STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION

IN RE: NATIONAL GRID'S ELECTRIC INFRASTRUCTURE, SAFETY, AND RELIABILITY PLAN FY2017 PROPOSAL	:	DOCKET NO. 4592

REPORT AND ORDER

I. National Grid's Filing

On December 9, 2015, The Narragansett Electric Company d/b/a National Grid (National Grid or Company) filed with the Public Utilities Commission (PUC or Commission) its proposed Electric Infrastructure, Safety, and Reliability Plan (Electric ISR Plan) for FY 2017.[1] National Grid indicated that the Division of Public Utilities and Carriers (Division) had reviewed the proposed Electric ISR Plan and had agreed to the spending portion but was continuing its review of particular provisions during the PUC's review.[2]

[1] R.I. Gen. Laws § 39-1-27.7.1 states, in relevant part, that National Grid shall file proposals with the Public Utilities Commission that contain:

> An annual infrastructure, safety and reliability spending plan for each fiscal year and an annual rate reconciliation mechanism that includes a reconcilable allowance for the anticipated capital investments and other spending pursuant to the annual pre-approved budget as developed in accordance with subsection (d) herein….(d) Prior to the beginning of each fiscal year, gas and electric distribution companies shall consult with the division of public utilities and carriers regarding its infrastructure, safety, and reliability spending plan for the following fiscal year, addressing the following categories: (1) Capital spending on utility infrastructure; (2) For electric distribution companies, operation and maintenance expenses on vegetation management; (3) For electric distribution companies, operation and maintenance expenses on system inspection, including expenses from expected resulting repairs; and (4) Any other costs relating to maintaining safety and reliability that are mutually agreed upon by the division and the company. The distribution company shall submit a plan to the division and the division shall cooperate in good faith to reach an agreement on a proposed plan for these categories of costs for the prospective fiscal year within sixty (60) days. To the extent that the company and the division mutually agree on a plan, such plan shall be filed with the commission for review and approval within ninety (90) days. If the company and the division cannot agree on a plan, the company shall file a proposed plan with the commission and the commission shall review and, if the investments and spending are found to be reasonably needed to maintain safe and reliable distribution service over the short and long-term, approve the plan within ninety (90) days.

The FY 2017 Electric ISR Plan and all of the documents referenced herein can be found on the PUC's website at: http://www.ripuc.org/eventsactions/docket/4592-NGrid-Electric-ISR-FY2017_12-9-15.pdf.

[2] Filing Letter, 1 (Dec. 9, 2015).

On February 25, 2016, after conducting discovery and a hearing, the PUC approved the Electric ISR Plan, but with a modified revenue requirement to reflect a downward adjustment to the vegetation management budget and an increase to reflect the results of National Grid's income tax filings made after the filing of the Electric ISR Plan. The overall revenue requirement was $27,703,824, resulting in an incremental fiscal year rate adjustment of $6,502,032. This increase will support a FY 2017 Electric ISR Plan capital budget of $83,441,000, a vegetation management budget of $8,719,042, and an infrastructure and maintenance budget of $1,291,750.

In support of the Electric ISR Plan, National Grid submitted the prefiled direct testimony of National Grid employees James H. Patterson, Director, Network Strategy for New England, and Ryan A. Moe, Vegetation Strategist (collectively, the plan witnesses). In support of the development of the revenue requirement and to explain the reconciliation process, National Grid submitted the prefiled direct testimony of its employee Amy S. Tabor, Senior Analyst of New England Revenue Requirements. In support of the new tariffs and to explain the calculation of the factors and to provide customer bill impacts, National Grid submitted the prefiled direct testimony of its employee Adam S. Crary, Senior Analyst for Electric Pricing.

A. ELECTRIC ISR PLAN

The plan witnesses indicated that the proposed Electric ISR Plan covered three budget categories for the fiscal year ending March 31, 2017: capital spending on infrastructure projects, operation and maintenance expenses (O&M) for vegetation management, and O&M expenses for an inspection and maintenance (I&M) program.[3] They explained that the Electric ISR Plan included a spending plan and proposed an annual

[3] Prefiled Test. of James H. Patterson and Ryan A. Moe, 5.

reconciliation mechanism to "provide for recovery related to capital investments and other spending undertaken pursuant to the annual pre-approved budget for the Electric ISR Plan."[4]

The proposed capital spending plan for FY 2017 is $83.4 million.[5] According to the plan witnesses, the Electric ISR Plan addressed the capital investment needed for five specific purposes: to meet state and federal regulatory requirements applicable to the electric system (Customer Request/Public Requirement); to repair failed or damaged equipment (Damage Failure); to address load growth/migration and to maintain reliable service (System Capacity and Performance); and to sustain asset viability through targeted investments driven primarily by condition (Asset Condition).[6] Of these, the Company considers Customer Request/Public Requirements and Damage Failure to be non-discretionary "in terms of scope and timing" and "subject to necessary and unavoidable deviations."[7] These items, totaling $30,918,000, account for 37.1% of the proposed capital outlays in FY 2017.[8]

The remaining categories, System Capacity and Performance, Asset Condition, and Non-Infrastructure, are meant to reduce the degradation of the service life of equipment, to allow for more flexibility in the system for purposes of meeting various contingencies such as load growth and migration, and to address poor condition of aged assets.[9] These items comprised the other 62.9% of the FY 2017 budget. Specifically, the System Capacity costs of $18,968,000 made up 22.7%; Asset Condition costs of $33,280,000 made up 39.9%; and Non-Infrastructure spending of $275,000 made up the remaining 0.3%.[10]

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[4] *Id.*
[5] *Id.* at 6.
[6] *Id.* at 7.
[7] *Id.* at 8-9.
[8] *Id.* at 7.
[9] *Id.* at 9-11.
[10] *Id.* at 7.

