Andrew Marcaccio
Senior Counsel

December 8, 2020

VIA ELECTRONIC MAIL

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

RE: Docket 5076 – 2021-2023 Energy Efficiency Program Plan & 2021 Energy Efficiency Plan
Responses to PUC Data Requests – Set 10 (Complete Set)

Dear Ms. Massaro:

On behalf of The Narragansett Electric Company d/b/a National Grid ("National Grid" or the "Company"), attached, please find the electronic version of the Company's responses to the Public Utilities Commission's ("PUC"s) Tenth Set of Data Requests ("Complete Set 10") in the above-referenced docket.[1]

Thank you for your attention to this filing. If you have any questions or concerns, please do not hesitate to contact me at 401-784-4263.

Sincerely,

Andrew S. Marcaccio

cc: Docket 5076 Service List
John Bell, Division
Jon Hagopian, Esq.

[1] The Company will deliver to the Commission six, three-hole punched hard copies of PUC Set 10 with Bates stamp.

280 Melrose Street, Providence, RI 02907
T: 401-784-4263 ■ andrew.marcaccio@nationalgrid.com ■ www.nationalgrid.com

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.

December 8, 2020

Joanne M. Scanlon Date

Docket No. 5076 - National Grid – 2021-2023 Energy Efficiency Program Plan & 2021 Annual Energy Efficiency Program Plan
Service list updated 12/7/2020

Name/Address	E-mail Distribution List	Phone
National Grid Andrew Marcaccio, Esq. National Grid 280 Melrose St. Providence, RI 02907 Leticia C. Pimentel, Esq. Robinson & Cole LLP One Financial Plaza, 14th Floor Providence, RI 02903	Andrew.Marcaccio@nationalgrid.com; Jennifer.Hutchinson@nationalgrid.com; Raquel.webster@nationalgrid.com; Joanne.scanlon@nationalgrid.com; Celia.obrien@nationalgrid.com; Matthew.Chase@nationalgrid.com; Timothy.Roughan@nationalgrid.com; John.Tortorella@nationalgrid.com; Christopher.Porter@nationalgrid.com; BENJAMIN.RIVERS@nationalgrid.com; John.Richards@nationalgrid.com; Matthew.Ray2@nationalgrid.com; LPimentel@rc.com;	401-784-4263
Division of Public Utilities and Carriers Jon Hagopian, Esq.	Jon.hagopian@dpuc.ri.gov; Margaret.L.Hogan@dpuc.ri.gov; john.bell@dpuc.ri.gov; Joel.munoz@dpuc.ri.gov;	401-784-4775
Tim Woolf Jennifer Kallay Synapse Energy Economics 22 Pearl Street Cambridge, MA 02139	twoolf@synapse-energy.com; jkallay@synapse-energy.com;	

RI EERMC Marisa Desautel, Esq. Office of Marisa Desautel, LLC 55 Pine St. Providence, RI 02903 Mike Guerard, Optimal Energy	marisa@desautelesq.com; guerard@optenergy.com; ross@optenergy.com; kravatz@optenergy.com;	401-477-0023
Acadia Center Hank Webster, Director & Staff Atty.	HWebster@acadiacenter.org;	401-276-0600 x402
Office of Energy Resources (OER) Albert Vitali, Esq. Dept. of Administration Division of Legal Services One Capitol Hill, 4th Floor Providence, RI 02908 Nick Ucci, Commissioner	Albert.Vitali@doa.ri.gov; Nancy.Russolino@doa.ri.gov; Christopher.Kearns@energy.ri.gov; Nicholas.Ucci@energy.ri.gov ; Becca.Trietch@energy.ri.gov; Carrie.Gill@energy.ri.gov ; Nathan.Cleveland@energy.ri.gov;	401-222-8880
Green Energy Consumers Alliance Larry Chretien, Executive Director Kai Salem	Larry@massenergy.org; kai@greenenergyconsumers.org; priscilla@greenenergyconsumers.org;	
Original & 9 copies file w/: Luly E. Massaro, Commission Clerk John Harrington, Commission Counsel Public Utilities Commission 89 Jefferson Blvd. Warwick, RI 02888	Luly.massaro@puc.ri.gov; Cynthia.WilsonFrias@puc.ri.gov; John.Harrington@puc.ri.gov; Alan.nault@puc.ri.gov; Todd.bianco@puc.ri.gov ;	401-780-2107
Frederick Sneesby Dept. of Human Services	Frederick.sneesby@dhs.ri.gov;	
Chris Vitale, Esq., RI Infrastructure Bank	cvitale@hvlawltd.com; SUsatine@riib.org;	
Doug Gablinske, Executive Director The Energy Council of RI	doug@tecri.org;	
Jordan Garfinkle Bloom Energy	Jordan.Garfinkle@bloomenergy.com;	

PUC 10-1

Request:

Referring to the response to PUC 6-2(d), which indicates that the Company proposes to replace 436 existing oil and propane heating systems with new oil and propane systems at no cost to the customer, (a) please provide the estimated cost associated with these 436 system replacements and identify the program in which it is budgeted, (b) please clarify whether there are any other 2021 EE programs in which the Company is proposing to pay for all or a portion of the cost of replacing existing oil and propane heating systems with new oil and propane heating systems and, if so, identify the number, the estimated cost, and the program to which it relates.

Response:

(a) As outlined in the 2021 Annual Plan Attachment 1, Table 3 (Bates page 333), the total number, and estimated cost, of replacement of oil and propane heating systems budgeted in the Electric IES Program is as follows:

Program	Measure	Units	Incentive/Unit	Total Incentives
Income Eligible Single Family - Electric	AMPHEATSYSTEM	436	$5,000	$2,178,000

(b) There are not any other 2021 EE Programs in which the Company is proposing to pay for all or a portion of the cost of replacing existing oil and propane heating systems with new oil and propane heating systems.

Prepared by or under the supervision of: Laura Rodormer

PUC 10-2

Request:

Referring to the response to PUC 6-2, which indicates that the Company's programs have historically funded replacements of existing oil and propane heating systems with new oil and propane systems, please provide a schedule showing each year when the program budgets funded the replacement of existing oil and propane heating systems with new oil and propane systems, indicating the number of systems actually replaced in each program year and the annual amount funded for such replacements for each year.

Response:

Based on the initial review that was possible in the response time afforded for this request, the Company was able to identify data going back to the 2009 program year.

Please refer to the table below that reports oil and propane heating system replacements installed through the IES Electric Program from 2009 – 2020 to-date.

Included in the schedule is column (e), which includes data regarding the amount of Federal and State funds that are leveraged to offset a portion of the heating system cost.

On average the amount of funds leveraged through these alternative sources are roughly one-third of the total customer incentive payments for weatherization and heating system replacements. Please see the 2021 Annual Plan, Attachment 1, Bates page 22 for a more extensive discussion of this program.

Prepared by or under the supervision of: Laura Rodormer

PUC 10-2, page 2

(a)	(b)	(c)	(d)	(e)
YEAR	HEATING FUEL TYPE	HEATING SYSTEM REPLACEMENT QUANTITY	IES ELECTRIC COST	STATE AND FEDERAL LEVERAGED FUNDS
2009	Oil	90	$ 379,688	$ -
	Propane	1	$ 3,250	$ -
	TOTAL	**91**	**$ 382,938**	**$ -**
2010	Oil	58	$ 235,520	$ -
	TOTAL	**58**	**$ 235,520**	**$ -**
2011	Oil	72	$ 294,365	$ -
	TOTAL	**72**	**$ 294,365**	$ -
2012	Oil	96	$ 382,302	$ -
	Propane	4	$ 10,249	$ -
	TOTAL	**100**	**$ 392,551**	**$ -**
2013	Oil	128	$ 533,040	$ 39,588
	Propane	3	$ 9,442	$ 125
	TOTAL	**131**	**$ 542,483**	**$ 39,713**
2014	Oil	249	$ 1,102,539	$ 326,830
	Propane	1	$ 3,725	$ -
	TOTAL	**250**	**$ 1,106,264**	**$ 326,830**
2015	Oil	242	$ 1,036,724	$ 488,770
	Propane	7	$ 27,934	$ 6,480
	TOTAL	**249**	**$ 1,064,658**	**$ 495,250**
2016	Oil	244	$ 1,078,211	$ 537,014
	Propane	5	$ 20,655	$ 2,731
	TOTAL	**249**	**$ 1,098,866**	**$ 539,745**
2017	Oil	264	$ 1,204,939	$ 675,242
	Propane	4	$ 17,613	$ 1,038
	TOTAL	**268**	**$ 1,222,552**	**$ 676,280**
2018	Oil	287	$ 1,391,202	$ 798,091
	Propane	10	$ 47,162	$ 12,457
	TOTAL	**297**	**$ 1,438,364**	**$ 810,548**
2019	Oil	255	$ 1,279,975	$ 832,863
	Propane	4	$ 18,990	$ 14,934
	TOTAL	**259**	**$ 1,298,965**	**$ 847,797**
2020	Oil	127	$ 667,920	$ 402,876
	Propane	4	$ 25,510	$ 2,145
	TOTAL	**131**	**$ 693,430**	**$ 405,021**
Grand Total		**2,155**	**$ 9,770,955**	**$ 4,141,184**

Prepared by or under the supervision of: Laura Rodormer

PUC 10-3

Request:

Referring to the response to PUC 6-2, please identify the docket where the Company first sought and obtained approval for the replacement of existing oil or propane systems with new oil or propane systems. Please also provide the language used in that year's plan that explained the measure and provide the page references.

Response:

As stated in the Company's response to PUC 10-2, based on the initial review that was possible in the response time afforded for this request, the Company was able to identify oil heating system replacement data for Income Eligible Services customers going back to the 2009 program year. Since 2009 is the first year of available data, the Company conducted a review of the Energy Efficiency Program Plan for 2009 in Docket No. 4000 (2009 Plan). During this review, the Company identified language referencing the use of funds for replacement of oil heating systems in 2005. Specifically, the 2009 Plan at page 12 of 34 in Attachment 2 (revised) states, "In 2005 and 2007 the Company also began to fund oil and gas heating system replacements respectively through the OER and plans to continue this in 2009".

Subsequent review of the Energy Efficiency Program Plan for 2005 in Docket No. 3635 did not produce language referencing oil heating system replacements in the Income Eligible Services program, but did reference oil heating system replacement via the EnergyStar Heating Program at page 10 of 21. However, in the following year's Energy Efficiency Program Plan for 2006 in Docket No. 3701 in Attachment 1 at pages 4-7 of 22, within the section titled "Appliance Management Program", the Company stated, "In 2005 the Company also began to fund oil heating system replacements through the [State Energy Office] SEO and plans to continue this in 2006. The new heating systems are required to meet Federal weatherization program guidelines and have an Annual Fuel Use Efficiency (AFUE) of at least 80%. The Company proposes to continue to work with local Community Action Agencies and the SEO to provide no-cost services to income eligible customers in 1-4 unit facilities."

Prepared by or under the supervision of: Laura Rodormer

PUC 10-4

Request:

Referring to the response to PUC 6-2, please explain the Company's rationale for supporting electric and/or gas ratepayers funding the replacement of oil and propane systems in 2021 with new systems that have the potential to last 20 years or longer, in light of the emerging policies to reduce GHG emissions in the heating sector through electrification and/or other non-emitting or low emitting fuel sources (as reflected in the report, "Heating Sector Transformation in Rhode Island, Pathways to Decarbonization by 2050," prepared by the Brattle Group, and found at: http://www.energy.ri.gov/documents/HST/RI%20HST%20Final%20Pathways%20Report%205-27-20.pdf.)

