

Memo



To: RI Energy Efficiency & Resource Management Council
From: Mike Guerard, Mark Kravatz, Craig Johnson, Roo Harcourt
Date: October 1, 2018
Subject: 2019 Energy Efficiency Plan findings

CONSULTANT TEAM

<i>Relevance of Topic</i>	The EERMC is scheduled to vote on National Grid's 2019 Energy Efficiency Plan (EE Plan) on October 4 so that the Company can meet the deadline of October 15 th to file the EE Plan with the Rhode Island Public Utility Commission (PUC).
<i>Content of memo</i>	This memo provides a summary of the Consultant Team's findings on the EE Plan to support Council member discussion and vote at the Council meeting on October 4 th .
<i>Expected Outcome</i>	The EERMC will vote on their approval of the EE Plan with any appropriate modifications they direct the Final draft to contain.

After the September 20th Energy Efficiency Resource Management Council (EERMC) meeting, the EERMC Consultant Team (C-Team) completed a full review of the second draft of the Energy Efficiency (EE) Plan, including the main text, all attachments, budget tables and the Benefit Cost Ratio (BCR) Model that calculates the "score" on cost-effectiveness using the Rhode Island Test. In summary, our finding is that the second draft has improved due to corrections made from our first draft analysis. These changes are documented below. To help inform your vote, the C-Team has worked with the Office of Energy Resources (OER) and National Grid (the Company) to identify additional changes to the second draft when considering your final vote.

As anticipated, the second draft increased the savings estimates for both the gas and electric portfolios, bringing the EE Plan over the EERMC-established savings Targets. Also, the proposed budgets for both portfolios have *decreased* between the 1st and 2nd EE Plan drafts. This confirmation, as well as the now completed analytical review of the 2nd EE plan draft, leads us to conclude that the EE Plan has definitively delivered on all primary objectives directed by Least Cost Procurement (LCP) legislation. The analytical review process between first and second draft versions, along with a small set of additional enhancements, will result in an EE Plan that builds on a strong track record of EE investments and programs that results in energy cost reductions for all Rhode Islanders, job creation and environmental protections.

The following outlines key variances made between the 1st and 2nd EE Plan drafts. We have also attached the following documents to assist your review:

- **The Core and Variable Tracker:** This document reviews the 11 factors identified during the 2018 EERMC Retreat, and the status of their incorporation into 2019 EE Plan
- **The updated budget tables impacted by some of the changes still needed to second draft:** Tables E-1, E-2 and E-3.

MAIN TEXT MODIFICATIONS MADE BETWEEN 1ST AND 2ND EE PLAN DRAFTS

Within the Main Text, there are three areas in which EE Plan changes were warranted:

1. **Correction in the calculation of the cost of supply.** Upon reviewing the calculation, the C-Team discovered an inconsistency and requested that the Company make the correction. This correction results in the following adjustment to the numbers found on page 9 of the Main Text:

Original values in Second Draft

Electric

- **Cost of Energy Efficiency:** \$126.3 million
- **Cost of electric supply:** \$523.7 million.
- **Total savings:** \$397.4 over lifetime of installed measures

Gas

- **Cost of Energy Efficiency:** \$42.6 million
- **Cost of gas supply:** \$90.1 million.
- **Total savings:** \$47.5 million over lifetime of installed measures.

Revised Numbers to 2nd Draft

Electric

- **Cost of Energy Efficiency:** \$126.3 million (this was not impacted by the removal of the Navy Combined Heat and Power (CHP) project)
- **Cost of Electric Supply:** \$450.8 million.
- **Total savings:** \$324.6 million over the lifetime of installed measures.

Gas

- **Cost of Energy Efficiency:** \$42.6 million
- **Cost of Gas Supply:** \$67.7 million
- **Total savings:** \$25.1 million over lifetime of installed measures.

2. **Removal of the Navy CHP Project:** Based on discussions at the Collaborative meeting held on September 24, 2018 all stakeholders agreed that the “pre-funding” of the Navy CHP project that won’t be completed until 2020 should not be added to the 2019 EE Plan. The 1st EE Plan draft proposed pre-funding \$3 million. The 2nd EE Plan draft reduced that value to \$2.8 million. There was also narrative language removed on page 34 of the Main Text that described the Navy CHP project. If the EERMC agrees, vote language will need to be added to remove the Navy CHP text and the amount of \$2.8 million from Table E-3. As a result of this modification, the EE Plan will realize a slight decrease in the system benefit charge (SBC) to be reflected in Table E-1, and

also decreases in the “Regulatory” allocation to the OER and EERMC by approximately \$25,000 from each. These adjustments are reflected in the attached budget table.