A single large project, the South Street Station asset replacement project (18% of the entire ISR budget), was addressed in three areas of National Grid's filing. The Plan Witnesses explained that National Grid agreed with the Division to manage any deviations from the FY 2017 South Street project budget separately from the overall discretionary budget. Deviations from the South Street budget will neither advance nor delay other discretionary work to compensate for those deviations.[11] As further explained in the introduction to the Electric ISR Plan, the forecasted $15.3 million spending in FY 2017 may change as the project advances. If this project were managed with the overall discretionary portfolio, delays may happen with other important, but discretionary, projects. Managing it separately as a distinct portfolio of spend will not affect the status of other discretionary projects.[12]

The Electric ISR Plan also includes the proposed FY 2017 spending levels for the Company's Vegetation Management Program of approximately $8.9 million. Finally, the I&M spending includes capital amounts already accounted for above plus $1.3 million for O&M costs related to the I&M program.[13] The Company agreed to provide the PUC with quarterly reports on the progress of executing the ISR Plan and an annual report at the time the Company files its annual reconciliation. Additionally, the Company and the Division had agreed that if circumstances required, National Grid will be allowed reasonable deviations from the plan, with explanation of significant deviations to be included in its quarterly and year-end reports.[14]

[11] *Id.* at 11.
[12] *Id.* at 19.
[13] *Id.* at 12-13.
[14] *Id.* at 11-12.

B. SUMMARY OF THE PROPOSED FY 2016 ELECTRIC ISR PLAN

The Capital Plan budget was proposed at $83,441,000.[15] The budget for capital improvements was slightly more than 14% higher than the Company's FY 2016 budget for the same category.[16] Brief summaries of the capital and non-capital categories follow.

1. Customer Request/Public Requirements (formerly Statutory/Regulatory) ($19,451,000)

The Customer Request/Public Requirements category is considered non-discretionary in that the spending is required to meet customer requests and public requirements arising from regulatory, governmental, or contractual obligations, including responding to new customer service requests (23.3% of the budget). The scope and timing is primarily defined by those external to the Company. This budget included approximately 24% of an increase in the budget for public projects over the FY 2016 budget. The projects included relocating or adding Company assets due to road or bridge work, moving of assets such as poles to accommodate customer requests, and construction requested by other utilities, public authorities, municipalities, and the Rhode Island Department of Transportation. The increase is driven largely by an increase in new business and commercial-specific projects, with the largest being the liquefied natural gas facility on Terminal Road in Providence. This budget item is net of contributions in aid of construction. This budget item also included $200,000 to facilitate certain third-party attachments, the cost of which, is not reimbursable. This situation applies when National Grid needs to complete work in order to address non-conformance with current standards in

[15] *Id.* at 8. According to National Grid, its Calendar Year 2014 performance represented an improving trend over the past several years with major event days excluded. According to the Company, continued investment in capital spending, vegetation management, and inspection and maintenance will contribute to continued reliability. Electric ISR Plan, § 2 at 2-12 (Bates page 37).
[16] Electric ISR Plan, § 2 at 13 (Bates page 37).

order to accommodate a third-party attachment. This is different from work that needs to be done on conforming poles in order to accommodate a third-party attachment, in which case, the attacher needs to pay the cost of that work. In FY 2017, the budget included $600,000 to perform upgrades on the Wakefield substation to accommodate the Block Island Transmission System (R.I. Gen. Laws § 39-26.1-7).[17]

2. Damage/Failure ($11,467,000)

The Damage/Failure category is "to replace equipment that unexpectedly fails or becomes damaged."[18] These costs are considered non-discretionary and range from small failures, specific failures in excess of $100,000 based on recent trends, and major storms. The latter two categories allow the Company to continue with its planned work in the capital program while addressing the unexpected failures. The Company has budgeted approximately 3% more than was budgeted in FY 2016 and 17% more than the actual costs incurred in this category in FY 2015. The budget is based on historical trends. A portion of this budget item is designed to cover assets needing immediate repairs which are identified through the inspection and maintenance (I&M) program.[19]

3. Asset Condition ($33,280,000)

The Asset Condition budget item is for replacement of assets needed to maintain reliable performance. The FY 2017 budget is approximately 38% higher than FY 2016, driven primarily by the South Street asset replacement project. This category included the replacement of the South Street substation with a budget for this multi-year project of $4.6 million in FY 2016 and $15.4 million in 2017 (a separate subsection related to this project is below). This budget item specifically includes a project at the Southeast substation in

[17] Electric ISR Plan, § 2 at 17, 24-26 (Bates pages 41, 48-50).
[18] Electric ISR Plan § 2 at 17 (Bates page 41).
[19] Electric ISR Plan, Section 2 at 26-28 (Bates pp. 50-52).

Pawtucket which, once the metalclad switchgear is retired, will allow the Company to address capacity and operational issues related to that substation as well as the Pawtucket No. 1 substation. The FY 2017 budget of $25,000 is to further develop the scope of the project. The Company has allocated $500,000 to a buried cable relocation project on Memorial Boulevard in Newport to address condition problems caused by rainfall.[20]

Also under this category are the only two flood mitigation projects in the FY 2017 Electric ISR. They involve continued work to raise a portion of the substation equipment at Warwick Mall and final engineering, procurement, permitting, and licensing for Hope Substation. The Riverside Substation was completed while the Westerly substation work has been deferred. Two flood mitigation projects at Sockanosett and Hunt will be addressed through other projects.[21]

This budget item also includes the underground residential development/underground commercial development cable strategies which either fix or replace cable that has had at least three failures in the last three years. The Company also has an underground cable strategy to replace primary underground cable that has experienced poor performance. Another project, the replacement of the Dyer Street indoor substation, has been allocated $25,000 for progress scope development. This budget item also includes replacement of substation batteries over twenty years old or that do not meet current operating requirements. It also includes replacement or retirement of metalclad switchgear that have operating issues or are of the same type as others with operating issues; replacement of obsolete circuit breakers and reclosers; replacement of relays with operational issues as part of a six-year plan; proactive replacement of substation