Response:

The Company believes in the science of climate change and supports Rhode Island's decarbonization goals as articulated in the Heating Sector Transformation (HST) effort. As recognized in the HST, increased energy efficiency, electrification, and decarbonized fuels each have a role to play in the decarbonization of heat.

The Company has proposed continuing to support the emergency replacement of oil and propane heating systems for qualifying customers through the Company's Electric Income Eligible Services program, as these interventions are intended to prevent the replacement of a failed oil or propane system with a less-efficient oil or propane system.

These interventions represent emergency replacement of failed, unsafe or inefficient heating systems for income-eligible customers, and produce cost-effective savings under the RI Test. Replacement of a failed oil or propane system with an air source heat pump or other efficient electric heating option in the emergency situations addressed through this program is unlikely to be a viable solution for these customers in the time-frame that an identified system replacement is required.

In these situations, the Company's intervention is unlikely to lead to the ongoing utilization of a delivered fuel for heating over a longer time period than would have otherwise occurred absent program intervention and financial support. The more likely scenario in this counter-factual would be that a less-efficient like-for-like replacement would be made by the customer, increasing customer operating costs and heating sector emissions over the life of the new system.

PUC 10-4, page 2

Given the time-frames over which the Heating Sector Transformation report acknowledges that any transition will have to occur within Rhode Island, it is not inconsistent with the recommendations in the report to support customers today in transitioning to a more efficient, lower emitting heating system based on a currently viable fuel choice as the dominant long-term pathway to a less carbon intensive heating future in Rhode Island continues to be developed.

PUC 10-5

Request:

Referring to PUC 6-1, please provide a schedule showing the breakdown of all the expected costs that would be incurred for the development of the Energy Management Framework Platform software system, detailing how the Company estimated the $1 million cost.

Response:

The proposed Energy Management Framework Platform concept has not yet been sufficiently developed to the point that a detailed cost schedule has been developed.

Instead, the proposed $1 million in funding requested in the 2021 Annual Plan represents a high-level, initial cost estimate on three distinct cost drivers. Each of these cost drivers, and the basis of the estimate behind each, is summarized in the table below:

Cost Component	**Amount**	**Basis of Estimate**
System feasibility analysis, requirements design, development and system deployment	$425K	Review of proposed costs from comparable C&I Dashboard system development project that did not move forward
Billing data extract and population	$200k	Comparable historical data transfer efforts
Customer equipment data collection and cataloging efforts	$375K	Customer site visits and equipment cataloging efforts for 150 customers at assumed cost of $2,500 per customer

Prepared by or under the supervision of: Daniel Tukey and Christopher Porter

PUC 10-6

Request:

Please explain whether the $1 million cost of the Energy Management Framework Platform software system is expected to cover the entire design, development, procurement, and deployment cost of the tool to completion. If not, please explain why not, and provide an estimate of the range of costs that would be borne by Rhode Island ratepayers that is not covered by the $1 million budget.

Response:

As conveyed in the Company's response to PUC 10-5, the proposed $1 million in funding for the Energy Management Framework Platform represented a preliminary high-level estimate of potential costs associated with the development and deployment of the desired system capabilities and functionality. With additional feasibility analysis, requirements gathering and project scoping, the Company would expect to develop, and manage to, a more precise budget estimate.

To the extent that the feasibility and scoping effort identifies, or actual system development and deployment efforts require, additional budget in order to achieve desired capabilities, the Company would consider several alternatives, or potential combinations thereof:

- "De-scoping" the project, accepting reduced functionality or a reduced initial volume of data cataloging efforts, in order to manage the project within approved budgets

- A re-allocation of budgeted Rhode Island energy efficiency funds from other areas of planned 2021 energy efficiency spend, allowing for increased funding for the Energy Management Framework Platform while continuing to manage within approved overall Energy Efficiency program budgets

- Deferral of selected components or efforts associated with platform development and deployment until 2022, predicated on such planned expenditures being proposed and approved as part of the 2022 Annual Plan filing

Prepared by or under the supervision of: Daniel Tukey and Christopher Porter

PUC 10-7

Request:

If the cost of the Energy Management Framework Platform software system exceeds the budget of $1 million, will the Company's shareholders absorb the cost over-run or will the Company seek recovery of any cost over-runs in the Rhode Island energy efficiency program budget in the future?

Response:

Please see the Company's response to PUC 10-6 for a discussion of the potential alternative approaches that the Company would consider in the event that either more detailed cost estimations and/or actual implementation expense run-rates exceed the proposed $1 million budget.

Prepared by or under the supervision of: Christopher Porter

PUC 10-8

Request:

Please provide the project development schedule for the Energy Management Framework Platform, including without limitation the date when the system is expected to be in service and would meet the traditional used and useful standard employed in ratemaking.

Response:

The Company does not yet have a project development schedule for the Energy Management Framework Platform. With funding approval, the Company would anticipate taking the project through the Company's IT Project Sanctioning process, including stages associated with Feasibility & Analysis and Requirements & Design. A detailed project development schedule, including an anticipated in-service date, would be an expected output of this process.

Prepared by or under the supervision of: Daniel Tukey and Christopher Porter

PUC 10-9

Request:

Please explain the sanctioning process (if any) that is typically used by National Grid to approve the development of software and/or other IT applications for the regulated companies of National Grid.

Response:

The sanctioning process through which individual IT projects are approved is documented in the Procedure Document for IT US Sanctioning, provided as Attachment PUC 10-9.

Project Sanctioning Background

IT projects progress from initial Feasibility & Analysis phases of a project to ultimate closure to plant in service, as described below:

- Feasibility & Analysis – A study conducted in cases where a significant level of analysis is required to better determine the direction or approach for a project. Because such a study is likely to have a significant impact on IT resources and spend, the effort is treated as a project to be included in the Investment Plan.
- Requirements & Design – This phase includes requirements definition and completion of analysis, confirmed project scope, agreed functional design, and technology solution to meet business and technical requirements, confirmed plan for the Development & Implementation phase, and confirmed production handover, support strategy, and sourcing approach.
- Development & Implementation – This phase includes development to the specified designs, testing, preparation for training, deployment of the solution to the business, and post-implementation support.
- Project Closure – This phase closes the project, including capturing ongoing run the business costs, completing post implementation review and lessons learned, closing open actions and change requests, implementing a decommissioning plan for replaced technologies, and submitting a closure paper to the appropriate sanctioning committee.

In most cases, IT projects are initially sanctioned for Requirements & Design work (also referred to as "Partial Sanction") and then will return for Development & Implementation sanction (also referred to as "Sanction" or "Full Sanction"). If project scope and costs are well understood (e.g., upgrades to hardware that do not necessitate requirements and design work or whose cost estimate can be reliably informed by similar previous installations), a project may proceed directly to "Sanction." In the event a project is forecast to exceed its sanction amount, a project

must return to the appropriate sanctioning authority for "Re-Sanction" consideration. A "Closure" paper is prepared at the completion of a project detailing the financial and objective outcomes of the project.

Project Sanctioning Authorities

As detailed in Attachment PUC 10-9, throughout the year, IT projects are subject to a formal governance process that includes a project sanctioning review and approval for all projects greater than $30K. An internal IT stakeholder team, including IT Finance, reviews all IT projects before forwarding the project to the appropriate sanctioning authority for approval. This IT stakeholder review includes consideration of whether projects include proper investment funding from the IT investment plan, project spending and resources to proceed.

Once approved by the internal IT stakeholder review team, the relevant sanctioning authorities are as follows:

- Projects greater than $30K and less than $1 million are approved by an IT Sanctioning Committee under delegation of authority from the US CIO.
- Projects between $1 million and $25 million are approved by the U.S. Sanctioning Committee ("USSC").
- Projects between $25 million to $203 million are approved by the Senior Executive Sanctioning Committee ("SESC").

The relevant sanctioning authorities approve individual projects as being prudent investments that have been properly defined with scope, costs, benefits, project drivers, resources, schedule, and analysis of risks, alternatives, and schedule and cost variances. The USSC and SESC are comprised of executives from the business unit and finance, under delegation of authority by the National Grid USA Board of Directors. Jurisdictional representatives also review IT sanctioning requests in support of the USSC and SESC approval process.

nationalgrid

National Grid US Sanctioning Committee Procedure

Authorized by

Date: 14 August 19

Kathleen Geraghty, Vice President
National Grid USA

National Grid USA
40 Sylvan Road
Waltham, MA 02451-1120

TABLE OF CONTENTS

1.0 Change Control

Version	Date	Modification	Author(s)	Reviews and Approvals by
Issue 1	March 7, 2012	Implementation of new procedures for all US utility services.	M. Carlino	Approved by Mary Fuller
Issue 2	May 8, 2013	Revision to incorporate changes to procedure	R. Morey	Mary Fuller
Issue 3	January 7, 2015	Annual Review	M. Carlino & M. Roby	Mary Fuller
Issue 4	March 25, 2016	Annual Review	M. Carlino	Mary Fuller
Issue 5	May 08, 2017	Annual Review	D. Monteiro	Mary Fuller
Issue 6	May 30, 2018	Annual Review	MJ Barry	Sue Martuscello
Issue 7	July 29, 2019	Annual Review	MJ Barry	Sue Martuscello

2.0 Introduction

2.1 This procedure is intended to provide guidance for sanctioning and re-sanctioning capital investments greater than or equal to $1 million.

2.2 The purpose of this document is to establish a formal review and approval process for all National Grid utility services.

2.3 All investments must receive proper Delegation of Authority ("DoA") prior to that expenditure being committed, except in emergency situations as outlined in Section 11.5. Approval will be based on maximum risk-range (tolerance) cost including capital, Operations and Maintenance ("O&M"), removal, and salvage costs.

2.4 This document shall be reviewed annually and amended as needed.

2.5 The sanction process utilizes several key digital templates:

2.5.1 Sanction Templates will be used for partial sanctions, full sanctions, re-sanctions and project development.

2.5.2 The Closure Template is used to close out the funding project after all the work has been completed. The Spending Review Template is used for annual Blankets/Programs and Project Development at fiscal year-end.

3.0 Applicability

3.1 This procedure is applicable to the following Utility Services:

- Power Plant Operations
- Property
- Gas
- LNG
- Electricity Transmission and Distribution
- Fleet
- Information Technology

3.2 Site Investigation and Remediation (SIR) will be subject to the US Environmental Oversight Committee's Terms of Reference

3.3 The Executive Sanctioning Committees may require any other Utility Services to occur before it is permitted for approval.

4.0 Exceptions

4.1 This procedure does not apply to:
- Energy Procurement
- Regulatory DoA

5.0 References

5.1 Supporting policies and procedures are available on the Infonet and reviewed on an annual basis. Terms of Reference link is set to the main page where both documents can be located.

