b>	<b>\$8,719</b>	<b>\$8,712</b>	<b>(\$7)</b>	<b>100%</b>
* ( ) denotes an underspend for the period				
	<b>FY 2017 Goal</b>	<b>FY 2017 Complete</b>	<b>FY 2017 % Complete</b>	
<b>Distribution Mileage Trimming</b>	<b>1,239</b>	<b>1,239</b>	<b>100%</b>	

**Attachment D**  
**US Electricity Distribution - Rhode Island**  
**Inspection and Maintenance Program O&M Spending**  
**FY 2017 through March 31, 2017**  
**(\$000)**

	<b>FY 2017 Annual ISR Budget</b>	<b>FYTD Actual Spend</b>	<b>Variance*</b>	<b>% Spent</b>
Opex Related to Capex	\$450	\$275	(\$175)	61%
Repair & Inspections Related Costs	\$817	\$608	(\$209)	74%
System Planning & Protection Coordination Study	\$25	\$34	\$9	136%
<b>Total I&amp;M O&amp;M Spending</b>	<b>\$1,292</b>	<b>\$917</b>	<b>(\$375)</b>	<b>71%</b>
* ( ) denotes an underspend for the period				

	<b>FY 2017 Goal</b>	<b>FY 2017 Completed</b>	<b>FY 2017 % Completed</b>
<b>RI Distribution Overhead Structures Inspected</b>	<b>50,567</b>	<b>50,567</b>	<b>100%</b>

**Attachment E**  
**US Electricity Distribution - Rhode Island**  
**Project Variance Report**  
**FY 2017 through March 31, 2017**  
**(\$000)**

Project Description	Project Funding Number(s)	FY 2017 Total			Variance Cause
		Budget	Actual	Variance	
Chase Hill D-Line and D-Sub	C024175, C024176	\$3,690	\$4,939	\$1,249	Project advanced
Kent County 2nd Transformer	CD01101, CD01104	\$1,940	\$1,674	(\$266)	Resource needs less than forecasted
New London Avenue D-Line and D-Sub	C032002, C028920, C028921	\$4,090	\$270	(\$3,820)	Project deferred to FY 2018
Aquidneck Island Projects (Gate 2, New port, Jepson)	CD00649, C024159, C015158, C028628, C054054, CD00656	\$2,882	\$1,478	(\$1,404)	Project delayed due to permitting issues
Kilvert Street #87 Upgrades	C036516, C036522	\$146	\$1,521	\$1,375	Project delayed from FY 2016 to FY 2017
Volt/Var Pilot Program	C046352, C052708, C053111	\$852	\$1,573	\$721	Communication solution higher than initial budget
Metal Clad Substation Retirements (Hyde Ave., Daggett Ave., Southeast, and Front St.)	C050778, C049910, C053658, C053657, C050006, C050017	\$2,310	\$2,091	(\$219)	Front St deferred from FY 2017
BITS Wakefield Sub Upgrades	C046386	\$519	\$2,405	\$1,886	Increase in cost
LNG D-Line and D-Sub	C051203, C051204	\$697	\$2,217	\$1,520	Reimbursement delayed to FY2018 Q1.
		<b>\$17,126</b>	<b>\$18,168</b>	<b>\$1,042</b>	
* ( ) denotes an underspend for the period					

**Attachment F**  
**US Electricity Distribution - Rhode Island**  
**Damage/Failure Detail by Work Type**  
**FY 2017 through March 31, 2017**