[20] Electric ISR Plan, Section 2 at 28-31. (Bates pages 52-55).
[21] Electric ISR Plan, Section 2 at 31-32 (Bates pages 55-56).

transformers that have a high likelihood of failure; and continuation of the network arc flash program.[22]

National Grid addressed the 38% increase in the asset condition budget over FY 2016, stating that "this increase is driven primarily by the South Street asset replacement project, which has a FY 2017 budget of $15.4 million."[23] In the FY 2016 ISR, South Street accounted for $7.3 million of the asset condition budget. "As a result of the increase to South Street, the Company re-phased the schedules of several Asset Condition projects to FY 2018 and beyond in order to achieve the $33.3 million budget for the FY 2017 ISR."[24]

4. System Capacity & Performance ($18,968,000)

Load relief comprises 72% of this line item related to seven substation projects. The remainder of the budget was used for the distribution line transformer strategy to mitigate unplanned outage/failure risks due to overloads and asset condition of distribution line transformers; a distribution load relief blanket and distribution reliability blanket for work under $100,000; expansion of the substation EMS/RTU SCADA additions program, to improve reliability performance and increase operational effectiveness and which targeted ten substations; a flood contingency plan to install flood barriers at substations; and an overhead line recloser communication upgrade, to upgrade 220 units from 2G and 3G technology to radios that will communicate via a 4G cellular network. Finally, this budget item included the advanced volt/var management scheme program which is currently in the construction stage. The additional $900,000 needed to complete the program includes the

[22] Electric ISR Plan, § 2 at 32-38 (Bates pp. 56-62).
[23] *Id.*
[24] Electric ISR Plan, § 2 at 28 (Bates p. 52).

best estimate of the distribution substation, line communications, and information systems necessary to complete the project (bids were being obtained at the time of filing).[25]

Touching on its capacity planning process, National Grid explained that it uses a multi-step process to forecast loading on assets to identify the need for capacity expansion projects. First, using an econometric model, the Company forecasts summer and winter peak loads. The model is also used to simulate historical and forecasted peak load under normal and extreme weather conditions. These forecasts of peak load include energy efficiency savings already achieved, while the Company further subtracts future incremental expected savings from its load forecast. According to National Grid, "[t]he growth rates, which include the impact of distributed generation resources, are applied to each of the substations and feeders within the area." The Company's planners make further refinements based on known "spot load additions" or system configurations. Project proposals are then identified to address any planning criteria violations. In addition, the Company has also developed guidelines for the consideration of non-wires alternatives, where appropriate.[26]

5. Non-Infrastructure ($275,000)

The Non-Infrastructure category is for capital expenditures that do not fit into one of the other categories, such as general and telecommunications equipment necessary to run the electric system.[27]

6. Vegetation Management ($8,855,000 – Non-Capital)

The vegetation management budget, a reduction from the prior fiscal year, included cycle pruning ($5,050,000), which is the continuation of four year cycle; enhanced hazard tree mitigation work ($950,000), to identify and remove dying or structurally weakened

[25] Electric ISR Plan, § 2 at 18, 39-50 (Bates pp. 42, 63-74).
[26] Electric ISR Plan, § 2 at 40-41 (Bates pp. 64-65).
[27] Electric ISR Plan, § 2 at 20 (Bates p. 44).

trees along the three phase sections of distribution circuits; sub-transmission (off & on road) ($780,000); and police/flagger detail ($850,000) related to cycle pruning and hazard tree work. The police/flagger detail costs for the most recent three fiscal years were: $461,000 in 2012; 766,000 in 2013; $769,000 in 2014; $650,000 in 2015; and estimated to be $750,000 in 2016. This category also has a general line item called all other activities which includes trimming associated with interim/spot areas, customer requests, emergency response, and worst-performing feeders ($1,225,000).[28]

7. Inspection and Maintenance Plan ($1,291,750 – Non-Capital)

The goal of the Inspection and Maintenance (I&M) program is to inspect and repair all feeders on a ten year cycle. This budget item includes operation and maintenance (O&M) expenses for overhead distribution feeders and sub-transmission lines, contact voltage testing, and volt/var costs. The costs included in I&M are related to operating expenses related to the capital expenditures, repair related costs, and inspections related costs.[29]

The overhead inspection and maintenance includes distribution and sub-transmission repairs. By the end of FY 2016, National Grid expects all of the feeders to have been inspected, thus completing the five-year cycle. Nineteen percent of the overhead distribution feeders have been repaired under the I&M program. The Company stated that in FY 2016, the annual capital funding was reduced to achieve a 10-year construction cycle.[30] However, in order to achieve an overall FY 2017 capital budget of $90 million and to include the South Street substation work, and the I&M budget has been reduced further. The proposed spending for FY 2017 represented a 63% decrease in capital spending and a

[28] Electric ISR Plan, § 3 at 2-9 (Bates pp. 102-09).
[29] Electric ISR Plan, § 4 at 2-5 (Bates p. 112-14).
[30] Electric ISR Plan, § 4 at 3-4 (Bates p. 112-13).