5.1.1 National Grid USA Delegations of Authority (DoA) Site
5.1.2 Terms of Reference (US Sanctioning Committee and Senior Executive Sanctioning Committee)
5.1.3 Cost Overrun Procedure (Under Development)

6.0 Sanction Paper – General:

6.1 Investment proposals may progress as a partial sanction paper or full sanction paper.

6.2 A sanction paper shall be used to approve any expenditure as required in the Executive Sanctioning Committee's Terms of Reference and provides the financial DoA to deliver the funding project as detailed within the proposal.

6.2.1 The funding project amount to be sanctioned and for which DoA is requested shall be the gross expected expenditure. Any CIAC or other contributions are not to be used to reduce the gross amount. For example, if a $5.0M funding project is initiated and a $1.0M customer contribution is expected, DoA shall be requested for $5.0M. It would not amount to $4.0M.

6.3 Sanction paper numbers are obtained from the USSC Technical Secretary prior to submitting the paper as an agenda item for the Sanctioning Committee meetings.

6.4 Land purchases must have their own funding project number.

6.5 A partial sanction paper shall be submitted to advance a funding project when a request for full authorization cannot be submitted due to the lack of a complete scope and final cost (except as noted in section 8.0). The author should ask for enough DoA in their first partial sanction paper to get them through all the activities prior to construction, when possible. DoA under a partial sanction provides authority for items such as, but not limited to:

- Engineering and design
- Land purchase
- Services procurement from consultants, attorneys, etc. to obtain permitting and licensing ahead of construction
- Long lead-time material procurement
- In emergencies, when approval is required immediately
- Preliminary field work
- Other steps necessary to move a funding project towards execution
- An increase in scope, schedule or cost from a previously approved partial sanction

6.6 Generally, only one operating company is to be included in a sanction paper. Exceptions to this include sanctions initiated by

6.6.1 Papers involving New England Power and another New England distribution or transmission companies where multiple funding projects may be included in the same paper.

6.7 Committee Approval is determined by the potential investment at the time the paper is presented for approval.

6.7.1 For example, if a Partial Sanction was approved at the Senior Executive Sanctioning Committee (SESC) due to the potential investment being greater than $25M (including tolerance). If the full sanction potential investment becomes less than $25M (including tolerance), then United States Sanctioning Committee (USSC) shall approve the paper.

6.7.2 Determination of Committee Approval between Weekly Tuesday Committee and USSC does not includes tolerance.

6.7.3 The final spend for Closures and Spending Reviews shall determine which sanctioning committee it is presented to for approval.

6.8 Related funding projects can cross lines of business (e.g. Transmission and Distribution Electric, Gas, Property, IS, SIR or Generation investments) and companies. These related funding projects should be identified in a Sanction Paper with a very brief scope and total cost by line of business and company

7.0 Sanction Paper: Specific Projects, Blankets, and Programs greater than or equal to $1M

7.1 **Gas and Electric** DoA requests for investments greater than or equal to $1M and less than $8M, whether high, medium or low complexity, to use the short form digital template.

7.1.1 These papers will be approved and signed by the USSC Chair and placed on the USSC agenda on a quarterly basis for noting.

7.2 **Gas and Electric** DoA requests for high or medium complexity funding projects with total costs of $8M or greater to use the USSC sanction digital template which will be presented to the USSC for approval.

7.3 **Gas and Electric** DoA requests for low complexity funding projects with total costs of $8M or greater to use the short form digital template which will be presented to the USSC for approval

7.3.1 In the event a Gas or Electric funding project is estimated to be below $8M but the tolerance raises the DoA above $8M, a short form digital template can be used and signed by the USSC chair, however:

- If the forecast is expected to reach or exceed $8M and is above the allowable tolerance; the paper must be re-sanctioned and submitted to the USSC on the appropriate form as described above.
- The paper must clearly explain that the original sanction was for under $8M.

7.4 **SIR** contracts with total costs that are:

- Between $1M and $5M with a low complexity may be completed using SIR DoA procedure with appropriate documentation.
- Between $1M and $5M with a medium or high complexity will be completed using the USSC sanction digital template and will be presented to the Environmental Oversight Committee for approval.
- Greater than $5M with a medium or high complexity will use the USSC sanction digital template and will be presented to the Environmental Oversight Committee for approval.
- Greater than $5M with a low complexity will use the short form digital template and will be presented to the Environmental Oversight Committee for approval.

7.5 **LNG** projects with total costs that are:

- Equal to or greater than $8M with a low complexity will use the short form digital template.
- Equal to or greater than $8M with a medium or high complexity will use the standard sanction digital template which will be presented to USSC for approval.

7.6 **IT** funding projects that are:

- Greater than or equal to $1M and less than $5M with a low complexity, will use the short form digital template.
- Greater than or equal to $1M and less than $5M with a medium or high complexity, will use the USSC sanction digital template.
- Greater than $5M with a low complexity will use the short form digital template and will be presented to the USSC for approval
- Greater than $5M with a medium or high complexity will use the USSC sanction digital template and will be presented to the USSC for approval

7.7 **Property** funding projects that are:

- Greater than or equal to $1M and less than $3M with a low complexity, will use the short form digital template.

- Greater than or equal to $1M and less than $3M with a medium or high complexity, will use the USSC sanction digital template.
- Greater than $3M with a low complexity will use the short form digital template and will be presented to the USSC for approval.
- Greater than $3M with a medium or high complexity will use the USSC sanction digital template and will be presented to the USSC for approval.

7.8 Power Plant Operations (Generation) funding projects that are:

- Greater than $1M with a low complexity will use the short form digital template and will be presented to the USSC for approval.
- Greater than $1M with a medium or high complexity will use the USSC sanction digital template and will be presented to the USSC for approval.

7.9 All Utility Services

- DoA requests for all utility services funding projects with total costs greater than $25M to use the USSC sanction digital template which will be presented and noted for recommendation by the USSC, to move forward to the SESC for approval. If a project is less than $25M but the tolerance puts the project greater than $25M, then the project will go to the USSC for noting and to the SESC for approval. An overview presentation is also required for SESC.

7.10 Blanket Funding Projects

- Each fiscal year the blanket funding projects are presented to the Sanctioning Committees for approval using the short form digital template.
- Blanket funding projects have a complexity score of 15
- An overview presentation of the blanket funding paper is required when presented at the Senior Executive Sanctioning Committee. (For USSC, a one-page slide highlighting total blanket spend when multiple operating companies are involved).
- Blanket funding projects may not be segmented into smaller pieces to sanction the spending at a lower level of authority than would otherwise be required.
- A spending review document is presented at the end of each fiscal year no later than the July sanction approval.
- Senior Executive Sanctioning Committee (SESC) has authorization to approve Blanket funding projects exceeding the SESC approval limit.

7.11 Programs

- Each fiscal year the program(s) is/are presented to the Sanctioning Committees for approval using the short form digital template.
- Program complexity scores should reflect an average of the program.
- An overview presentation of the program is required when presented at the Senior Executive Sanctioning Committee. (For USSC, a one-page slide highlighting total program spend when multiple operating companies are involved).
- Program funding projects may not be segmented into smaller pieces to sanction the spending at a lower level of authority than would otherwise be required.

- A spending review document is presented at the end of each fiscal year no later than the July sanction approval.
- Senior Executive Sanctioning Committee (SESC) has authorization to approve Program funding project(s) exceeding the SESC approval limit.

7.12 Project Development

- Each fiscal year specific capital project development costs are aggregated in a single sanction paper for each Operating Company ("OpCo").
- The utilization of the single paper approval for portfolio project development costs supports the new capital delivery process.
- Project Development Funding Papers will be presented to the Sanctioning committee.
- An overview presentation of the Project Development is required when presented at the SESC.
- A spending review document is presented at the end of each fiscal year no later than the July sanction approval.

8.0 Sanction Paper: Engineering / Design

8.1 If a project is requesting funds for engineering/design only, it may be done using the short form template or by using the appropriate personal DoA in PowerPlant to approve a Project Funding number.

8.1.1 All sanctions following the engineering/design partial sanction will abide by the requirements listed above.

9.0 Re-Sanctioning:

9.1 All specific, blanket and program funding projects, for all Utility Services (excluding electric blankets) must be re-sanctioned within 60 calendar days of notification that the cost is outside of the tolerance approved in the sanction template.

- Partial sanctions are not re-sanctioned using the re-sanction template. In the event the funding project scope or cost has changed since a partial sanction paper was approved, another partial sanction would be presented using the appropriate template until the investment has been sanctioned at the full sanction at +/-10%.

9.2 Funding project schedule and scope variances are not governed by this process. Variances are documented and approved in accordance with the applicable Utility Services procedures.

9.3 If DoA was obtained for a funding project originally estimated to be below $1M, but the forecasted total cost or the actual spend subsequently equals or exceeds $1M, then the funding

project must be re-sanctioned by the Program Manager and presented to the appropriate committee.

- The paper must clearly explain that the original sanction was for under $1M and explain what drove the variance.

9.4 A cost is incurred at the moment the payment obligation is incurred. Non-payment of valid invoices is not an acceptable method of remaining within DoA.

9.5 If there are any outstanding contractual claims in an investment (contractor, land owner, etc.) that may push costs over the upper sanction range, the Sanctioning Committees and responsible executive sponsor shall be notified with an explanation of the issue along with a description of potential outcomes. The investment should be re-sanctioned for cost when the value of the claim is known.

9.6 An investment must also be re-sanctioned if the project scope fundamentally changes, there is a material increase or decrease in project scope, or changes occur in the actual work even though the operational outcome remains the same. The decision as to whether changes in a project are "material" rests with the Sponsor.

9.7 Summary of Re-sanction thresholds:

Re-sanction for:	Re-sanction Threshold
Cost	Once forecasted to be above the DoA authorized in the Sanction Paper **it must be re-sanctioned** (requested amount plus tolerance)
Scope	Fundamental or material increase or decrease in scope – determined by Sponsor

9.8 Re-sanction papers should not re-state the original need case. Rather the paper must include a detailed explanation of the new sanction requirements and why they have changed from that which was originally approved. In addition, the re-sanction paper should include details of lessons learned including an explanation of any significant variances in cost. If they are not fully known at the time, they must be included in the closure or spending review paper.

9.9 If the original investment drivers change during the course of a funding project, but the investment costs and scope remain as sanctioned, the funding project must be re-sanctioned.

9.10 Re-sanction papers must be presented through the full DoA chain until it reaches the authority that can approve the revised total amount.

9.11 In the event there is a personnel change to the project or program manager following approval of a sanction paper, the funding project does not have to be re-sanctioned.

Closure Paper:

9.12 Funding project closure papers shall be required for all funding projects $1M or greater. All annual Program and Blanket closure papers shall use the Spending Review template and be presented at the appropriate sanction committee by July of the next fiscal year.

9.13 Specific funding project closure papers shall be submitted to the Sanctioning Committee's Secretary as soon as possible after all work orders and projects are closed.

9.14 Investment Management will circulate the Closure report quarterly for any updates to the project closure dates. The project sponsor/owner will have 10 business days to respond back with any changes to project closure dates.

9.15 Re-sanction for under spend may be combined with the closure paper if the under spend is not forecasted until late in the construction phase.

10.0 Fast-Track Approval Process

10.1 Where the needs of the business demand it, papers may be approved via a fast-track process administered by the Technical Secretary.

10.2 Under this process, papers must be submitted to the Business Director and Sponsor for an abbreviated review and support cycle prior to being circulated to the Committee members as appropriate.