		Project Type					Grand Total
		D-Line Blanket	D-Line Property Damage	D-Line Storm	D-Sub Blanket	D-Sub Specific	
Operation Description Rollup	AFUDC	\$4,679	\$5	\$120	(\$218)	\$3,805	\$8,390
	Default Accounting	\$1,489,647	\$96,251	\$111,717	\$131,634	\$171,229	\$2,000,478
	Engineering/Design/Supervision	\$941,383	\$119,315	\$258,228	\$82,933	\$388,004	\$1,789,862
	Outdoor Lighting - Cable/Wire	\$108,687	\$1,314	\$46			\$110,048
	Outdoor Lighting - Framing	\$263,713	\$2,025	\$3,862			\$269,601
	Outdoor Lighting - Poles	\$84,001	\$10,670				\$94,671
	Overhead Bonding/Grounding	\$34,374	\$532	\$959			\$35,864
	Overhead Services	\$376,557	\$19,461	\$132,141			\$528,159
	Overhead Switches/Reclosers/Fuses	\$891,757	\$23,814	\$80,592			\$996,162
	Overhead Transformers/Capacitors/Regulators	\$701,230	\$37,850	\$155,740			\$894,819
	Overhead Wire & Conductor	\$464,257	\$38,030	\$120,449	\$113		\$622,848
	Pole Framing	\$304,381	\$36,266	\$64,407			\$405,054
	Poles/Anchors/Guying	\$1,274,361	\$331,656	\$965,697			\$2,571,714
	Substation Equipment Installations	\$69,794			\$690,574	\$1,610,167	\$2,370,534
	Substations Civil/Structural				\$23,763	\$319,437	\$343,200
	Switching and Restoration	\$26,317	\$10,176	\$1,209			\$37,702
	Traffic Control	\$395,997	\$68,544	\$58,112	\$361		\$523,014
	Underground Cable	\$1,216,170	\$70,906	\$44,387			\$1,331,463
	Underground Cable Splicing	\$72,987	\$10,586	\$922			\$84,496
	Underground Civil Infrastructure	\$122,763	\$4,620	\$326			\$127,710
	Underground Direct-Buried Cable	\$37,956	\$6,656	\$1,099			\$45,712
	Underground Services	\$32,987	\$17,640	\$629			\$51,257
	Underground Switches/Reclosers/Fuses	\$33,583	\$690	\$6,078			\$40,351
	Underground Transformers/Capacitors/Regulators	\$318,173	\$0	\$13,056			\$331,230
	<b>Grand Total</b>	<b>\$9,265,755</b>	<b>\$907,006</b>	<b>\$2,019,777</b>	<b>\$929,160</b>	<b>\$2,492,641</b>	<b>\$15,614,339</b>

\* ( ) denotes an underspend for the period

- Costs include prior year adjustments.
- The Valley Street 102 22T Transformer Replacement accounts for \$1.7 million of the D-Sub specifics category.
- The single largest weather event contributing to the D-Line Storm category is the 9/4/2016 Hurricane Hermine..

**Attachment G**  
**US Electricity Distribution - Rhode Island**  
**South Street Budget and Project Management Report**  
**April 2017 Update**  
  
**(Below)**



## South Street Project Status Update Meeting

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## South Street Project: Agenda

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- Safety Moment
- Project Milestone Schedule
- March Deliverables
- April Deliverables
- TRC Payment Schedule
- Open PCRs
- Other



## South Street Project: Safety Moment



- Driving through construction areas
  - Drive slow
  - Be aware of workers and police details
  
- Construction site safety update - TRC



## South Street Project: Major Milestones



South Street Upcoming Milestones	
Milestone	Scheduled Date
Begin Transmission Conduit Installation	5/2016
Building Foundation Pile Installation completion	7/2016
First Transmission Outage – MH installation	9/2016
Building Foundation completion	10/2016
Distribution Duct bank – start of installation	1/2017
Complete building enclosure	2/2017
Substation Construction Complete	11/2017
Start of testing and commissioning	11/2017
Distribution Cutover – Phase 1 (Start)	2/2018
Distribution Cutover – Phase 2 (Start)	9/2018
Distribution Cutover – Phase 3 (Start)	2/2019
Cutover Complete	4/2019
Completion of Demolition of existing substation	9/2019