61% decrease in O&M spending over the approved FY 2016 budget. "Although further extending the construction schedule presents an asset risk," inspection will still be conducted and damaged or failing assets will still be repaired.[31] The sub-transmission feeders will be subject to inspections, engineering, and limited repairs. To date, the Company has inspected three sub-transmission feeders and found very limited need for repair.[32]

8. REVENUE REQUIREMENT – REVISED

On February 15, 2016, in response to a PUC Data Request, National Grid filed a revised revenue requirement to incorporate the effect of two events that occurred subsequent to the filing of the proposed FY 2017 Electric ISR Plan, but before the hearing in this matter. The first was that National Grid filed its FY 2015 federal income tax return, which reflected the generation of tax Net Operating Losses (NOLs). The second was the passage of the Protecting Americans from Tax Hikes (PATH) Act of 2015, which extended bonus depreciation. When developing its initial revenue requirement, the Company had assumed no extension. The overall result of these two events was an increase of $569,439 over what had originally been filed.[33]

Ms. Tabor explained that the revenue requirement of the FY 2016 Electric ISR Plan included (1) an O&M expense related to vegetation management and the Company's I&M Program as well as (2) the Company's capital investment in electric utility infrastructure.[34] The forecasted FY 2017 revenue requirement of $27,839,782 is an incremental increase of $6,637,990 from the FY 2016 Electric ISR Plan revenue requirement of $21,201,792. The amount related to O&M expenses is $9,983,001. Of that amount, $8,855,000 is for

[31] Electric ISR Plan, § 4 at 3 (Bates p. 112).
[32] Electric ISR Plan, § 4 at 4 (Bates p. 113).
[33] PUC Ex. 3 (PUC-2-1), at 1-2, Attachment COMM-2-1(a).
[34] Prefiled Test. of Amy S. Tabor, 2-3 (Bates pp. 175-76).

vegetation Management and $1,291,750 is related to Inspection and Maintenance O&M expenses. This is offset by a reduction of $163,749 to reflect the contact voltage expenses included in base rates.[35]

9. DEVELOPMENT OF ISR FACTOR

Adam Crary, Senior Analyst for Electric Planning, explained that the ISR Factor contains two mechanisms: (1) an Infrastructure Investment Mechanism to recover costs associated with incremental capital investment and (2) an O&M Mechanism to recover O&M expenses related to inspection and maintenance and vegetation management activities. To design the Capital Expenditure factors to develop the incremental capital investment, following Commission review of a cumulative revenue requirement, National Grid will apply a rate base allocator based on the most recently approved cost-of-service study. Similarly, the design of the O&M Mechanism is to allocate the inspection and maintenance and vegetation management expenses to the rate classes based on the percentage of total distribution O&M expense allocated to each rate class per the most recent cost-of-service study. Within each rate class, National Grid calculates a per unit charge based on kWh usage for non-demand classes and on a kW basis for demand classes.[36]

Each year, by August 1, the Company proposes Capital Expenditure reconciling factors and an O&M reconciling factor to become effective on October 1 for the following twelve-month period. The reconciliation will compare the actual cumulative revenue

[35] PUC Ex. 3 (PUC-2-1), Attachment COMM-2-1(a) at 1.

[36] Test. of Adam S. Crary, 3-7; Section 6: Rate Design, Revised. For G-02 and G-32/B-32 customers whose charges include both demand and usage, the Capital Expenditure factors and O&M factors are designed "to not significantly change the relationship between the existing charges and will ensure that customers within the class that have differing usage characteristics will not experience significantly different bill impacts." Test. of Crary, 7. Furthermore, as a result of two tariffs approved by the PUC for effect February 1, 2013, the Back-Up retail delivery rates were recalculated to reflect a discounted distribution kW charge. The methodology in this filing is different from the prior year, but the result is the same under both methodologies. Test. of Crary, 9-12.

requirement to actual billed revenue generated from the Capital Expenditure Factors and any over- or under-recovery will be refunded to or collected from customers through the Capital Expenditure Reconciling Factors. The O&M reconciling factor will compare the actual I&M and vegetation management O&M expense to actual billed revenue generated from the O&M factors. Any over- or under-collection of actual expense will be refunded to or collected from customers through a uniform per kWh charge applicable to all rate classes.[37]

Mr. Crary explained that the Capital Expenditure Factors are designed to collect the cumulative revenue requirement of $17,856,781 attributable to incremental capital investments through the end of FY 2017. The cumulative revenue requirement is allocated to the various rate classes based on the total rate base allocator that was included in the Commission-approved Amended Settlement Agreement filed in Docket No. 4323.[38] The O&M Factors are designed to collect the $9,983,001 in forecasted FY 2017 I&M and vegetation management O&M activities. The monthly rate increase on the bill of a typical residential customer using 500 kWh per month would be $0.67 per month.[39]

II. Division's Filing

On February 12, 2016, the Division submitted the prefiled testimony of its consultants Gregory L. Booth, P.E. and David J. Effron. The Division supported the FY 2017 Electric ISR Plan as filed. Mr. Booth indicated in his memorandum that the filed plan represented a $6.6 million reduction in capital and $825,000 reduction in vegetation management from what was originally presented to the Division in the fall of 2015. Mr.

[37] *Id.* at 5, 7-8.
[38] *Id.* at 8; PUC-2-1, Attachment COMM-2-1(a) at 1. *See* Order Nos. 20943 (Jan. 31, 2013), 21011 (Apr. 1, 2013), and 21054 (May 29, 2013).
[39] Test. of Crary, 9, 11; PUC-2-1(c) at 1.

Booth supported the FY 2017 Electric ISR Plan as balancing the need for safety and reliability with the efficient benefit/cost considerations.[40]

Mr. Booth stated, "[a]lthough [long range plan] studies have commenced, they do not specifically support the South Street project or other individual load relief projects. It has been agreed that the Company budget and complete all currently scheduled projects before adding future capital projects that are supported by system studies."[41] He noted in his testimony that this project had originally been estimated at $18 million and had grown to $55 million as a result of "significant scope changes [that] have occurred due to the location of the proposed work in concert with the need to coordinate private development projects in Providence."[42]

As he did during his review of the FY 2016 Electric ISR Plan, Mr. Booth again expressed concern that National Grid had been consistently overspending in the Damage/Failure category and questioned whether the Company was accurately reflecting costs, monitoring the type and level of work performed under I&M program, and/or using appropriate methodologies to estimate the budget.[43] After a review of the FY 2017 Electric ISR Plan and budget variances, Mr. Booth stated that analysis showed that sometimes "facilities or equipment identified by the field operations group for replacement under damage/failure were actually condition based and more discretionary in nature than non-discretionary."[44] Inappropriate categorization would lead the Company to advance projects that are not immediately necessary. Therefore, he recommended and the Company agreed