10.3 Fast-track process approval for any paper shall be in written form (which may include, without limitation, electronic form) and will require approval of at least three Committee members.

10.4 Papers approved by the fast-track process will be presented for noting by the full Committee at its earliest convenience or at the next Committee meeting.

10.5 This fast-track process should only be used in exceptional circumstances, e.g., where a delay will impair safety, reputation and/or incur financial losses. The reason for the fast-track approval request must be clearly stated. The Investment Planning Director may use this process at his/her discretion as deemed necessary.

11.0 Delegations of Authority

11.1 In the event that an individual's DoA is used in-lieu of the sanctioning process; the Manual DoA form must be submitted to the Investment Strategy Director for auditing purposes. Electric

Investment Management will retain all Executive Sanctioning Committee's documentation. This individual DoA must be followed up with a sanction paper. Approvals must align to the DoA Tertiary Matrix and a sanction must be written for the full project expenditure.

11.2 The Sanctioning Committee's DoA will be authorized in PowerPlan by a proxy in Investment Management.

- The proxy will verify that the Sanctioning Committees approved amount for each funding project matches the DoA requested in PowerPlan prior to authorizing it.

11.3 Funding projects may not be segmented into smaller pieces to sanction the spending at a lower level of authority than otherwise would be required. Related funding projects shall be included in one investment document. A funding project is related to another funding project if it cannot fully accomplish its intended purpose unless the other funding project is also carried out.

11.4 DoA cannot be given to contract personnel.

11.5 In certain circumstances, it may not be practical to seek a proper delegated authority approval prior to entering a commitment. This is acceptable if the spend is nondiscretionary and following the delegated authority approval process would hinder operations in an emergency (e.g., response to storms, damage failures).

- DoA for full project expenditures must be obtained within 7 business days.

12.0 Special Meeting for Specific Projects ≥ 100M

12.1 Managing a complex project presents a series of challenges of greater magnitude, as a result an expanded reviewers and supporters meeting will prioritize the focus, drive continuous engagement while ensuring content and accuracy of the sanction request prior to presentation to USSC.

12.2 Include Project Sponsor, Vice Presidents of Asset Management, Business Development, Gas Resource Planning, Investment Strategy, and Project Management, as applicable.

13.0 NY Distributed Generation (DG) Sanction Process

13.1 This process shall only be used to expedite the funding project creation / approval for NY Distributed Generation (DG) projects $1M or greater.

13.2 Initially, the abbreviated NY DG digital form will be utilized to achieve the authorization to advance the project. If at any point, additional funds are needed, a re-sanction digital form shall be submitted while adhering to the sanction guidelines / process in place.

13.3 Signatory shall be the Vice President of Electric Asset Management and Planning.

14.0 Cost Overrun Report (Detailed Procedure Under Development)

On a monthly basis, each Utility Service shall prepare and distribute the Cost Overrun Report to responsible business stakeholders for action.

14.1 The Cost Overrun report identifies capital funding projects that have exceeded the sanctioned / authorized amount.

14.2 All Utility Services (Electric, Gas, Generation, Property and IT) shall provide Investment Management with comprehensive / high level data utilized to compile the 30 Day DoA Awareness Scorecard.

14.3 Within 10 business days from notification date, the responsible person must provide a driver for overrun in addition to a written plan to bring the affected funding project back into DoA compliance.

14.3.1 The actions may be a transfer of some of the costs to a different work order, re-sanctioning the sanctioned amount i.e. writing a paper or submitting a "Change in DoA Request Form".

14.3.2 Each Utility Service responsible person will follow up within their respective Utility Service if no action plan is received within 10 business days:

14.3.3 If no action plan is received – Projects that are at risk of becoming a 60 day overrun will be escalated to the Director of Investment Planning and VP of Investment Strategy and Regulatory Compliance at the 45 calendar day mark.

15.0 Responsibilities

15.1 *Director* - The *Director of Electric Investment Strategy* is the owner of the sanctioning process. The Director is responsible for developing, revising and maintaining the sanction templates, processes, procedures and ensuring that all changes are communicated to the corporation.

15.2 *Investment Management* – Revising and maintaining sanction templates, training, oversight of the Business Review Process within PowerPlan and sanction approval committees. Maintains approved sanction papers to PowerPlan and the USSC library while retaining approved sanction papers, and monitoring compliance with DoA.

15.3 *Investment Planning* – Ensures the funding projects described in the sanction papers are included, where applicable, in the budget and forecast. Facilitates annual sanctions for Blankets and Programs

15.4 *Program / Project Manager* – An individual responsible for implementing all aspects of a funding project including, planning, coordinating, and controlling a funding project. The Program / Project Manager, who is supported by a cross-functional project team, is accountable for delivering the funding project in accordance with the approved scope, cost, schedule and quality parameters.

15.5 *Reviewer* – A reviewer is an individual that reviews a proposal for content, language and recommends edits as necessary. A reviewer may or may not be a project team member but typically has expertise in one or several areas of a proposal. A reviewer's approval is required to advance a proposal.

15.6 *Sponsor* – The sponsor must be a vice-president or above and is ultimately responsible for assuring that a project delivers its proposed scope, cost, schedule and benefits. The sponsor works in conjunction with the project manager getting commitment from and managing cross-functional support and resource needs and clarifies business priorities and strategy. Also, the sponsor provides a route to escalate any issues and acts as a decision maker for issues beyond the project team's scope of authority. The sponsor (or designee) attends team meetings, as required, and regularly reviews project timelines, key milestones and outstanding issues. The sponsor is responsible for the quality and content of the sanction papers presented to the USSC or other governance committees.

15.7 *Supporter* – A supporter is typically a manager, director or vice-president. The supporter endorses a project or proposal when he or she is in agreement with the overall scope, cost, schedule and methodology incorporated in the proposal as it relates to his or her area of responsibility. The supporter also agrees that they have aligned, or will align, their part of the business to support the project. If a supporter does not endorse a project, then the project sponsor and the supporter must resolve any issues before the project can move forward.

15.8 *USSC – United States Sanctioning Committee* - Approves, endorses or notes investment papers for DOA within its authority. The USSC Terms of Reference (TOR) is posted on the Investment Planning Infonet site.

15.9 *SESC – Senior Executive Sanctioning Committee* - Approves, endorses or notes investment papers for DOA within its authority. The SESC Terms of Reference (TOR) is posted on the Investment Planning Infonet site.

15.10 *Sanction Committee Secretary* – Coordinates the investment proposals to be presented at the sanction committee meetings. Issues action items for US Sanctioning Committee and Senior Executive Sanctioning Committee meetings. Prepares and circulates the minutes associated

with Committee meetings. Manages the Fast Track Sanction process, and progresses papers to the NGUSA Board for approval, as required.

16.0 Considerations in Preparation of Investment Papers

16.1 Authors are responsible to post papers to the USSC Sanction SharePoint site that are complete and ready for presentation to the Committees *per the due dates posted on SharePoint*.

- Any paper that has not been properly reviewed will be sent back to the author and rescheduled.
- Papers received after this deadline will not be accepted on the current month's USSC, and SESC agendas or weekly sanction review agenda.

16.2 Authors shall allow adequate time to incorporate reviewer and supporter comments prior to submittal to the USSC SharePoint site. Papers shall be sent to all supporters and reviewers listed on the paper allowing at least 5 business days for review.

- The reviewer and supporter list is posted on the US Sanctioning Committee's (USSC) SharePoint site.

16.3 If the investment paper includes Critical Energy Infrastructure Information (CEII) it should not be viewed by anyone not trained on procedures regarding CEII. Training is provided and tracked in MyHub prior to posting papers, the approved (signed) paper is sent to the Transmission Planning Department to determine if the paper contains CEII. If it does, the paper is processed accordingly before posting. The distribution of papers within and outside of National Grid shall follow CEII procedures.

17.0 Retention and Notification of Approval of Investment Papers

17.1 Final investment papers shall be posted by the author to the USSC SharePoint site as major version 3 with all edits requested by the Approving committee incorporated. The Investment Management Department will circulate sanction papers for signature approval. Investment Management will retain all Executive Sanctioning Committee's approved sanction papers and alternate forms requesting DoA (i.e. Manual DoA form, etc.)

17.2 All Executive Sanctioning Committee's approved sanction papers will be saved electronically to the USSC SharePoint library and as a hardcopy by Investment Management.

18.0 Definitions

Term / Acronym	Definition
Approved Amount	The approved amount represents the estimated project cost requested for approval. The authorizing individual or committee must have DoA equal to or greater than the dollars being requested. The estimated project cost plus the tolerance would be the DoA amount.
Blanket Funding project	Blanket funding projects consist of many work orders that are typically standard construction and are of short duration. Both, Gas and Electric blanket funding projects are work that are typically externally driven (reactive in nature). Blankets are intended to have a duration of a single year and must be re-authorized each fiscal year. Examples of blanket funding projects may be New Business, Damage/Failure, etc. Electric blanket funding project work order gross expenditures shall not exceed $100,000. Multiple blanket funding projects may be sanctioned together on a single sanction paper. Close-out papers are written for each blanket funding project on an annual basis, either individually or as a group, similar to how the blankets were originally sanctioned.
Blanket Funding Project Work Order:	Work orders initiated and linked to Blanket Funding Projects
Closure Paper	A closure paper is a paper prepared for noting to the Executive Sanctioning Committees at the completion of a funding project that details the financial and objective outcomes of the funding project. A closure paper shall be prepared using the Closure Paper template. A closure paper must be prepared for all funding projects approved by the Sanctioning Committees, including canceled funding projects.
Conflict of Interest	Federal law prohibits the disclosure of non-public transmission function information or non-public information acquired from unaffiliated transmission customers to employees in our Marketing function.

Noting	Noting consists of items that, because of their nature, can be decided by the USSC based on written reviews and analyses previously made available to the committee and do not require discussion. Any item under the Noting section requiring discussion may be resolved via email or added to the following month's sanction meeting agenda.
Critical Energy Infrastructure Information (CEII)	Critical Energy Infrastructure Information (CEII) is defined as "specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure" that: • Relates details about the production, generation, transportation, transmission, or distribution of energy; • Could be useful to a person in planning an attack on critical infrastructure; • Is exempt from mandatory disclosure under the Freedom of Information Act; and • Does not simply give the general location of the critical infrastructure.
Deferred Work	A funding project that was originally scheduled to begin within the fiscal year, but it did not start, and it was not canceled.
Delegations of Authority (DoA)	A hierarchy of authorization that empowers individual(s) to enter into contracts, other external commitments or take (or not take) other actions which might result in an obligation by National Grid. DoA is obtained at the funding project level.
Emergent Work	Unidentified work that arises within a fiscal year (or after the business plan has been sent to Resource Planning).
Executive Sanctioning Committees	The Executive Sanctioning Committees consists of the US Sanctioning Committee (USSC) and/or the Senior Executive Sanctioning Committee (SESC). See definitions below for each committee. • Weekly Sanction Review Meeting
Fast Track Approval Process (as related to Executive Sanctioning Committee's sanctioning)	Where the needs of the business demand it, papers may be approved via a fast track process administered by the Executive Sanctioning Committee's Technical Secretary. Under this process, papers must be submitted to the Director for an abbreviated review and support cycle prior to being circulated to the Committee members. Three members of the Executive Sanctioning Committees must approve the paper and the paper must be presented to the full Committee where the full committee will endorse the action.