3. **Language on the “Carbon Test Metric”**: Starting on page 48 of the Main Text, the text was deemed to be insufficient by stakeholders for the need to start tracking carbon equivalents, and language has been proposed to sufficiently enhance that section.

RESIDENTIAL AND COMMERCIAL & INDUSTRIAL MODIFICATIONS MADE BETWEEN 1ST AND 2ND EE PLAN DRAFTS

Areas of proposed text modification between the first and second drafts of Plan were tracked and the C-Team reviewed all redline edits to the first draft proposed by the C-Team and other stakeholders to confirm these items were effectively addressed by the Company. In addition to the text review, several adjustments were made to the Company’s Benefit-Cost Ratio (BCR) Model that resulted in shifts within the electric portfolio on savings ranging from a 21% increase in one program to a 14% decrease in another. However, the portfolio savings as a whole only changed by increasing 1% (see Table 1). The changes to gas portfolio savings were very minor (see Table 2).

REVIEW PROCESS

The bulk of the C-Team’s efforts to vet the 1st and 2nd draft changes derived from reviewing and cross-referencing the Benefit-Cost Ratio (BCR) Models with associated Evaluations, and the Technical Reference manual (TRM). The Company’s Benefit Cost Ratio (BCR) Models are Excel worksheets that show in great detail how savings and spending are calculated for each and every program measure. Reviewing the BCR Model is an integral part of the C-Team’s review of the EE Plan. Our review of the BCR models allows us to verify that commitments made in the Plan’s narrative are reflected in the savings and spending goals and vice versa. The following gives an overview of the C-Team’s process for reviewing the BCR models including the timeline of our review, the primary components of our review, and some exemplary outcomes from our review process.

Timeline

The C-Team’s BCR model review process generally occurs in three stages. In the first stage, the C-Team receives a copy of the Company’s electric and gas BCR Models. In the second stage, the C-Team conducts its review of the BCR models and provides the Company with feedback in the form of follow-up questions and comments. In the third stage, the Company responds to the C-Team’s follow-up questions and comments through a combination of e-mails and calls. This includes individual sector (Residential and Low-Income and Commercial and Industrial) team calls and a dedicated BCR Models review call. This process occurs initially following the release of the 1st draft of the EE Plan and then again for the 2nd Draft of the EE Plan.

Review Process Components

The C-Team’s review of the BCR Models includes four major components:

- High-level program comparisons
- Program-detail comparisons

- Measure-level review
- BCR model/Technical Reference Manual (TRM) comparison.

These components are discussed in more detail below.

High-Level Program Comparisons

The C-Team’s review of the BCR Models begins with a high-level analysis that compares the electric and gas savings, by programs, with previous versions of the BCR Models. For example, in our second/final draft analysis, the C-Team compared the annual electric and gas savings in the second/final draft with those that were in the first draft, proposed in the 2018 Plan and what was planned for 2019 in the 2018-2020 Three-Year Plan (see table 1 and 2). In doing these comparisons, the C-Team can quickly identify where and to what extent changes were made between versions. This helps to inform the next component of our review process, which is to look at each program in a little more detail.