[40] Test. of Gregory L. Booth, P.E., 7-8.
[41] Report of Booth, 8.
[42] *Id.* at 19.
[43] *Id.* at 12.
[44] *Id.*

to provide more detail in the quarterly reports in order to allow for a better review of the categorization of projects.[45]

Mr. Booth stated that National Grid "has demonstrated in the past two ISR Plans that it has failed to develop comprehensive and accurate capital project estimates. Additionally, it has failed to manage to its category budgets. These are disturbing trends which the Company has assured it will rectify."[46] Mr. Booth again explained the importance of project justification and long range planning. Noting that capital projects are often included in an ISR Plan before receiving the most accurate scope and estimate possible, Mr. Booth indicated that National Grid has verbally committed to improving its internal processes aimed at achieving more accurate project scopes and budgets, as explained in the Electric ISR Plan. Mr. Booth opined that this proposal should significantly improve project estimates and schedules early in the planning cycle, allowing more success in managing annual targets in the future.[47]

Finally, on a related point, Mr. Booth stated that more attention and proactive measures are required for the Company's continuing project management and its ability to execute projects on time and on budget. He said that the "Company has developed a trend for discretionary spending in which collective projects are managed to a specific goal rather than each project being executed as presented in the initial proposed plan."[48] According to Mr. Booth, this can be mitigated with efficient management of the ISR Plan. He pointed out that the constant shifting of project prioritization after the budget-approval process could invite a question of why there is a detailed ISR Plan and budget each year. Mr. Booth

[45] *Id.* at 12-13.
[46] *Id.* at 19.
[47] *Id.* at 20-24.
[48] *Id.* at 24.

asserted that the Company "must be held more accountable for following the approved ISR Plan projects and budgets."[49] In the past, the Company has re-phased projects, using under-budget projects to offset over-budget projects to meet a discretionary spending target. Two results of this practice are no accountability to a specific spend or timeline and "although the Company may underspend select individually approved project targets, they spend or exceed the entire discretionary budget anyway."[50] Mr. Booth contended that this cannot be allowed to continue. As a result, National Grid agreed to put in some controls that Mr. Booth believed will allow the Company to better manage projects.[51]

Mr. Booth made ten recommendations[52] for the Commission to consider, nine of which are set forth below:

1. National Grid shall continue to develop a System Capacity Load Study and a 10-year Long Range Plan in order to increase the level of support and transparency for the capital budget. The Company shall submit a report with updates on modeling activities in addition to the proposed Long Range Plan (completed portions) at least 120 days prior to filing its FY 2018 ISR Plan Proposal, but in any event no later than August 31, 2016. This should be continued with each subsequent ISR Plan process. There is some support for considering the planning process review as a separate activity from the ISR Plan, allowing increased efficiency in future ISR Plan process and Division review.
2. National Grid shall manage the South Street FY 2017 ISR Plan budget separate from other discretionary projects, such that any budget variances (underspend) will not be utilized in other areas of the Plan. The Company shall provide quarterly budget and project management reports.
3. National Grid will manage (underspend/overspend management) individual project costs within the FY 2017 ISR Plan discretionary category (comprised of Asset Condition and System Capacity and Performance projects) such that total portfolio costs are aligned within a discretionary budget target that excludes South Street. The FY 2017 discretionary budget target will be $37,163,427 (equivalent to the total discretionary budget of $52,523,427 less the South Street budget of $15,360,000).

[49] *Id.*
[50] *Id.* at 25.
[51] *Id.* at 25-27.
[52] *Id.* at 44-46.

4. National Grid shall provide quarterly reports on Damage/Failure expenditures including the details of completed projects by operating region. The Company will separately identify Level I projects repaired as a result of the I&M program.
5. National Grid shall continue to provide a detailed budget for System Capacity & Performance and Asset Condition in order to provide transparency on a project level basis for the current and future four-year period. The budget shall be provided in advance of the FY 2018 ISR Plan Proposal filing, but in any event no later than August 31, 2016.
6. National Grid shall submit an evaluation of future proposed Asset Condition projects as compared to the Company's Long Range Plan in advance of the FY 2018 ISR Plan Proposal filing, but in any event no later than August 31, 2016.
7. National Grid shall continue to submit its detailed substation capacity expansion plans and load projections, and include an evaluation of proposed projects against the Company's Long Range 1 Plan, in advance of the FY 2018 ISR Plan Proposal filing, but in any event no later than August 31, 2016.
8. National Grid shall continue to submit a cost-benefit analysis on the vegetation management Cycle Clearing Program and a separate cost-benefit analysis on the Enhanced Hazard Tree Management program for the Division's review prior to submitting the Company's FY 2018 ISR Plan Proposal, but in any event no later than August 31, 2016.
9. National Grid shall continue to submit its Metal-Clad Switchgear replacement program cost-benefit analysis to the Division prior to submitting the Company's FY 2018 ISR Plan Proposal, but in any event no later than August 31, 2016.

Mr. Effron noted in his memorandum that, after filing the FY 2017 Electric ISR Plan with the PUC, the Company determined that it is once again in a Net Operating Loss (NOL) situation based on the tax returns filed in 2015. In addition, certain tax incentives were extended by Congress. None of these resulting amounts were included in the revenue requirement and Mr. Effron indicated that the Division did not require a re-filing.

III. Revised Revenue Requirement

As a result of Mr. Effron's memorandum, the PUC issued data requests regarding the effect of the extension of the tax incentives and NOL situation on the Company's revenue requirement. The net effect of the two changes was an increase to the revenue requirement for FY 2017 of $569,439, for a total revenue requirement of $27,839,782.