Funding Project	A funding project is a method of tracking work charges in the PowerPlan system and is assigned an alpha numeric value. Work orders are generated in the appropriate work management system and linked to the funding project. A funding project may have one or more work orders linked to it. A separate funding project is generally assigned for different types of work or for work in different major locations. Several different funding projects may be included in a single project. For example, a $10M project to build a new substation may have three funding projects under it, one funding project for Transmission Line, one for Substation, and one for Distribution Line.
In-Service Date	This is the date when the facility is placed in operation or is ready for service. The cost of the facility becomes part of the Company's asset base and is no longer eligible for AFUDC. The date is tracked in PowerPlan and P6 where applicable.
Mandatory	There is an explicit external obligation to do this specific project immediately. There is no discretion on the spend, such as with statutory regulatory or damage failure type work (referred to as non-discretionary).
Partial Sanction	A Partial Sanction paper may be submitted when full authorization cannot be submitted due to the lack of a full scope or final cost, but approval must be obtained to progress the funding project. For examples, refer to section 6.5
Policy-driven	The driver for these will be either a general external guideline, including statutory and regulatory obligations, or an internal policy. Either way, the company will usually have choices as to how and when it makes such investments, i.e. there is some discretion about scope and timing such as with system capacity and performance, asset condition and non-infrastructure type work.
Program Funding Project	A program is generally proactive work that is done on the assets such as breakers, main replacement, etc. There is a start and end date. Programs are re-authorized each fiscal year.
Program Funding Project Work Order	Work orders initiated and linked to Program Funding Projects.

Project	Project can be either complex and non-complex (see distinction below) Complex Project – Major modifications, large, complex projects (or multiple related projects) generally with a high dollar value, typically spanning multiple fiscal years, involve complex permitting and extensive stakeholder interactions and are critical to the business are designated "Complex". The full Network Delivery Process (formally known as the Complex Capital Delivery Process) shall be applied. Non-Complex Project – Small configuration changes, low risk and low dollar values are designated Non-Complex with fewer project management process steps applied. The processes and steps for these projects are described in the Project Management Playbook Level 3.
Project Development	Ensure complex electric and gas capital projects are fully scoped, budgeted and scheduled in a timely manner to meet to customer, operational, safety and regulatory requirements.
Project Schedule and Scope Changes	Project schedule and scope variances are not governed by this process. Variances are documented and approved in accordance with the applicable Utility Services procedures.
Property	Property is defined as Facilities and/or Real Estate.
Re-sanction	The process of receiving authorization to revise the existing approved cost, for specific funding projects, gas blankets and all programs. Re-sanction is required for all complexity levels and all estimated costs. Re-sanction will include resubmittal of the paper and presentation at the committee meeting (e.g. USSC, SESC, PLC, etc.).
Reviewer	A Reviewer is an individual that reviews a proposal for content and language and recommends edits as necessary. A Reviewer may or may not be a project team member but typically has expertise in one or several areas of a proposal. Refer to section 13.5 for additional details.
Ready for Load / Ready for Use	The date when a facility's construction is complete and is ready for electricity/gas service.

Sanction (as in Sanction paper)	A Sanction Paper is the document submitted to the appropriate Sanctioning Committee for project approval. A Sanction, as opposed to a partial sanction, is generally prepared for the full scope and cost of the funding project. Generally, the costs are expected to have a tolerance of +/-10%. This is considered the final approval to undertake the funding project.
Spending Review paper	A spending review paper is a paper prepared for presentation to the appropriate Sanctioning Committees at the completion of a program or blanket that details the financial and objective outcomes of the program or blanket. A spending review paper shall be prepared using the Spending Review template. A Spending review paper must be prepared for all programs, blankets and project development approved by the appropriate Sanctioning Committees, including canceled programs and blankets.
Sponsor	The Sponsor must be a vice-president or above and is ultimately responsible for assuring that a funding project delivers its proposed scope, cost, schedule, and benefits. Refer to section 13.6 for additional details.
Supporter	A Supporter is an individual, typically a manager, director, or vice-president, that represents an area of the business that is affected by the proposed project. Refer to section 13.7 for additional details.
Tolerance and Accuracy	The permissible upper and lower limit of variation in expected funding project spending is expressed in percent (e.g. +/- 10%). Do not confuse accuracy with tolerance. The more accurate the estimate the less of a contingency should be built in. • The tolerance for the request for money should always be (+/- 10%), unless it can be justified otherwise by the author. (E.g. Bids not in, Permitting, etc.). • The accuracy for the total funding project cost on a partial sanction should be in line with the Capital Delivery process, unless otherwise justified by the author. • Full Sanction tolerances should always be at the project grade estimate (+/-10%), unless it can be justified otherwise by the author.

Technical Secretary (as relates to Executive Sanctioning Committees)	The Executive Sanctioning Committee's Technical Secretary provides all materials to the members, produces the agenda, and keeps track of all action items. Refer to section 13.10 for additional details.
Executive Sanctioning Committee's Secretary	The Executive Sanctioning Committee's Secretary is responsible for preparing and circulating minutes of the meetings.
US Sanctioning Committee (USSC)	The purpose of the Committee is to provide executive management review of proposed major capital funding projects and other proposed commitments deemed appropriate candidates for such review, and to administer a consistent and comprehensive sanctioning process for such funding projects and commitments across the organization. See USSC Terms of Reference for details.
Senior Executive Sanctioning Committee (SESC)	The purpose of the Committee is to provide executive management review of proposed major capital funding projects and other proposed commitments deemed appropriate candidates for such review, and to administer a consistent and comprehensive sanctioning process for such funding projects and commitments across the organization. See SESC Terms of Reference for details.
Template (as in Sanction Template, Closure Paper and Spending Review Template)	A template is an outline for a paper to be presented to the US Sanction Committees. The digital template shall be used for all partial sanctions, sanctions, project development and re-sanctions. The Closure digital Template shall be used for all specific project closure papers. The Spending Review digital Template shall be used for all program and blanket closure papers.

Utility Service	A Utility Service is one of the main operational/functional areas of the company. There are seven Utility Services: • Electricity T&D • Gas • LNG • Power Plant Operations • Property • Environmental • IT
Utility Service Technical Secretary	The Utility Service liaison is an individual designated to assist the Executive Sanctioning Committee's Technical Secretary in coordinating with the related activities for a particular Utility Service Area.
Weekly Sanction Review Meeting	Approves sanction papers with a potential investment below a specific dollar value as outlined in the USSC Terms of reference e.g. Electric sanction papers less than $8M can be approved at the weekly sanction review meeting. See Section 5 - USSC Terms of Reference for dollar value cut off by Utility Service.

PUC 10-10

Request:

Did the Energy Management Framework Platform project pass through any sanctioning process at National Grid? If so, please provide copies of any sanctioning approvals. If not, please explain why not.

Response:

No, given the nascent state of the Energy Management Framework Platform concept, it has not yet been submitted to, or passed through, the Company's IT Sanctioning Process.

This sanctioning process would begin upon approval for requested funding.

PUC 10-11

Request:

Please provide a copy of any internal accounting guidance or rules that are used by National Grid for determining whether a software system should be expensed or capitalized.

Response:

Please see Attachment PUC 10-11-1 (Accounting for Software Capitalization Projects) and Attachment PUC 10-11-2 (US Accounting Policy Note- Cloud-Based Arrangements).

nationalgrid THE POWER OF ACTION	US ACCOUNTING POLICY	
Accounting for Software Capitalization Projects		**US AP** 105.03.1
Prior US AP Updated:	Not applicable	**Effective Date:**
Current US AP Update:	01/20/2017	
Applicability:	US National Grid – All Companies	
Departure from this Policy requires the Approval of the US Finance VP and Controller of Finance Operations		

TABLE OF CONTENTS

Section I: Purpose & Scope

This accounting policy establishes the guidelines for the accounting treatment related to costs of developing or purchasing software for internal use.

This policy applies to all US National Grid companies.

For assistance with any aspect of this accounting policy, please contact the Regulatory and Accounting Policy Group.

Section II: Policy

A. Definitions

- **Internal Use Software**: Software that has the following characteristics:
  - The software is acquired, internally developed, or modified solely to meet the company's internal needs.
  - During software development or modification, no substantive plan exists or is being developed to market the software externally.
- **Useful Life**: The period over which an asset is expected to contribute directly or indirectly to future cash flows.

nationalgrid THE POWER OF ACTION	US ACCOUNTING POLICY	
Accounting for Software Capitalization Projects		**US AP** 105.03.1
Prior US AP Updated:	Not applicable	**Effective Date:**
Current US AP Update:	01/20/2017	
Applicability:	US National Grid – All Companies	
Departure from this Policy requires the Approval of the US Finance VP and Controller of Finance Operations		

B. Policy

B.1 Recognition and initial measurement

The main accounting issue regarding costs related to developing or purchasing software for internal use is to identify if those costs shall be capitalized or expensed as incurred.

Accounting treatment is fundamentally driven by the nature and substance of activities performed and not by the management organization an employee falls under or by the length of time spent working on a project.

To apply proper accounting treatment to activities, costs shall be analyzed and classified into one of the three following stages:

1. Preliminary Project Stage;
2. Application Development Stage; or
3. Post-implementation/Operation Stage.

Where software is acquired from a third party vendor, the purchase price may contain multiple activities such as training or maintenance. These activity costs shall be allocated to each of the above three stages based on the relative fair value of the activities within each stage.

B.1.1 Preliminary Project Stage

Internal and external costs incurred during this stage shall be expensed as incurred.

The preliminary project stage consists of:

- Conceptual formulation of alternatives;
- Evaluation of alternatives;
- Determination of the existence of needed technology; and
- Final selection among alternatives.

Typically, the following tasks are included in the above processes:

- Make strategic decision to allocate resources between alternative projects at a given point in time, for example, develop a new payroll system or enhance an existing payroll system.
- Determine the software and system performance requirements for the computer project.
- Invite vendors to perform demonstrations of how their software will fulfill the company's needs.

nationalgrid THE POWER OF ACTION	US ACCOUNTING POLICY	
Accounting for Software Capitalization Projects		**US AP** 105.03.1
Prior US AP Updated:	Not applicable	**Effective Date:**
Current US AP Update:	01/20/2017	
Applicability:	US National Grid – All Companies	
Departure from this Policy requires the Approval of the US Finance VP and Controller of Finance Operations		

- Explore alternative means of achieving specified performance requirements (i.e. make/buy or mainframe server).
- Select a vendor if the company chooses to obtain software.
- Select a consultant to assist in the development or installation of the software, if necessary.

B.1.2 Application Development Stage

The application development stage consists of:

- Design of the chosen path, including software configuration and software interfaces;
- Coding;
- Installation to hardware; and
- Testing, including parallel processing phase.

Internal and external costs incurred to develop internal-use computer software shall be either capitalized or expensed as incurred depending on their nature.

The following costs shall be capitalized:

- Cost to develop or obtain software that allows for access to convert old data by new systems.
- External direct cost of materials and services consumed in developing or obtaining internal software.
- Cost to develop training materials which will be used in multiple years to deliver training on the solution being developed (e.g. manuals, white papers, e-learning platform, e-learning courses).
- Payroll and payroll related costs of employees who are directly associated with and who devote time to internal-use software project, to the extent of the time spent directly on the project.
- Interest costs incurred while developing internal-use software. If the company suspends substantially all activities related to the software developed or obtained for internal use, interest capitalization shall cease until activities are resumed.