Table 1

ANNUAL MWhs	FIRST DRAFT 2019 PLAN						SECOND DRAFT 2019 PLAN					
	Program						Program					
	2018 Plan	2019 in 3YR Plan	First Draft 2019 Annual Plan	Compared to 2018 Plan	Compared to 2019 in 3YR Plan	Second Draft 2019 Annual Plan	Compared to 2018 Plan	Compared to 2019 in 3YR Plan	Compared to First Draft 2019 Plan			
Small Business Direct Install	9,940	8,000	10,021	80	1%	12,163	2,222	22%	4,163	52%	2,142	21%
Large Commercial New Construction	13,959	15,473	10,597	-3,362	-24%	10,863	-3,096	-22%	-4,610	-30%	266	3%
Large Commercial Retrofit	75,616	73,317	71,771	-3,845	-5%	73,013	-2,603	-3%	-304	0%	1,242	2%
C&I Total	99,515	96,790	92,389	-7,127	-7%	96,038	-3,477	-3%	-752	-1%	3,650	4%
Single Family - Income Eligible Services	4,185	3,995	3,771	-414	-10%	3,742	-443	-11%	-253	-6%	-29	-1%
Income Eligible Multifamily	3,287	3,325	3,219	-68	-2%	3,219	-68	-2%	-106	-3%	0	0%
Income Eligible Total	7,472	7,321	6,990	-482	-6%	6,961	-511	-7%	-360	-5%	-29	0%
Residential New Construction	619	668	882	263	43%	756	137	22%	88	13%	-126	-14%
ENERGY STAR HVAC	2,091	2,550	2,897	806	39%	2,710	619	30%	160	6%	-187	-6%
EnergyWise	6,157	5,630	8,068	1,911	31%	8,182	2,024	33%	2,551	45%	114	1%
EnergyWise Multifamily	4,207	4,250	3,592	-616	-15%	3,593	-614	-15%	-657	-15%	2	0%
Home Energy Reports	25,054	25,036	24,130	-924	-4%	24,130	-924	-4%	-906	-4%	0	0%
ENERGY STAR Lighting	38,891	24,450	49,606	10,714	28%	48,381	9,490	24%	23,931	98%	-1,224	-2%
Residential Consumer Products	2,849	2,443	3,484	635	22%	3,925	1,076	38%	1,482	61%	441	13%
Residential Total	79,868	65,028	92,658	12,790	16%	91,677	11,809	15%	26,649	41%	-981	-1%
Future Innovation Adder	-	25,539	-	-	-	-	-	-	-	-	-	-
Portfolio Total	186,855	194,677	192,036	5,181	3%	194,677	7,821	4%	(1)	0%	2,640	1%

Table 2

ANNUAL MMBTus	FIRST DRAFT 2019 PLAN						SECOND DRAFT 2019 PLAN					
	Program						Program					
	2018 Plan	2019 in 3YR Plan	First Draft 2019 Annual Plan	Compared to 2018 Plan	Compared to 2019 in 3YR Plan	Second Draft 2019 Annual Plan	Compared to 2018 Plan	Compared to 2019 in 3YR Plan	Compared to First Draft 2019 Plan			
Large Commercial New Construction	42,764	35,842	42,536	-229	-1%	42,536	-229	-1%	6,694	19%	0	0%
Large Commercial Retrofit	186,780	171,777	155,049	-31,731	-17%	155,049	-31,731	-17%	-16,728	-10%	0	0%
C&I Multifamily	6,643	6,643	10,829	4,186	63%	10,829	4,186	63%	4,186	63%	0	0%
C&I Small Business Direct Install	3,059	2,500	2,559	-500	-16%	2,559	-500	-16%	59	2%	0	0%
C&I Total	239,246	216,762	210,974	-28,273	-12%	210,974	-28,273	-12%	-5,788	-3%	0	0%
Single Family - Income Eligible Services	12,620	13,251	9,178	-3,442	-27%	9,178	-3,442	-27%	-4,073	-31%	0	0%
Income Eligible Multifamily	16,222	16,497	20,487	4,265	26%	20,487	4,265	26%	3,991	24%	0	0%
Income Eligible Total	28,842	29,748	29,665	823	3%	29,665	823	3%	-82	0%	0	0%
ENERGY STAR HVAC	27,513	30,422	28,120	607	2%	27,960	446	2%	-2,462	-8%	-161	-1%
EnergyWise Single Family	26,787	27,250	27,806	1,019	4%	27,806	1,019	4%	556	2%	0	0%
EnergyWise Multifamily	12,069	12,078	16,043	3,975	33%	16,043	3,975	33%	3,965	33%	0	0%
Home Energy Reports	77,220	77,112	115,520	38,300	50%	115,520	38,300	50%	38,408	50%	0	0%
Residential New Construction	3,117	3,487	4,240	1,123	36%	4,741	1,624	52%	1,254	36%	500	12%
Residential Total	146,706	150,349	191,729	45,023	31%	192,069	45,363	31%	41,720	28%	340	0%
Portfolio Total	414,795	396,859	432,369	17,574	4%	432,708	17,913	4%	35,850	9%	340	0%

Program-Detail Comparisons

In this part of the review process, the C-Team conducts a similar analysis described above, but for all the measures within each program. In addition to savings, we also compare measure-level quantities or participation to see how those may have changed between versions. Examples of this for one program is included in Table 3. This portion of our review process accomplishes three goals.