IV. Hearing

On February 22, 2016, the PUC conducted a hearing at its Offices at 89 Jefferson Boulevard, Warwick, Rhode Island for the purpose of discussing and considering the Electric ISR Plan for FY 2017 and for National Grid to provide an overview of its distribution planning process, specifically to address how the Company considers distributed energy resources in its planning.[53] National Grid presented Messrs. Patterson, Moe, and Crary together with Ms. Tabor in support of the Plan. National Grid also presented William Richer, Director of the Revenue Requirements Group at National Grid, in response to Mr. Effron's indication that the Company had been in a net operating loss situation. This was an issue recognized subsequent to the PUC filing, when National Grid filed its 2015 tax returns.

Through legal counsel, National Grid explained that the Company was still in confidential negotiations with Verizon for a new joint ownership agreement to progress toward more efficient cooperative operations, including vegetation management. While National Grid had made progress since last year, counsel estimated it would be at least another couple of months to resolution.[54]

Mr. Patterson described the South Street substation project as a very large project with a proposed budget of $15 million compared to the overall discretionary budget of $53 million. In addition, he explained that the scope of the project had increased since last year. Typically, the Company manages the discretionary budget to the amount allowed. Historically, the Company would accelerate or delay projects in order to meet the overall budget. One of the concerns with South Street is that the cost risks are unknown. If

[53] Attrorneys Raquel Webster and Jennifer Brooks Hutchinson appeared on behalf of National Grid. Attorney Andrew Marcaccio, represented OER. Assistant Attorney General Leo Wold represented the Division and Attorney Cynthia G. Wilson-Frias represented the PUC.
[54] Tr. at 19-20 (Feb. 22, 2016).

spending projections are not accurate, cost fluctuations could cause a large swing in the overall budget. Therefore, the Company and Division agreed that the project should be managed separately from the others in the discretionary category. One of the peculiarities of South Street is that the project will not be included in rates until FY 2018. Accordingly, underspending on this project will not advance projects that would go into service earlier.[55]

Mr. Patterson explained that South Street substation is categorized as an asset condition project because the 1930s asset has operability concerns and clearance issues. The work is designed to meet current standards and needs and to address economic growth in that area. The South Street project would be included in the Providence portion of the Long Range Plan once all planning alternatives are considered.[56] Because the project includes both transmission and distribution components, it will require a determination of what should be characterized as a transmission or distribution asset. For example, while the power transformer at the substation was put in service in 1950 as a transmission asset and replacement with a new power transformer would remain categorized as transmission, when the Company rebuilds a substation containing a combination of distribution and transmission assets, it takes a fresh look at the appropriate categorization of the assets. Mr. Patterson explained that the Company now relies on an eight question checklist to make that determination.[57]

Mr. Patterson explained that, because of economic development initiatives, there is an undergrounding component of South Street Station being funded by third parties. The project is in the design and engineering phase, with the start of construction expected in spring of 2016. Because of the complexities, there will be one manager overseeing all

[55] *Id.* at 29-32, 35-36.
[56] *Id.* at 21-22.
[57] *Id.* at 23-24, 44-50.

components of the project. In order to better manage timing and cost, the Company bid out an engineering, procurement, and construction contract with a detailed schedule and milestones required of the vendor.[58]

Acknowledging that project execution on schedule and on budget has proven somewhat problematic for the Company, Mr. Patterson indicated that National Grid has implemented certain measures. First, recognizing the need to validate a good schedule early in the project lifecycle, Mr. Patterson indicated that the Company needs to do a better job solidifying scope prior to going to engineering. Once a project is sent to engineering and the system planners, it is important to work with internal stakeholders in order to get better input into scope development up front. Second, the Company has identified the need for improvements to the estimating process. That will be done by a new electric project estimating group in charge of overseeing consolidated planning, adding an additional level of scrutiny. Finally, the Company recognized that project budgets have been included in the ISR plans prematurely. As a result, scopes were not complete and the budgets were not precise enough. The combination of these elements has resulted in costs increasing as projects moved forward. Therefore, the Company will endeavor to incorporate project grade estimates into the ISR plans and associated budgets as much as possible. While South Street is still at the study grade level, other projects are more mature. In the future, better forecasting will also improve budget estimates.[59]

Referencing the LNG project for National Grid's gas affiliate, Mr. Patterson explained that it is treated as any other commercial request from an unaffiliated party. Generally speaking, when adding load, the requesting party receives a credit of two times

[58] *Id.* at 21-24, 26-28. Mr. Patterson noted that at this point, National Grid has not included screening and canvassing, but will build the substation with chain link fence and a building. *Id.* at 33.
[59] *Id.* at 51-58

the estimated annual revenue toward the contribution in aid of construction. The remaining cost of the upgrades is the contribution in aid of construction paid by the customer. However, in the development of the job to serve a customer, there may be a determination that there is work above and beyond serving the customer that would make sense to complete at the same time. In such a case, the Company would not charge the customer for the costs not associated with the customer work. System upgrades or improvement costs are not passed through to customers. The contribution in aid of construction is calculated based on the project grade estimate which is plus/minus 10%. There is no adjustment made to the charges, whether higher or lower.[60]

The Company presented James Perkinson, an Engineer Manager, to provide updates on the volt/var project. He explained that the telecommunications design has been completed for the remainder of the volt/var project work. The Tower Hill portion of the project has been deferred to FY 2017. The Company should complete work on the last of the three feeders at Putnam Pike during FY 2017. The Company has been receiving preliminary information from the other two Putnam Pike feeders over the past two months and has been addressing integration problems.[61] Mr. Perkinson indicated that when the Company has been utilizing the volt/var application, the voltage reduction on the feeder has been lowered quite significantly compared to the existing default controls. Therefore, the Company has already seen a voltage impact on the feeders when the volt/var system is active.[62] He explained that the quantified benefits of demand reduction and load reduction are more difficult to measure, but the measure of those benefits is the deliverable from the