The following costs shall be expensed as incurred:

- Administrative and general costs such as administrative support, rent and utilities expenses;

nationalgrid THE POWER OF ACTION	US ACCOUNTING POLICY	
Accounting for Software Capitalization Projects		**US AP** 105.03.1
Prior US AP Updated:	Not applicable	**Effective Date:**
Current US AP Update:	01/20/2017	
Applicability:	US National Grid – All Companies	
Departure from this Policy requires the Approval of the US Finance VP and Controller of Finance Operations		

- Actual data conversion, which includes purging or cleansing of existing data, reconciliation or balancing of old data and data in the new system, and creation of new and additional data by either employees or an external data input firm; and
- All expenses related to delivering trainings, technical and end-user, as well as contractors' expenses relating to training.

B.1.3 Post-implementation/Operation Stage

Internal and external training and maintenance costs during the post-implementation/operation stage shall be expensed as incurred.

B.1.4 Upgrades and enhancements

In order for costs of specified upgrades and enhancements to internal-use computer software to be capitalized, it must be probable that those expenditures will result in additional functionality.

If maintenance is combined with specified upgrades and enhancements in a single contract, the cost shall be allocated between the contractual elements and maintenance costs shall be expensed over the contract period. If the company cannot separate internal costs on a reasonably cost-effective basis between maintenance and relatively minor upgrades and enhancements, it shall expense such costs as incurred.

External costs related to maintenance, unspecified upgrades and enhancements, and costs under agreements that combine the costs of maintenance and unspecified upgrades and enhancements shall be recognized in expense over the contract period on a straight-line basis unless another systematic and rational basis is more representative of the services received.

B.1.5 Capitalization timing

Costs that meet the capitalization criteria during the application development stage shall begin when both of the following occur:

- The preliminary project stage is complete; and
- Management with relevant authority implicitly or explicitly authorizes and commits to funding a software project, and it is probable that the project will be completed and the software will be used to perform the function intended.

Example of authorization includes the execution of a contract with a third party to develop the software, approval of expenditures related to internal development, or a commitment to obtain the software from a third party.

Capitalization shall cease no later than the point at which a software project is substantially complete and ready for its intended use; that is, after all substantial testing is completed.

nationalgrid THE POWER OF ACTION	US ACCOUNTING POLICY	
Accounting for Software Capitalization Projects		**US AP** 105.03.1
Prior US AP Updated:	Not applicable	**Effective Date:**
Current US AP Update:	01/20/2017	
Applicability:	US National Grid – All Companies	
Departure from this Policy requires the Approval of the US Finance VP and Controller of Finance Operations		

When it is no longer probable that computer software being developed will be completed and placed in service, the asset shall be reported at the lower of the carrying amount or fair value, if any, less costs to sell. The rebuttable presumption is that such uncompleted software has a fair value of zero. Indications that the software may no longer be expected to be completed and placed in service include the following:

- A lack of expenditures budgeted or incurred for the project;
- Programming difficulties that cannot be resolved on a timely basis;
- Significant cost overruns;
- Information indicating that costs of internally developed software will significantly exceed the cost of comparable third-party software or software products, so that management intends to obtain the third-party software or software products instead of completing the internally developed software;
- Technologies introduced in the marketplace, so that management intends to obtain the third-party software or software products instead of completing the internally developed software; or
- Business segment or unit to which the software relates becomes unprofitable or has been or will be discontinued.

B.2 Measurement

B2.1 Amortization

The cost of software developed or purchased for internal use shall be amortized on a straight-line basis over its useful life, unless another systematic and rational basis is more representative of the software's use. Amortization of the internal-use software shall begin when the software is ready for its intended use (e.g. the go-live date).

The IS Finance Group shall consult with Plant Accounting and Regulatory and Accounting Policy on an annual basis to reassess the estimated useful life over which the costs incurred for internal-use computer software will be amortized. They shall consider the effects of all of the following when performing the assessment:

- Obsolescence;
- Technology;
- Competition;
- Other economic factors, and

nationalgrid THE POWER OF ACTION	US ACCOUNTING POLICY	
Accounting for Software Capitalization Projects		**US AP** 105.03.1
Prior US AP Updated:	Not applicable	**Effective Date:**
Current US AP Update:	01/20/2017	
Applicability:	US National Grid – All Companies	
Departure from this Policy requires the Approval of the US Finance VP and Controller of Finance Operations		

- Rapid changes that may be occurring in the development of software products, software operating systems, or computer hardware, and whether management intends to replace any technologically inferior software or hardware.

Amortization shall be applied at the module level. If the functionality of a module is entirely dependent on the completion of other modules, amortization of that module shall begin when both that module and the other modules, upon which it is functionally dependent, are ready for their intended use.

The net book value or remaining costs of old software being replaced shall be expensed when the new software is ready for its intended use.

When the company replaces existing software with new software, unamortized costs of the old software shall be expensed when the new software is ready for its intended use.

For rate-regulated companies and to the extent that it is probable that the regulator will allow for the recovery of cost, amortization expense shall be recognized as a regulated asset. Refer to policy **US AP 140.01.1** *Accounting for Regulatory Assets* for further guidance.

B2.2 Impairment

Software being developed or currently in use shall be tested for impairment whenever there is an event or change in circumstances indicating that the software carrying amount may not be recoverable. The following are examples of such event or change in circumstances:

- Internal-use software is not expected to provide substantive service potential.
- A significant change occurs to the extent or manner in which the software is used or is expected to be used.
- A significant change is made or will be made to the software program.
- An indication that the regulator might no longer allow for the recovery of past costs,
- Costs of developing or modifying internal-use software significantly exceed the amount originally expected to develop or modify the software.

Impairment test shall be performed and reviewed in accordance with the guidance provided in the policy **US AP 105.01.1** *Accounting for Property, Plant and Equipment.*

B.3 Review

IS Finance in conjunction with Regulatory and Accounting Policy Group is responsible for identifying different nature of costs related to the development and purchase of software for internal use and to ensure that the costs are properly classified in each stage detailed in section B.1.

nationalgrid THE POWER OF ACTION	US ACCOUNTING POLICY	
Accounting for Software Capitalization Projects		**US AP** 105.03.1
Prior US AP Updated:	Not applicable	**Effective Date:**
Current US AP Update:	01/20/2017	
Applicability:	US National Grid – All Companies	
Departure from this Policy requires the Approval of the US Finance VP and Controller of Finance Operations		

This policy applies to the development or purchase of software with costs of $250K or greater. Projects shall be considered on a stand-alone basis as opposed to an aggregation of unrelated projects.

B.4 Presentation

Software subject to capitalization shall be classified in the balance sheet as an item of Property, Plant and Equipment.

B.5 IFRS guidance

IFRS defines certain terms slightly differently than the guidance herein. In particular, internally generated intangible asset costs are categorized as being incurred in the "research phase" or the "development phase" where all research-phase costs are expensed as incurred and development phase are capitalized if an entity can demonstrate certain criteria.

Also, Software shall be presented as intangible assets under IFRS.

Please contact the Regulatory and Accounting Policy Group for further questions regarding IFRS guidance.

B.6 Accountability

The IS Finance Group shall ensure that costs related to developing or purchasing software for internal use are properly calculated and recorded by month end.

The account reconciliation shall be conducted in accordance with **US AP 800.05.1** *Account Reconciliations Policy*.

Section III: Chart of Account Reference

Section IV: Supplemental Information

US AP 105.01.1 *Accounting for Property, Plant and Equipment.*

US AP 140.01.1 *Accounting for Regulatory Assets*

US AP 800.05.1 *Account Reconciliations Policy*

US AP 105.XX.X *Accounting for Software as a Service.*

Section V: Key Accounting Literature

US GAAP		
Topic	**Subtopic**	**Description**

nationalgrid THE POWER OF ACTION	US ACCOUNTING POLICY	
Accounting for Software Capitalization Projects		**US AP** 105.03.1
Prior US AP Updated:	Not applicable	**Effective Date:**
Current US AP Update:	01/20/2017	
Applicability:	US National Grid – All Companies	
Departure from this Policy requires the Approval of the US Finance VP and Controller of Finance Operations		

ASC 350	40	Intangibles – Goodwill and Other – Internal Use Software
IFRS		
IAS 38		Intangible Assets

Regulatory			
Title	**Chapter**	**Subchapter**	**Part**
Not applicable			

Additional Key Accounting Guidance		
Source	**Section**	**Description**
Not applicable		

Section VI: Transition Information

Not applicable

Section VII: Exhibits

Not applicable

Section VIII: Frequently Asked Questions

Not applicable

nationalgrid

US Accounting Policy Note

Cloud-based arrangements

Version control and approvals	
Version	11/18/2016
Author	Sam McClemont, Manager, Technical Accounting
Approver	Sharon Partridge, US Controller

nationalgrid

Cloud-based arrangements

Introduction and definitions

Cloud-based arrangements are increasingly prevalent and there has been much debate, particularly in North America, as to how they should be accounted for. The major advantage of cloud-based arrangements is the potential to reduce IT support costs by outsourcing hardware and software maintenance and support to a third party. These arrangements include:

- Software as a Service (SaaS): On-demand software licensing and delivery model in which software is licensed on a subscription basis by independent software vendors (ISVs) or application service providers (ASPs);
- Infrastructure as a Service (IaaS): On-demand storage services;
- Platform as a Service (PaaS): On-demand computing platform, including operating system and database, to develop and deploy applications;
- Business Process as a Service (BPaaS): Delivery of business process outsourcing services from the cloud; and
- Any other arrangement, service or solution that is provided via the cloud.

Scope

This US Accounting Policy Note, which constitutes US GAAP policy, is to be applied for US GAAP reporting throughout the National Grid US region. It supersedes any previously-issued policy or guidance at a Regional level in relation to cloud-based arrangements. Where uncertainty arises, the spirit of this Note should be applied.

This Note expires and should be replaced upon adoption of ASU 2016-02 (ASC Topic 842: *Leases* (18 December 2018).

Accounting Standards and Interpretations relevant to this Note: ASC 842 *Leases*; ASC 350 *Intangibles – Goodwill and Other; ASC 980 Regulated Operations*

Executive summary

- Cloud-based arrangements are typically accounted for as service contracts.
- Contract costs are expensed on a straight-line basis over the contractual period, unless a different basis more accurately reflects the provision of services to National Grid.
- Payments in advance are regarded as prepayments and are not capitalised as intangible assets.
- In rare circumstances, a contract may be regarded as an operating lease rather than a services agreement. This does not change the accounting but requires additional disclosure.
- Where a cloud-based solution replaces existing software or hardware, the existing asset should be reviewed for impairment..
- It is likely that only a very limited amount of any upfront costs to implement the contract may be eligible for capitalisation as an intangible asset. In such circumstances care would be needed in determining the useful life and amortisation.

Contents

nationalgrid

1. How should cloud-based arrangements be treated?

In substance, cloud-based arrangements represent services received by National Grid under a services agreement.