1. **Identify whether any measures have been added to, or removed from, the BCR models.** For example, in our review of the first draft of the BCR Models we were able to identify a new measure in the Residential products program, ENERGY STAR storm windows. This was important to identify because it was a measure that was discussed for inclusion prior to the EE Plan by the Residential Sector team.
2. **Identify what measures were changed between each version.** This is important because it helps the C-Team focus its efforts when digging into the finer details of the inputs to the BCR Models. For example, if a measures' savings and quantity increased by the same percentage, then we can assume that any change in the savings was likely a direct result of the increase in quantity.
3. **Sanity check for unexpected changes.** This helps us identify any possible errors in the BCR Models' inputs. As an example, in the first draft of the BCR Models, the C-Team identified a measure that had an apparent 17,420% increase in quantity and savings compared to the 2018 Plan. We flagged this item for review and the Company informed us that it was a data entry error that would be corrected in the second draft of the EE Plan.

Table 3

RESIDENTIAL NEW CONSTRUCTION

Program: A02a Residential Lost Opportunity
Core Initiative: A02a Energy Star Homes

Annual MWh Comparison

Measure	FIRST DRAFT 2019 PLAN				SECOND DRAFT 2019 PLAN				
	2018 Plan	2019 in 3YR Plan	First Draft 2019 Annual Plan	Compared to 2018 Plan	Compared to 2019 in 3YR Plan	Second Draft 2019 Annual Plan	Compared to 2018	Compared to 2019 in 3YR Plan	Compared to First Draft 2019 Plan
CODES AND STANDARDS	167	200	202	35 21%	2 1%	202	35 21%	2 1%	0 0%
CP Home	0	0	57	57	57	57	57	57	0 0%
CWASHER	0	0	3	3	2	2	2	-1 -30%	0 0%
DISHWASH	0	0	20	20	20	2	2	2	-18 -91%
FIXTURES	0	0	19	19	19	19	19	19	0 0%
LED Bulbs	295	302	59	-236 -80%	-243 -80%	59	-236 -80%	-243 -80%	0 0%
Renovation Rehab CP	16	16	39	23 145%	23 145%	39	23 145%	23 145%	0 0%
Refrig rebate	0	0	62	62	62	29	29	29	-33 -53%
Renovation Rehab Tier 1 Home	8	9	13	5 59%	4 42%	13	5 59%	4 42%	0 0%
Renovation Rehab Tier 2 Home	2	2	9	7 383%	7 383%	9	7 383%	7 383%	0 0%
Renovation Rehab Tier 3 Home	6	6	2	-3 -58%	-3 -58%	2	-3 -58%	-3 -58%	0 0%
Renovation Rehab Tier 4 Home	0	0	48	48	48	19	19	19	-29 -60%
SHOWERHEAD	0	0	1	1	1	1	1	1	0 0%
Tier 1 Home	35	39	57	22 63%	18 45%	57	22 63%	18 45%	0 0%
Tier 2 Home	60	65	68	8 13%	3 4%	68	8 13%	3 4%	0 0%
Tier 3 Home	29	29	18	-11 -38%	-11 -38%	18	-11 -38%	-11 -38%	0 0%
Tier 4 Home	0	0	72	72	72	27	27	27	-46 -63%
Adaptive Reuse	133	133	133	133	133	133	133	133	0 0%
	619	668	882	263 43%	214 32%	756	137 22%	88 13%	-126 -14%