[60] *Id.* at 70-72, 83-87, 91-93.
[61] *Id.* at 107-08
[62] *Id.* at 107.

volt/var project.[63] He predicted that results should be available in the FY 2018 ISR Plan filing.[64]

Beyond voltage control, the volt/var project will provide a level of visibility on the system that does not exist now. Mr. Perkinson noted that visibility is important for future planning. Rather than relying on models based on historical data, the Company will have real-time data available for review. National Grid will be in a better position to troubleshoot problems and, once local control is tied into the communications model, ensure that the regulators and capacitors do not operate against the system. Mr. Perkinson stated that one of the biggest concerns related to the interconnection of solar is voltage regulation. Therefore, he indicated, the visibility of the volt/var project will benefit the Company by providing more data on solar interconnections.[65]

Discussing the impact of the NOLs recognized on the Company's FY 2015 tax returns, Mr. Richer testified that the costs are known and measurable. Revising the revenue requirement to recognize the NOLs would be consistent with the PUC's treatment of such NOLs in 2015. Contrary to his testimony in the FY 2016 Electric ISR hearing, Mr. Richer testified that it appears that the Company will probably continue to be in NOL situations in future years because of continued extension of bonus depreciation and capital repairs deductions. He opined that FY 2016 will likely generate more NOLs.[66]

The Division presented Mr. Booth and Stephen Scialabba, Chief Accountant. Mr. Scialabba adopted Mr. Effron's memorandum on the net operating loss issue. Regarding the categorization of the distribution and transmission facilities at South Street Station, Mr.

[63] *Id.* at 107-08.
[64] *Id.*
[65] *Id.* at 107.
[66] *Id.* at 123-25, 134-36..

Scialabba stated that the Division will review that when the project is put into rate base and ensure all assets are appropriately categorized.[67] Mr. Scialabba agreed that setting rates based on the revised revenue requirement schedule that included the effect of the NOLs and bonus depreciation is consistent with last year's revised filing. Approval of the updated revenue requirement would be consistent with the PUC's treatment of those expenses in approving the FY 2016 ISR revenue requirement.[68]

Mr. Booth stated that in order to better manage the budget, the Company has been open to implementing mechanisms to more accurately project costs before including them in the budget. The long range plans have been taking longer than Mr. Booth has anticipated, but he noted that the Company has agreed not to put forth any major projects, such as large substation projects, until the study is completed. According to Mr. Booth, the long range plans are important in light of the fact that there are large substation projects anticipated over the next ten years. Without the studies, National Grid may end up constructing more of them than is necessary.[69] He clarified that allowing the South Street Station to be funded prior to the completion of the long range studies is unique but justified because of the age of the equipment and challenges associated with repair or replacement upon failure.[70]

In response to a question from the Commissioners, Mr. Booth noted that the cost proposals received by National Grid for the cycle trimming and enhanced hazard tree mitigation work came in lower than in the past. Therefore, the Company was planning for the same amount of work, but at a slightly lower cost. He thought that the same amount of police detail would therefore be needed for cycle trimming. He agreed, however, that police

[67] *Id.* at 184.
[68] *Id.* at 183.
[69] *Id.* at 178-82.
[70] *Id.* at 181-82.

detail costs may be reduced in proportion to the hazard tree and other activity categories. He agreed to provide a calculation of that possible reduction.[71]

Specifically addressing the cost benefit analysis of enhanced hazard tree mitigation work, Mr. Booth stated that Jersey Central Power and Light in New Jersey keeps records of the enhanced hazard tree mitigation outages compared to cycle trim outages. Therefore, that company is able to quantify the benefit of its hazard tree related work. He noted that National Grid is emphasizing hazard tree work which is expensive. While there is improved reliability, he questioned whether the monetary expenditure is worth the incremental reliability. Based on what he has seen from utilities in other jurisdictions, Mr. Booth opined that National Grid may be giving twice the value to reliability improvement than will likely be seen from enhanced hazard tree mitigation. He argued that there needs to be tighter review of costs. He conceded that it can be difficult to keep the proper records, but noted that the utilities that track the costs and benefits have trained those responding to outages to appropriately classify the outage as hazard tree versus other vegetation related. He noted that it will cost some more money and takes more training, but maintained that it is feasible.[72]

In response to questions about the growth of the ISR budget since 2006, Mr. Booth agreed that the capital spending has almost doubled. However, he stated, removing South Street Station and other large substation projects from the budget would show that spending has been less than the rate of inflation over time. Given that there appears to be a need over the next ten years for large projects such as substations, according to Mr. Booth, this is another reason the Division has insisted on the completion of long range studies as part of

[71] *Id.* at 187-89.
[72] *Id.* at 195-98.

the ten-year planning process.[73] He stated, "without good planning you could wind up putting in two or three stations when maybe one does the job."[74]

Finally, in response to the PUC's Order issued in conjunction with its approval of the FY 2016 Electric ISR Plan, National Grid presented Ryan Constable, Distribution Planning Manager, and Timothy Roughan, Director of Energy Environmental Policy, to provide a presentation on the distribution planning process. As part of the presentation, Mr. Constable explained how distribution planning is undertaken generally. He then explained how energy efficiency and demand response are being considered in the distribution planning process. Finally, he discussed how additional visibility on the distribution system might be generated in order to provide more tools for the forecasting process and how distributed generation might be better integrated into the forecasting and planning processes.[75]

V. Commission Findings

At an Open Meeting held on February 25, 2016, the PUC approved the FY 2017 Electric ISR Plan finding that it complies with the statutory mandates. As part of its approval, the PUC adopted all of the Division's recommendations as set forth in Mr. Booth's testimony. The PUC approved a revenue requirement of $27,703,824 which results in an incremental fiscal year rate adjustment of $6,502,032. In approving a different revenue requirement than the one proposed by the Company in its initial filing, the PUC made adjustments to reflect the NOL realized as a result of the Company's 2015 tax returns and to reflect a reduced police detail cost associated with vegetation management. The

[73] *Id.* at 192-93.
[74] *Id.* at 193.
[75] *Id.* at 198-284. A copy of the presentation can be accessed at: http://www.ripuc.org/eventsactions/docket/4592-NGrid-Presentation(2-22-16).pdf.

impact on a standard residential customer using 500 kWh per month is an increase of $0.65 per month.