The services agreement, which may take the legal form of a licence agreement or other contract, does not typically constitute an asset but a contractual right to receive future services. Consistent with other service contracts, the costs of the contract are expensed on a straight-line basis over the life of the contract, unless an alternative basis more accurately reflects the provision of services by the vendor to National Grid.

Contract costs do not meet the definition of an intangible asset unless:

- National Grid has the contractual right to take possession of the cloud-based solution at any time during the contractual period without significant penalty; and
- It is feasible for National Grid to either run the cloud-based solution on its own hardware or contract with another party unrelated to the vendor to host the solution.

Differentiating services received

It is likely that National Grid will receive more than one service under the cloud-based arrangement; for example, support services may be provided in addition to on-demand software in the cloud. Each contract should be assessed to identify different services provided to National Grid. The related expense of each service should be recognised over the period of time the service is received. Where the services agreement does not assign a value to a particular service, we estimate a value by assessing the price of each service as though it were a standalone service and apportioning the cost based on relative values.

Payments in advance

Where National Grid pays a predetermined amount of monthly or annual contract costs in advance, these amounts are generally regarded as a prepayment and expensed over the life of the contract on a straight-line basis, unless an alternative basis more accurately reflects the provision of services by the vendor to National Grid. In New York State, subsequent to the New York Public Service Commission's Order 14M-101 in May 2016, to the extent that these contracts are prepaid, the unamortized balance of the prepayment can be included in rate base and thus earn a return.

Replacement of existing software / hardware

Implementation of a cloud-based arrangement will often replace an existing National Grid IT solution. These circumstances are an indicator of obsolescence and an impairment review of the asset may be required.

Consideration should be given as to whether the need for impairment may be mitigated by any regulatory orders allowing full recovery of the pre-existing software / hardware.

Leasing arrangements

While ASU 2015-05 eliminated the general requirement for companies to analogize the accounting for SAAS arrangements to lease accounting, in rare circumstances, the arrangement may meet the definition of a lease. This occurs when both the conditions below are met:

1. The fulfilment of the arrangement is dependent on the use of a specific asset – i.e. a specific server must be used, or the ISV / ASP has only one server available to provider the service. It is unlikely that cloud-based solutions will meet this condition because they are not typically tied to a specific server or group of servers; and
2. The arrangement gives National Grid the right to control the use of the underlying asset, e.g. the software, intellectual property, server or process methodology.

Where these conditions are met, it is likely that the arrangement constitutes an operating lease. The accounting for operating leases is consistent with services agreements (straight-line over the contractual period), except that additional disclosures apply.

2. Can any costs be capitalised?

Given the cloud-based arrangement is provided by a third party vendor under a services agreement using its own assets and intellectual property, only a very limited amount of costs are expected to be eligible for capitalisation.

Licence fees

Licence fees are regarded as contract costs in a cloud-based arrangement because they do not in substance confer ownership of the underlying asset(s) or intellectual property. They are expensed over the contractual period on a straight-line basis and are not capitalised.

Project management costs

Project management costs do not in themselves enhance or create an asset with associated economic benefits, and may not be capitalised.

Preliminary Project Phase costs

The presumption is that costs incurred during the preliminary project phase of implementing a cloud-based arrangement may not be capitalised. These include, but are not limited to:

- All work of a strategic nature, e.g. allocating resources between different projects;
- Determining system requirements
- Evaluating and making a choice between different products.
- Activities aimed at obtaining new knowledge, such as understanding new cloud-based technology; and
- Selection of vendors or consultants;

Application Development Phase costs

Only a very limited amount of development costs would ordinarily be expected to be eligible for capitalisation. Such development costs , incurred prior to the go-live date, would have to be both:

- **Incremental to National Grid**, i.e. they would not have been incurred if it were not for implementation or development of the cloud-based arrangement. For the avoidance of doubt, employee and contractor costs may not be capitalised where the costs would have been incurred regardless of the project going ahead, i.e. the individuals concerned work for National Grid on more than one project over the same time period and their contract is not solely for the purposes of the project; and
- **Directly attributable** to bringing the solution to a point where it was capable of operating in the manner intended by National Grid – this is typically earlier than the go-live date. These costs can include fees paid under a separate cloud-based arrangement where the underlying software service is used in the development and implementation of the on demand software service (e.g. hosting for development of an internally developed software solution). Costs of a general nature, such as overhead allocations and delivering training may not be capitalised.

US GAAP intangibles accounting standards specifically exclude hosting arrangements where the company does not have the right to take possession of the software at any time during the hosting period, deeming them to be service contracts. Costs incurred when entering into a service contract should be evaluated, and accounted for in accordance with applicable GAAP.

Where upfront services are provided by the vendor, the vendor is customising its own assets and intellectual property. These form part of the overall service provided by the vendor and are treated as operating costs. These costs may not be capitalised.

2. Which costs can be capitalised? *(continued)*

Maintenance fees and ongoing costs

Maintenance fees and ongoing costs incurred after the arrangement is capable of being used in the manner intended by National Grid, that do not enhance or generate an asset with associated economic benefits, are expensed. Where these fees arise under a service agreement, the cost is separated from other costs and spread over the period in which the service is received.

Upgrades and enhancements

Where a third party vendor hosts a cloud-based arrangement, it is unlikely that National Grid would bear the cost of an upgrade or enhancement. In limited circumstances however there may be some costs arising from an upgrade, such as manipulating existing standing data into a format that is compatible with the upgraded solution.

These costs may only be capitalised where a tangible enhancement can be clearly demonstrated, through falling into one of the following three categories:

1. **Major additions to functionality** – these must be substantive in nature and not administrative changes / replacement of similar modules with essentially the same functionality;
2. **Replacement of a major component** – this entails replacing the code with new code which is substantially different to the old code. It does not include administrative changes with no substantive additional economic benefits; or
3. **A major upgrade or enhancement**, which results in either:
    a) useful additions to functionality / significant efficiency improvements in processing or data storage; or
    b) installation work commensurate to installing an entirely new software system in terms of configuration and testing.

Other costs incurred after the arrangement is capable of being operated in the manner intended by National Grid may not be capitalised.

Useful Life and Amortization

Where costs associated with a cloud-based arrangement have been capitalised, care is needed to determine the useful life over which they should be amortised.

The useful life of an intangible asset is the period over which it is expected to be available for use. In applying this to the costs capitalised in respect of a cloud-based arrangement, we consider:

- The minimum irrevocable contractual period of the associated services agreement;
- The period over which National Grid expects to use the cloud-based arrangement in its present condition without upgrades or enhancements; and
- Any other information (internal or external) that suggests a shorter or longer useful life may be appropriate.

As a general rule of thumb, the useful life is the lesser of the minimum irrevocable contractual period of the associated services agreement, and three years, unless there is robust evidence that a different useful life is appropriate, such as an independent asset life study forming part of a regulatory rate case submission. Vendor reports are not considered sufficient evidence for this purpose.

Amortisation

Costs that meet the capitalisation eligibility criteria and have been capitalised are amortised from the date the cloud-based arrangement is capable of being used in the manner intended by National Grid. This date may be earlier than the go-live date.

Costs deferred as a prepayment are recognised as expense over the period the related services are received by National Grid.

PUC 10-12

Request:

Referring to the response to PUC 6-1(b), please explain the extent to which standard accounting practice at National Grid defers an accounting determination as to whether the development of a software system should be expensed or capitalized until after the system is developed? Please give other examples. If not typical, why is this system different?

Response:

The Company does not wait until the system is developed to make accounting treatment decisions associated with the Energy Management Platform. Rather, such decision is made only when sufficient information is available about more detailed cost estimates and other commercial terms of the planned software development and deployment. While this information is not yet available at the time of this filing, it is expected that such information would become available prior to the completion of system development and deployment.

PUC 10-13

Request:

Please provide a narrative explanation of how the concept of an Energy Management Framework Platform arose and the extent to which the concept arose only for application in Rhode Island and/or as a tool for both Massachusetts and Rhode Island.

Response:

The concept of an Energy Management Framework Platform originated from internal ideation sessions, discussion with industry peers, and engagement with industry experts at various energy efficiency conferences over the past years.

The decision to move forward with, and propose funding for, the Energy Management Framework Platform was made specifically for Rhode Island. This decision was made in recognition of the fact that progress towards achieving the maximum achievable energy savings opportunities identified in the Market Potential Study, and ultimately proposed by the EERMC and approved by the Commission, would require increased Company investment in reducing the barriers to market adoption that those higher savings levels were predicated on.

The Company views the Energy Management Framework Platform as a key enabling strategy to reducing these barriers in the Commercial and Industrial sector, primarily through enabling the collection, organization and analysis of relevant customer data in support of targeted identification and pursuit of energy efficiency opportunities at key customer accounts. The Company believes that these capabilities will allow the Company's sales organization, and potentially partners, to more efficiency identify, prioritize and proactively present customer centric solutions in a manner that will lead to more efficient selling processes and improved sales conversion rates.

PUC 10-14

Request:

Refer to the response to PUC 6-1, where it states that the "function of the specific features and functionality" of the Energy Management Framework Platform "have not yet been fully defined,"

(a) Please clarify how the Company could provide a description of the functionality in PUC 3-16 (quoted below) if the functionality has not yet been defined?

> "The objective of the Platform is to increase participation and continuous customer engagement in energy efficiency. The Platform addresses this objective by proposing next-best energy efficiency actions in the short-term and developing energy action plans in the long-term. To propose next-best actions and develop energy action plans, the Company must collect nameplate information. The nameplate information will be aggregated and sorted to determine when specific equipment is nearing its measure life, the approximate savings opportunity for the replacement installation, the expected incentive amount, and the financing options available to the customer. The Platform will also provide customer-specific reports on past energy efficiency investments, future energy efficiency opportunities, and available financing mechanisms."

Please explain why the functionality described above might not be applicable to Massachusetts and may only be applicable to Rhode Island.

Response:

The above reference describes a high-level state of intended and desired functionality for the Energy Management Framework Platform. This high-level statement is an aspirational description of how the system would be expected to increase C&I customer adoption of energy efficiency measures and drive resulting savings and benefits, but is not nearly developed, specific or comprehensive enough to be the basis of a software development or procurement effort. The documentation necessary to support those efforts would be the result of feasibility analysis and requirements gathering and design efforts that would be the first step in the process that will ultimately culminate in the deployment of the platform, if approved.

The potential applicability of the platform to other jurisdictions, including Massachusetts, will be a specific function of the ultimate capabilities and functionality of the platform, and any overlap or intersection of these capabilities with planned C&I customer engagement and go-to-market strategies in those jurisdictions.

Prepared by or under the supervision of: Daniel Tukey and Christopher Porter

PUC 10-14, page 2

With funding approval in Rhode Island for the development of this platform, the Company would anticipate engaging with relevant members of the Massachusetts implementation, planning and sales teams in order to identify potential commonalities in design requirements and understanding, where, if anywhere, common functionality could be developed, and ultimately deployed within both jurisdictions. Absent going through this process, though, it is not currently possible to identify specific applicability of this planned functionality, or lack thereof, with needs in the Company's Massachusetts programs.

PUC 10-15

Request:

Referring to the response to PUC 6-1(a), please describe the referenced allocator and show the components of the calculation resulting in the percentages shown. Please also explain why the allocator would be appropriate for allocating the costs of the Energy Management Framework Platform.