Quantity

Measure	FIRST DRAFT 2019 PLAN				SECOND DRAFT 2019 PLAN				
	2018 Plan	2019 in 3YR Plan	First Draft 2019 Annual Plan	Compared to 2018 Plan	Compared to 2019 in 3YR Plan	Second Draft 2019 Annual Plan	Compared to 2018	Compared to 2019 in 3YR Plan	Compared to First Draft 2019 Plan
CODES AND STANDARDS	1	1	1	0 0%	0 0%	1	0 0%	0 0%	0 0%
CP Home	0	0	30	30	30	30	30	30	0 0%
CWASHER	0	0	60	60	60	60	60	60	0 0%
DISHWASH	0	0	495	495	495	495	495	495	0 0%
FIXTURES	0	0	300	300	300	300	300	300	0 0%
LED Bulbs	10,000	10,400	2,000	-8,000 -80%	-8,400 -81%	2,000	-8,000 -80%	-8,400 -81%	0 0%
Renovation Rehab CP	50	50	50	0 0%	0 0%	50	0 0%	0 0%	0 0%
Refrig rebate	0	0	614	614	614	614	614	614	0 0%
Renovation Rehab Tier 1 Home	40	45	30	-10 -25%	-15 -33%	30	-10 -25%	-15 -33%	0 0%
Renovation Rehab Tier 2 Home	2	2	5	3 150%	3 150%	5	3 150%	3 150%	0 0%
Renovation Rehab Tier 3 Home	2	2	1	-1 -50%	-1 -50%	1	-1 -50%	-1 -50%	0 0%
Renovation Rehab Tier 4 Home	0	0	7	7	7	7	7	7	0 0%
SHOWERHEAD	0	0	10	10	10	10	10	10	0 0%
Tier 1 Home	85	95	65	-20 -24%	-30 -32%	65	-20 -24%	-30 -32%	0 0%
Tier 2 Home	60	65	35	-25 -42%	-30 -46%	35	-25 -42%	-30 -46%	0 0%
Tier 3 Home	7	7	7	0 0%	0 0%	7	0 0%	0 0%	0 0%
Tier 4 Home	0	0	7	7	7	7	7	7	0 0%
Adaptive Reuse	225	225	225	225	225	225	225	225	0 0%
	10,247	10,667	3,942	-6,305 -62%	-6,725 -63%	3,942	-6,305 -62%	-6,725 -63%	0 0%

Measure-Level Review

In addition to the savings and quantities discussed above, the measure level-review includes a cost of savings analysis. For this analysis, the C-Team compared the incentive cost of each measures' net annual

savings in the 2019 Plan BCR model to the 2018 Plan BCR model. In this part of the review process, the C-Team compiled all its measure-specific questions for the Company to review.

Benefit-Cost Ratio Model and Technical Reference Manual Comparison

Another important part of our review process is to make sure that all of the measure inputs in the BCR Models match exactly what the Company plans to file with the Public Utilities Commission (PUC) in its Technical Reference Manual (TRM). For this part of our review, we compared all the measure inputs in the BCR model with those in the TRM database provided to us by the Company. To the extent there were inputs that were not properly aligned, we flagged those for the Company to review.

Conclusion

Based on this extensive review, the C-Team represents the EE Plan successfully achieves the objectives laid out in LCP legislation. In addition to this summary, the C-Team will also be presenting the Cost-Effectiveness Report confirming that the plan is “cost-effective and less than the cost of supply” at the October 4th meeting for EERMC review and approval.

ATTACHMENT 1 – Core and Variable Tracker

Core & Variable Factors covered during 2018 EERMC Retreat

A. Core Variables	Note(s)	Complete
A.1. Targets and resulting 3-Year Plan	Targets met at budget lower than estimated for 2019 in 3-year plan	✓
A.2. LCP Standards	All items addressed, including new language cost of EE / Supply	✓
A.3. Previous year’s results		✓
Planned vs. actuals (savings; budget)	Reviewed and factored into Plan	✓
RI Test (BC Model) comp of draft 1&2 to 2018 Plan	Cross-reference trends in 2018-2019	✓
A.4. Current year’s implementation experience, including “pilots”		✓
Review of Quarterly reports for Q1 and Q2	Accounted for actual trajectories	✓
Review monthly data shared between Grid and C-Team/OER	Accounted for actual trajectories	✓
A.5. Program Evaluations		✓
Confirm EMV appropriately applied to TRM/BC Model	Work completed in cross-referencing	✓
A.6. Avoided Energy Supply Component Study (AESC)	Confirmed correct avoided cost in BC model	✓
B. Variable Factors		
B.1. “Innovation” - Evolving markets & new and/or improved technologies	A sufficient level of “innovation” and program enhancements were identified and put in plan in order to reach the 25,000 MWh target	✓
B.2 Regulatory: PUC; Division		✓
LCP Standards modification – Cost of EE and Supply	Language in Main Text addressed direction from PUC on new definition	✓
Review 2019 approach to PUC direction on timing of fund balance application	Fund balance will be appropriately applied based on most current balance	✓
B.3 State & local policy objectives	Key areas of equity, GHG reductions and financing addressed in plan	✓