## South Street Project: Major Milestones

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<u>Critical Path/Building:</u>		<u>Transmission:</u>	
Wall Panel Completion	1/27/2017	Complete T2 Conduit	04/12/2017
Hoist Installed and Certified	02/28/2017	Complete T3 Conduit	4/24/2017
Roof Installation Complete	03/08/2017	Complete T1 Conduit	05/04/2017
Building Weather Tight	03/09/2017	Complete T2 Riser Structure	05/08/2017
Switchgear - Received and Available	03/21/2017	Complete T3 Riser Structure	05/16/2017
Reactors - Received and Available	04/11/2017	Complete T1 Riser Structure	05/24/2017
P&C Panels - Received and Available	04/28/2017	Receive Transmission Cable	06/30/2017
Disconnect Switches - Received and Available	05/01/2017	<b>T1, T2, T3 Cable Installation Complete including</b>	
Primary Bus & Connections - Received and Available	05/15/2017	<b>Splicing</b>	<b>01/02/2018</b>
Battery Banks - Received and Available:	06/05/2017		
Building Occupancy Permit	07/18/2017		
<u>Distribution:</u>		<u>Substation</u>	
Design Complete	02/24/2017	Pile Driving complete	03/31/2017
Commence Conduit Installation on South Side	04/17/2017	Ground grid complete	07/21/2017
Complete Conduit Installation on South Side	06/23/2017	Transformers delivered	08/01/2017
Commence Conduit Installation on North Side	06/26/2017	Bus Work Complete	09/08/2017
Complete Cable Pulling South Side	06/30/2017	Foundation complete	09/17/2017
Complete Conduit Installation on North Side	08/31/2017		
Complete Cable Pulling North Side	09/06/2017		



## South Street Project: March Deliverables



### TRC Deliverables

- Received Switchgear - Complete
- Excavation for piles – Started
- Pipe Jacking – Started in March. Completed in April
- Roof installation – Started/ongoing
- Continue with electrical work in basement - Ongoing
- Continue with electrical work in building – Ongoing
- Obtain new Transmission cable supplier – Status?
- Engineering Activities – On Going

### National Grid Deliverables

- Continued to work on open change orders – A number of change orders were recently submitted. Discussions with TRC have concluded that the initial distribution \$1.7M change order is being retracted.
- Worked on Zoning application for proposed fence – Submitted
- Obtained approval from agencies for new proposed elevation for south side of substation – Complete
- Processed March invoice - Complete
- Outage Planning - Ongoing
- Review design – ongoing
- Review submittals – On going



## South Street Project: April Deliverables



### TRC Deliverables

- Pipe jacking - Complete
- Receive switchgear – Complete
- Receive Reactors – Start 4/17/2017
- Various activities inside building – Ongoing
  - Framing
  - Electrical
  - Fireproofing
  - HVAC
- Outage sequencing - Ongoing
- Engineering Activities – On going

### National Grid Deliverables

- Zoning hearing for proposed fence – 4/12/2017
- Process invoices – 4/20/2017
- Review engineering designs – On going
- Review open PCRs – On going
- Review submittals – On going
- Outage sequencing - Ongoing



## South Street Project: Permitting Update



- Permitting
  - CRMC – Complete
  - Providence Historic District Commission (PHDC) – Complete
  - EFSB – Complete
  - DDRC- Complete for current construction activity.
    - Need DDRC approval for new fence.
    - Full public hearing is not needed.
  - Zoning
    - Need zoning approval for new fence.





## South Street Project: TRC FY17 Payment Schedule



Distribution					
	June	September	December	February	March
C051212	\$2,040,040	\$2,639,537	\$2,425,009	\$256,411.65	\$0.00
C051213	\$433,242	\$265,697	\$475,313.04	\$42,158	\$573,586

Transmission					
	June	September	December	February	March
C055584	\$1,480,015	\$2,305,390	\$2,557,927	\$226,877	\$2,611,787
C055585	\$591,949	\$979,375	\$1,083,742	\$96,123	\$357,809
C055586	\$283,045	\$280,301	\$388,220	\$34,433	\$0.00



## South Street Project: PCRs



### ■ Open PCR status

- Remote Telecomm Design brief (PCR #39) – National Grid Responded. A meeting between National Grid and TRC took place to review.
- Additional depth - \$900k – Information was supplied to National Grid (If new distribution design is created by TRC, overall cost will be less).
- PCR 62 – Cleaveland price switches (\$24.3k) - approved

### New PCRS

- CO 57 Manhole 2213 (\$240k)
- CO 58 Additional Manhole (\$25k)
- CO 44 Distribution Design Changes (\$766k)
- CO 61 Schedule Impacts (\$500k)
- CO 60A Distribution Quantity changes (\$935k)
- CO 60B Elevated Distribution Design (\$113k)
- CO 60 Distribution Quantity Changes (\$420k)
- CO 63 Abandoned Engineering (\$244k)



## South Street Project: Other



- Other

- Schedule has been a concern since January. Baselined schedule confirms National Grid's concerns.
- Sequence of construction activities are concerning. Precaution needs to be taken on sensitive equipment