Response:

The Company methodology for calculating cross-jurisdictional allocators is based on taking each participating jurisdiction's relevant internal budgeted program costs (total costs less performance incentives less customer rebates and incentives) and dividing that internal cost against the aggregate relevant internal costs for all participating jurisdictions and portfolios.

In the case of the proposed allocator to be utilized for this potential cross-jurisdictional allocation, the utilized internal costs include planned expenditures for Program Planning and Administration, Marketing, Sales, Technical Assistance and Training, and Evaluation and Market Research across each relevant jurisdiction's and operating companies Commercial and Industrial energy efficiency sector portfolio.

Please reference the below table for the relevant 2020 internal costs associated with the Commercial and Industrial portfolio in each jurisdiction.

Massachusetts and Rhode Island Jurisdictional Entities	**2020 Cross Company Allocation %**	**2020 Total Internal Cost (C&I Sector sost without Incentives)**
Massachusetts Electric Company	51.4%	$25,651,210
Nantucket Electric Company	0.5%	$259,103
Boston Gas Company	15.3%	$7,624,736
Boston Gas-Colonial	4.6%	$2,277,518
Narragansett Electric Company (Electric)	19.9%	$9,955,731
Narragansett Electric Company (Gas)	8.3%	$4,145,380

Prepared by or under the supervision of: Matthew Manzo, John Richards, and Daniel Tukey

PUC 10-15, page 2

In allocating the Energy Management Framework Platform across the allocators listed below, the Company would plan on using the following the standard procedure for allocating shared costs across jurisdictions (updated for the then-current year's allocators as of the point that the allocation is made).

PUC 10-16

Request:

Referring to the response to PUC 6-1(c), if (i) the software system is treated as an O&M expense, (ii) Rhode Island has paid for the entire $1 million of cost of for the software system, and (iii) the system is later used by Massachusetts, will Rhode Island ratepayers receive any reimbursement for the Massachusetts contribution to the development costs from which Massachusetts would be benefiting? If not, why not. If yes, please explain how the reimbursement would be calculated and implemented.

Response:

Yes, in the scenario described above, the Company would, in the period in which it were determined that Massachusetts energy efficiency programs would utilize and benefit from the software functionality, transfer expenses between the Massachusetts and Rhode Island energy efficiency funds in order to align development expenses across the jurisdictions on the basis of then current cost allocation methodologies.

This would be accomplished by analyzing development costs of the software to determine which features and functionality are applicable to both jurisdictions. An appropriate cost share with Massachusetts would then be determined based on the current Massachusetts and Rhode Island allocation percentages described in PUC 6-1. The Company would post an entry to the general ledger to debit the Massachusetts energy efficiency funds and credit the Rhode Island fund. This would have the impact of increasing reported Massachusetts implementation spending in the relevant period by the amount of the transfer, and netting this same amount out of calculated Rhode Island energy efficiency implementation spending during that same period.

PUC 10-17

Request:

Referring to the response to PUC 6-1(c),

(a) Please explain what is meant by procuring and deploying the system as "a software as a service model."

(b) If the system is procured and deployed as "a software as a service model," will there be future charges for use of the system in Rhode Island after the system is put into service? If yes, please explain the method of determining future charges under "a software as a service model."

(c) Please explain why a "software as a service model" would be a prudent way of procuring and deploying the system, as opposed to other models. Please also describe the other models through which the system could be developed and deployed.

Response:

(a) A "software as a service (SaaS) model" is an approach to procuring and utilizing enterprise software. Rather than in a more traditional software purchase model (where the Company would pay a one-time license fee or development costs plus potentially ongoing support or maintenance costs to a software vendor, and then maintain ownership of the software license and the cost and responsibility for managing the technology infrastructure on which the software is run), in a SaaS purchase model the Company instead pays a recurring service fee for access to the software on third-party managed and maintained infrastructure.

(b) Yes, in the SaaS model, the Company would continue to incur charges for as long as it utilizes the system procured under this model. The specific charges would be a function of the commercial terms negotiated between the Company and the vendor from whom the SaaS functionality is being purchased.

(c) A SaaS purchase model can be a more cost efficient path to procuring desired software functionality by limiting Company costs only to the recurring SaaS fees, and allowing the Company to avoid the other, internal costs that would typically be associated with the establishment and maintenance of the technology infrastructure necessary to deploy and manage purchased software. SaaS models can also allow the Company to avoid large, up-front outlays of funds through amoritizing those costs

PUC 10-17, page 2

over time through monthly or annual SaaS license fees. Other advantages of a SaaS contract include providing a great degree of cost certainty to the Company, as cost risks are shifted to the vendor related to the need to upgrade and enhance the application, provide for Cyber Security patch requirements, etc. Alternative models to procuring software are those described in section (a) above – either traditional one-time purchase of software licenses, or, in situations where suitable 'off the shelf' software with desired capabilities and functionality does not exist, purchasing custom software development services on either a fixed-cost or time and materials basis in order to build customized software applications or capabilities.

PUC 10-18

Request:

Referring to the response PUC 8-4, for both electric and gas, please (a) provide the same Equity Rate Base and Basis Point Value information for program year 2020 (assuming the Company's achievement of savings and earned incentive equates to the Company's most recent estimate); and (b) for the proposed 2021 program year, provide the Equity Rate Base and provide the Basis Point Value for the proposed Earned Incentive if the target is met (with the proposed mechanism) and the Basis Point Value for the maximum possible incentive that could be earned in 2021 with the proposed mechanism.

Response:

Please refer to Attachment PUC 10-18. The Basis Point Value for program years 2020 and 2021 for the Electric and Gas businesses are shown on Page 1 and Page 2, respectively, on Lines 18 and 19. The Basis Point Value calculations use calendar year 2019 Equity Rate Base as a proxy for calendar years 2020 and 2021 Equity Rate Base. Because the Company does not currently forecast benefits, the Company is unable to forecast program year 2020 performance incentives based on the proposed mechanism for the 2021 program year.

Prepared by or under the supervision of: Melissa Little

2015 – 2021 Performance Incentive Analysis under Existing and Newly-Proposed Mechanism: Electric Energy Efficiency Portfolio

Line No.	Calendar Year	Earned Incentive, with actual performance	Earned Incentive, if target met (Design Level Performance	Earned Incentive, with 2021 Proposed Mechanism and actual performance	Earned Incentive, if target met (Design Level Performance Incentive), with 2021 Proposed Mechanism
		(a)	(b)	(c)	(d)
1	**2015**	$4,533,360	$3,867,352	$13,266,969	$10,948,005
2	**2016**	$4,128,034	$3,878,087	$7,576,453	$6,229,628
3	**2017**	$4,829,847	$4,425,528	$8,241,725	$8,711,719
4	**2018**	$4,940,402	$4,346,672	$10,481,986	$9,023,642
5	**2019**	$3,290,237	$4,892,346	$15,537,627	$15,366,640
6	**2020**	$2,966,166	$5,054,400		
7	**2021**	n/a	n/a	$5,500,000	$6,875,000

2015 – 2019 Equity Rate Base

		Average Rate Base	**Allowed Equity Share of Rate Base**	**Average Equity Rate Base**
8	**2015**	$654,762,082	49.14%	$321,750,087
9	**2016**	$681,283,839	49.14%	$334,782,879
10	**2017**	$698,889,355	49.14%	$343,434,229
11	**2018**	$747,835,132	50.95%	$381,022,000
12	**2019**	$850,893,253	50.95%	$433,530,112

2015 – 2019 Basis Point Value

	Calendar Year	Earned Incentive, with actual performance	Earned Incentive, if target met (Design Level Performance	Earned Incentive, with 2021 Proposed Mechanism and actual performance	Earned Incentive, if target met (Design Level Performance Incentive), with 2021 Proposed Mechanism
13	**2015**	140.90	120.20	412.34	340.26
14	**2016**	123.30	115.84	226.31	186.08
15	**2017**	140.63	128.86	239.98	253.66
16	**2018**	129.66	114.08	275.10	236.83
17	**2019**	75.89	112.85	358.40	354.45
18	**2020**	68.42	116.59		
19	**2021**	n/a	n/a	126.87	158.58

Line Notes:
Lines 1 - 5, 8-12, and 13 - 17 per the Company's response to PUC 8-4 in this docket.
Line 6(a) per Company's October forecast
Line 6(b) per RIPUC Docket No. 4979, Attachment 5, Page 10, Table E-9
Line 7(c) & (d) per RIPUC Docket No. 5076, Attachment 5, Page 11, Table E-8
Line 18 Line 6 / Line 12 (c) *10,000
Line 19 Line 7 / Line 12 (c) *10,000

Basis Point Value: 100 basis points = 1% return on equity

2015 – 2021 Performance Incentive Analysis under Existing and Newly-Proposed Mechanism: Gas Energy Efficiency Portfolio

Line No.	Calendar Year	Earned Incentive, with actual performance	Earned Incentive, if target met (Design Level Performance	Earned Incentive, with 2021 Proposed Mechanism and actual performance	Earned Incentive, if target met (Design Level Performance Incentive), with 2021 Proposed Mechanism
		(a)	(b)	(c)	(d)
1	**2015**	$1,387,079	$1,119,839	$1,510,999	$1,213,198
2	**2016**	$1,496,869	$1,251,654	$996,382	$1,033,332
3	**2017**	$1,633,531	$1,387,550	$1,202,748	$1,160,732
4	**2018**	$1,541,255	$1,286,647	$1,934,925	$1,663,986
5	**2019**	$1,580,119	$1,460,570	$1,940,704	$1,931,726
6	**2020**	$648,641	$1,578,600		
7	**2021**	n/a	n/a	$1,700,000	$2,125,000

2015 – 2019 ROE Reports

		Average Rate Base	Allowed Equity Share of Rate Base	Average Equity Rate Base
8	**FY 2016**	$565,987,807	49.14%	$278,126,408
9	**FY 2017**	$617,312,160	49.14%	$303,347,195
10	**FY 2018**	$690,602,807	49.14%	$339,362,220
11	**CY 2018**	$776,357,063	50.95%	$395,553,923
12	**CY 2019**	$865,035,866	50.95%	$440,735,773

2015 – 2019 Basis Point Value

	Calendar Year	Earned Incentive, with actual performance	Earned Incentive, if target met (Design Level Performance	Earned Incentive, with 2021 Proposed Mechanism and actual performance	Earned Incentive, if target met (Design Level Performance Incentive), with 2021 Proposed Mechanism
13	**2015**	49.87	40.26	54.33	43.62
14	**2016**	49.35	41.26	32.85	34.06
15	**2017**	48.14	40.89	35.44	34.20
16	**2018**	38.96	32.53	48.92	42.07
17	**2019**	35.85	33.14	44.03	43.83
18	**2020**	14.72	35.82		
19	**2021**	n/a	n/a	38.57	48.21

Line/Column Notes:
Lines 1 - 5, 8-12, and 13 - 17 per the Company's response to PUC 8-4 in this docket.
Line 6(a) per Company's October forecast
Line 6(b) per RIPUC Docket No. 4979, Attachment 6 (Revised), Page 11, Table G-9
Line 7(c) & (d) per RIPUC Docket No. 5076, Attachment 6, Page 10, Table G-8
Line 17 Line 6 / Line 12 (c) *10,000
Line 18 Line 7 / Line 12 (c) *10,000

Basis Point Value: 100 basis points = 1% return on equity