ATTACHMENT 1 – Core and Variable Tracker

B.4 Other state agencies and quasi-agencies	RIIB products accurately represented in Plan, including \$5 million to Efficient Building Fund	✓
B.5. Legislative		✓
EMV study – underway	Budget estimate of \$275,000 included in plan	✓

ATTACHMENT 2 – UPDATED TABLES E1-E3 WITHOUT CHP COMMITMENT

**Table E-1
National Grid
Electric DSM Funding Sources in 2019 by Sector
\$(000)**

	<u>Projections by Sector</u>			Total
	Income Eligible Residential	Non-Income Eligible Residential	Commercial & Industrial	
(1) Projected Budget (from E-2):	\$15,881.56	\$46,201.42	\$45,423.52	\$107,506.50
Sources of Other Funding:				
(2) Projected DSM Commitments at Year-End 2018:	\$0.00	\$0.00	\$0.00	\$0.00
(3) Projected Year-End 2018 Fund Balance and Interest:	\$0.00	(\$430.45)	\$4,326.42	\$3,895.97
(4) Projected FCM Payments from ISO-NE:	\$665.60	\$8,974.30	\$13,945.10	\$23,585.08
(5) Total Other Funding:	\$665.60	\$8,543.85	\$18,271.52	\$27,481.06
(6) Customer Funding Required:	\$15,215.96	\$37,657.56	\$27,152.00	\$80,025.4
(7) Forecasted kWh Sales:	204,962,351	2,763,353,818	4,293,953,687	7,262,269,856
(8) Energy Efficiency Program charge per kWh, excluding uncollectible recovery:				\$0.01101
(9) Proposed System Reliability Factor per kWh, excluding uncollectible recovery:				<u>-\$0.00001</u>
(10) Total Proposed Energy Efficiency Charge per kWh, excluding uncollectible recovery:				\$0.01100
(11) Currently Effective Uncollectible Rate				1.30%
(12) Energy Efficiency Program charge per kWh, including uncollectible recovery:				\$0.01114
(13) Currently Effective EE Charge				<u>\$0.00972</u>
(14) Proposed Adjustment to Reflect Fully Reconciling Funding Mechanism				\$0.00142

Notes:

- (1) Projected Budget from E-2 includes OER and EERMC costs allocated to each sector based on forecasted sales and RIIB costs allocated to C&I sector.
- (2) DSM Commitments are projects that are under construction with anticipated completion in 2018.
- (3) Fund balance projections include projected revenue and spend through year end with Low Income sector set to \$0 through projected subsidization from other sectors, minus commitments which are illustrated separately on line (2). The Company proposes to refile this table with updated Fund Balance projections on December 1, 2018 as proposed in Section 6(a) of the Plan's Main Text.
- (4) The total projection of FCM revenue is allocated by kWh sales to each sector.
- (5) Line (2) + Line (3) + Line (4)
- (6) Line (1) - Line (5)
- (7) Per Company Forecast
- (8) Line (6) ÷ Line (7), truncated to 5 decimal places
- (9) Truncated to 5 decimal places
- (11) Proposed System Reliability Factor is from the 2019 System Reliability Procurement Plan. Charge reflects projected year-end 2018 fund balance.
- (10) Line (8) + Line (9)
- (11) Uncollectible rate approved in Docket No 4770.
- (12) Line (10) ÷ (1-Line (11), truncated to 5 decimal places
- (13) Currently Effective EE Charge includes System Reliability Factor and uncollectible recovery.
- (14) Line (13) - Line (12)