In making the decision to reflect the NOLs in rates, the PUC considered whether National Grid should be required to update its ISR filing to reflect known, measurable, and current expenses that impact the Company's revenue requirement. Once again, as in the last four years, the Company is in an NOL position which it now expects to reoccur. In Docket Nos. 4474 and 4573, the Commission addressed the Company's NOL position for the prior four-year period. Recognizing that the Company had been unaware of this position and therefore had not properly reflected its effect in the calculation of the Company's revenue requirement, the Commission allowed immediate recovery of a $760,000 FY 2015 revenue requirement deficit and a three-year recovery period for a FY 2012-2014 $1.4 million revenue requirement deficit to spread out the rate impact of these large increases.

Although not known at the time the initial filing was made in the current docket on November 24, 2015, as Mr. Richer's testimony provided, the Company became aware of the approximate $569,439 revenue requirement deficiency when it filed its 2015 tax return in December of 2015. National Grid should have updated its filing with the Commission at that time to reflect this known and measurable expense so that the rates set by the Commission would include that current expense. Instead, that information was only included after the PUC sought additional information in response to the Division's filing.

Allowing for immediate recovery is consistent with the Commission's prior rulings in Docket No. 4473. Although ratepayers would not be subject to an interest expense associated with the $569,439 if it were deferred, the Commission determined that what would amount to a zero interest loan should not guide its ratemaking decisions. Further, to

allow for recovery now, rather than defer it until the Company files its reconciliation filing, would better match costs with cost causers and ensure intergenerational equity. It would not be prudent to delay recovery, especially when it is unknown what other costs may have to be recovered at that later time. For all of the above reasons, the Commission unanimously approved the motion allowing for immediate recovery of the additional $569,439 revenue requirement.

The adjustment to the police detail expense was prompted by testimony from Mr. Booth on cross examination. He testified that the police detail expense had not been adjusted downward like the other vegetation management expenses because the number of miles the Company had budgeted for did not change. In his response to the record request, Mr. Booth expanded upon this stating, "[t]hus, the Company must plan and budget for the same amount of Police Detail regardless of the contractor cost estimate."[76] Therefore, although the request was only for a recalculation of the projected police detail costs in proportion to the reduced overall trimming budget, Mr. Booth also provided a calculation based on the historical average dollar per mile for police details over the most recent three year period. In ordering the $135,958 reduction to the vegetation management budget, the PUC accepted the historical average dollar per mile calculation. Following this methodology is more reasonable, not because it results in a larger reduction to the budget, but because it represents a better measure of the cost of police detail per mile based on actual historical figures. A budget-to-budget comparison is more vague than a cost-per-mile comparison where the police detail costs are not necessarily based on the overall cost of the trimming, but on the number of miles for which police detail is needed.

[76] Division's Response to PUC Record Request 1.

Finally, the presentation on distribution system planning was a good first start to the discussions that will occur as part of the Commission's investigation into the changing distribution system and rate modernization. One of the issues raised by National Grid in its presentation was limitations on the visibility on the system. Visibility will be important to better integrating distributed energy resources and measuring the costs and benefits of the programs funded through rates. The volt/var optimization on the system is one step toward more visibility. And while measurable results will be presented in the next electric ISR filing, as that information becomes available, it should be informative to the discussions that will occur in the Docket No. 4600 stakeholder process.

Accordingly, it is hereby

(22471) ORDERED:

1. The Narragansett Electric Company d/b/a National Grid's Revised Electric Infrastructure, Safety, and Reliability Plan FY 2017 Proposal filed on December 9, 2015, and associated compliance tariffs, filed on March 21, 2016, reflecting the Public Utilities Commission's February 25, 2016 adjustments, are hereby approved for electric consumption on and after April 1, 2016.
2. The Narragansett Electric Company d/b/a National Grid shall provide, as part of its FY 2018 filing, more detail to support the purported need for the investments, particularly for multi-year projects or those classified as "major programs" within a category.
3. The Narragansett Electric Company d/b/a National Grid shall provide, as part of its FY 2018 filing, detail on individual projects where the costs differed from

budget by more than 10%, whether that difference resulted from over- or under-spending or timing.

4. The Narragansett Electric Company d/b/a National Grid shall file with the Public Utilities Commission a confidential copy of the periodic reports required by the Division of Public Utilities and Carriers related to the vegetation management agreement.

5. The Narragansett Electric Company d/b/a National Grid shall follow the Division of Public Utilities and Carriers' recommendations that were filed on February 21, 2016.

6. The Narragansett Electric Company d/b/a National Grid shall consider distributed generation resources as part of its long-range studies.

7. The Narragansett Electric Company d/b/a National Grid shall comply with all other instructions contained in this Order.

EFFECTIVE AT WARWICK, RHODE ISLAND ON APRIL 1, 2016 PURSUANT TO AN OPEN MEETING DECISION ON FEBRUARY 25, 2016. WRITTEN ORDER ISSUED JULY 11, 2016.

PUBLIC UTILITIES COMMISSION

Margaret E. Curran, Chairperson

*Paul J. Roberti, Commissioner

Herbert F. DeSimone, Jr., Commissioner

*Commissioner Roberti concurred with the decision but is unavailable for signature.

Notice of Right of Appeal: Pursuant to R.I. Gen. Laws § 39-5-1, any person aggrieved by a decision or order of the PUC may, within 7 days from the date of the Order, petition the Supreme Court for a Writ of Certiorari to review the legality and reasonableness of the decision or Order.