**Table E-2
National Grid
2019 Electric Energy Efficiency Program Budget (\$000)**

	Program Planning & Administration	Marketing	Rebates and Other Customer Incentives	Sales, Technical Assistance & Training	Evaluation & Market Research	Shareholder Incentive	Grand Total
Non-Income Eligible Residential							
Residential New Construction	\$67.0	\$2.5	\$449.4	\$301.4	\$38.3		\$858.6
ENERGY STAR® HVAC	\$86.6	\$108.4	\$1,945.8	\$556.6	\$26.6		\$2,724.0
EnergyWise	\$415.7	\$414.6	\$13,414.9	\$1,392.9	\$139.5		\$15,777.5
EnergyWise Multifamily	\$103.3	\$43.8	\$2,150.0	\$721.0	\$46.8		\$3,064.9
ENERGY STAR® Lighting	\$401.4	\$515.8	\$13,328.7	\$638.4	\$83.9		\$14,968.2
Residential Consumer Products	\$91.4	\$568.3	\$737.4	\$709.8	\$17.6		\$2,124.5
Home Energy Reports	\$99.1	\$10.9	\$2,501.2	\$10.2	\$19.7		\$2,641.2
Residential ConnectedSolutions	\$8.7	\$8.7	\$162.0	\$103.8	\$0.0		\$283.1
Energy Efficiency Education Programs	\$0.0	\$40.0	\$0.0	\$0.0	\$0.0		\$40.0
Residential Pilots	\$43.4	\$24.5	\$104.1	\$50.8	\$0.0		\$222.7
Community Based Initiatives - Residential	\$6.2	\$56.3	\$59.1	\$0.0	\$0.0		\$121.5
Comprehensive Marketing - Residential	\$5.7	\$550.8	\$0.0	\$0.0	\$0.0		\$556.5
Residential Shareholder Incentive	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2,143.8	\$2,143.8
Subtotal - Non-Income Eligible Residential	\$1,328.4	\$2,344.6	\$34,852.6	\$4,484.8	\$372.4	\$2,143.8	\$45,526.6
Income Eligible Residential							
Single Family - Income Eligible Services	\$353.0	\$129.1	\$9,184.8	\$1,820.5	\$207.2		\$11,694.7
Income Eligible Multifamily	\$111.7	\$9.5	\$2,682.3	\$525.3	\$54.2		\$3,382.9
Income Eligible Shareholder Incentive	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$753.9	\$753.9
Subtotal - Income Eligible Residential	\$464.7	\$138.6	\$11,867.1	\$2,345.8	\$261.4	\$753.9	\$15,831.5
Commercial & Industrial							
Large Commercial New Construction	\$281.8	\$377.5	\$2,931.1	\$1,311.0	\$134.8		\$5,036.1
Large Commercial Retrofit	\$851.9	\$288.0	\$15,611.12	\$3,917.21	\$688.3		\$21,356.5
Small Business Direct Install	\$356.9	\$356.7	\$7,165.0	\$459.3	\$375.0		\$8,712.8
Commercial ConnectedSolutions	\$12.2	\$6.5	\$1,810.0	\$195.5	\$0.0		\$2,024.1
Commercial Pilots	\$19.4	\$30.0	\$87.5	\$61.0	\$0.0		\$197.9
Community Based Initiatives - C&I	\$1.7	\$18.8	\$19.7	\$0.0	\$0.0		\$40.1
Finance Costs	\$0.0	\$0.0	\$5,000.0	\$0.0	\$0.0		\$5,000.0
Commercial & Industrial Shareholder Incentive	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2,007.28	\$2,007.3
Subtotal - Commercial & Industrial	\$1,523.9	\$1,077.4	\$32,624.4	\$5,943.9	\$1,198.1	\$2,007.3	\$44,374.9
Regulatory							
OER	\$783.6	\$0.0	\$0.0	\$0.0	\$206.3		\$989.8
EERMC	\$783.6	\$0.0	\$0.0	\$0.0	\$0.0		\$783.6
Subtotal - Regulatory	\$1,567.2	\$0.0	\$0.0	\$0.0	\$206.3	\$0.0	\$1,773.4
Grand Total	\$4,884.2	\$3,560.6	\$79,344.1	\$12,774.5	\$2,038.1	\$4,905.0	\$107,506.5
System Reliability Procurement							\$439.3

Notes:

- (1) 2018 Large Commercial Retrofit Commitments (\$000);
- (2) For more information on Finance Costs, please refer to the 2019 C&I Program Description, Attachment 2.
- (3) OER and EERMC total 2.0% of customers' EE Program Charge collected on Table E-1, minus 2%.
\$225,000 is included in OER budget for Evaluation and Market Research to comply with Senate Bill 2500, enacted in June 2018. The law requires the OER to hire an energy consulting company or firm to review and confirm reported energy savings.
- (4) Finance Costs include \$5.0 million transfer to the Rhode Island Infrastructure Bank Efficient Buildings Fund and \$0 to the Company's revolving loan funds. Finance Costs are detailed in Table E-10.
- (5) System Reliability funds are included for illustrative purposes. They are part of the 2019 System Reliability Procurement Report, filed as a separate docket.

Table E-3
National Grid
Derivation of the 2019 Spending and Implementation Budgets (\$000)

	Proposed 2018 Budget From E-2	Commitments	Regulatory Costs	Shareholder Incentive	Eligible Sector Spending Budget for Shareholder Incentive on E-9	Implementation Expenses for Cost- Effectiveness on E-5
Non-Income Eligible Residential						
Residential New Construction	\$858.6					\$858.6
ENERGY STAR® HVAC	\$2,724.0					\$2,724.0
EnergyWise	\$15,777.5					\$15,777.5
EnergyWise Multifamily	\$3,064.9					\$3,064.9
ENERGY STAR® Lighting	\$14,968.2					\$14,968.2
Residential Consumer Products	\$2,124.5					\$2,124.5
Home Energy Reports	\$2,641.2					\$2,641.2
Residential ConnectedSolutions	\$283.1					\$283.1
Energy Efficiency Education Programs	\$40.0					\$40.0
Residential Pilots	\$222.7					\$222.7
Community Based Initiatives - Residential	\$121.5					\$121.5
Comprehensive Marketing - Residential	\$556.5					\$556.5
Residential Shareholder Incentive	\$2,143.8			\$2,143.8		\$0.0
Subtotal - Non-Income Eligible Residential	\$45,526.6	\$0.0	\$0.0	\$2,143.8	\$42,876.9	\$43,382.8
Income Eligible Residential						
Single Family - Income Eligible Services	\$11,694.7					\$11,694.7
Income Eligible Multifamily	\$3,382.9					\$3,382.9
Income Eligible Shareholder Incentive	\$753.9			\$753.9		\$0.0
Subtotal - Income Eligible Residential	\$15,831.5	\$0.0	\$0.0	\$753.9	\$15,077.6	\$15,077.6
Commercial & Industrial						
Large Commercial New Construction	\$5,036.1	\$0.0				\$5,036.1
Large Commercial Retrofit	\$21,356.5	\$0.0				\$21,356.5
Small Business Direct Install	\$8,712.8	\$0.0				\$8,712.8
Commercial ConnectedSolutions	\$2,024.1					\$2,024.1
Commercial Pilots	\$197.9					\$197.9
Community Based Initiatives - C&I	\$40.1					\$40.1
Finance Costs	\$5,000.0					\$5,000.0
Commercial & Industrial Shareholder Incentive	\$2,007.3			\$2,007.3		\$0.0
Subtotal - Commercial & Industrial	\$44,374.9	\$0.0	\$0.0	\$2,007.3	\$40,145.6	\$42,367.7
Regulatory						
OER	\$989.8		\$989.8			\$989.8
EERMC	\$783.6		\$783.6			\$783.6
Subtotal - Regulatory	\$1,773.4	\$0.0	\$1,773.4	\$0.0	\$0.0	\$1,773.4
Grand Total	\$107,506.5	\$0.0	\$1,773.4	\$4,905.0	\$98,100.2	\$102,601.5

Notes:

- (1) Spending budget = Total Budget from E-2 minus commitments, regulatory costs, pilots, Demand Response, and shareholder incentive.
- (2) Implementation Expenses = Total Budget from E-2 minus commitments and shareholder incentive.
- (3) Finance Costs include \$5.0 million transfer to the Rhode Island Infrastructure Bank Efficient Buildings Fund and \$0 to the Company's revolving loan funds. Finance Costs are detailed in Table E-10.