New York State Electric & Gas Corporation

and

Rochester Gas and Electric Corporation

Energy Efficiency Transition Implementation Plan

June 1, 2017

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Executive Summary and Introduction

New York State Electric & Gas Corporation ("NYSEG") and Rochester Gas and Electric Corporation ("RG&E") (together "the Companies") hereby submit their initial Energy Efficiency Transition Implementation Plan ("ETIP") for program years 2018-2020 in accordance with the New York State Public Service Commission's ("Commission") January 22, 2016 "Order Authorizing Utility-Administered Energy Efficiency Portfolio Budgets and Targets for 2016-2018" and the Department of Public Service Staff ("Staff") Guidance Documents CE-02 - ETIP Guidance and CE-06 – ETIP Annual Reporting Guidance, both dated May 11, 2017, ("Guidance Documents").[1] The Guidance Documents provided the framework and specific content for development of ETIPs.

This ETIP builds upon concepts discussed in the Companies previously filed ETIP on July 15, 2015, and updated on April 1, 2016, particularly the importance of continuing well performing energy efficiency programs while integrating the energy efficiency planning process into the larger Reforming the Energy Vision ("REV") initiatives. These concepts also align with the Commission's January 21, 2016 "Order Authorizing the Clean Energy Fund Framework" and the August 1, 2016 "Order Adopting a Clean Energy Standard."

In this ETIP, the Companies describe activities being implemented within the context of REV and the Clean Energy Standard ("CES") to create markets which facilitate customer choice, attract investment, and reduce costs.[2] This ETIP recognizes the goals and budgets established through 2018 in the January 2016 Order and the importance of maintaining this level of investment in energy efficiency in 2019 and 2020. This ETIP explains some of the ways the Companies will approach goal achievement and to a greater extent overall market-wide efficiency savings through expanded program offerings. The Companies remain committed to energy efficiency efforts and note that no reduction in overall customer participation is anticipated, and the Companies

[1] Case 15-M-0252, In the Matter of Utility Energy Efficiency Programs

[2] Case 14-M-0094, Proceeding on Motion of the Commission to Consider a Clean Energy Fund, January 21, 2016, "Order Authorizing the Clean Energy Fund Framework", ("CEF Order") and Case 15-E-0302, Proceeding on Motion of the Commission in Regard to Implement a Large-Scale Renewable Program and a Clean Energy Standard, August 1, 2016, "Order Adopting a Clean Energy Standard", ("CES Order"); CES Order, p.4.

continually look for ways to increase energy efficiency activity. Increased activity will also be a key factor to mitigate some of the realized savings reductions resulting from the 2016 and future New York State Technical Resource Manual (“TRM“) modifications.

ETIP Development

The Companies took a number of factors into consideration in the development of this ETIP, including, but not limited, to the following:

- Past energy efficiency program performance and participation from 2016 and prior years
- Market, technical, and economic influences which may impact future participation
- Energy savings calculations and service costs
- The future potential for energy efficiency services and the impact of these future energy efficiency services on current and future program partners
- Discussions with the New York State Energy Research & Development Authority (“NYSERDA”), other utility program administrators, and the various Clean Energy Advisory Council (“CEAC”) working groups
- Internal discussions with Company personnel who are actively engaged in the suite of REV and REV-related proceedings

Through this process the Companies developed projections for potential future participation, resulting energy savings and associated spending requirements, as well as operational improvements to effectively provide energy efficiency services. At the forefront of the approach is recognition of the need to continue the gains in energy efficiency achieved by the Companies’ prior energy efficiency programs, as well as, the vision for potential future energy efficiency services which are flexible and can support REV principles; most notably those promoting system reliability and resiliency, market animation, leveraging ratepayer contributions, and the reduction of carbon emissions.[3]

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[3] Case 14-M-0101, Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision, April 25, 2014, “Order Instituting Proceeding”, (“REV Order”), page 2.

Although the 2016-2018 ETIP described the Companies' vision for energy efficiency activities in the context of REV-related guidance, several ongoing iterations of planning are anticipated in the continuing process leading to the end state of REV. This ETIP includes programs we anticipate running during the transition period and some demonstration and pilot projects expected to be in play through 2020. The Companies are exploring other avenues for discussion of demonstration projects, tariff offerings, non-wires alternatives ("NWA") projects, and other REV-related proceedings and opportunities simultaneously with this ETIP submission, and expect to continually adopt the most appropriate service offerings in support of REV and CES. Therefore, the Companies' regulatory and market strategy will continually evolve throughout the coming months and years.

Planning for the evolving ETIP portfolio takes system needs and changes in the marketplace into consideration, thereby informing this ETIP submission and the Companies' other REV-related planning cycles. As a result, two demonstration projects are being implemented by the Companies which tie energy efficiency to demand response, system hardening, and marketplace changes: the RG&E Energy Marketplace and the NYSEG Community Energy Coordination ("CEC") projects. On a larger scale, the Energy Smart Community ("ESC") pilot project will further build and implement platform technologies to advance the Companies abilities to serve as the Distributed System Platform Provider ("DSPP"). These projects and their integration with energy efficiency will be discussed in more detail later in this ETIP.

Additionally, the Companies' staff who manage the energy efficiency programs are involved in various industry, customer, and technology groups to better understand emerging opportunities in these and related areas. They are also collaborating with AVANGRID affiliated companies ("Affiliates") in other states to define and implement current best practices for energy efficiency and are collaborating on new program design partnerships going forward with NYSERDA to develop complimentary program offerings to streamline enrollment and referral processes so participants can benefit from both the Companies' and NYSERDA's programs. Thus, ETIPs and other Company planning documents will be updated as required to keep pace with the evolving regulatory paradigm and requirements. These revisions will be synchronized with the three-year planning cycle for ETIPs, which includes evaluation, changes to the TRM, and planning, as outlined in the "CE-01, Utility Energy Efficiency Program Cycle", the Guidance Document published at the direction of the Commission by the Office of Clean Energy on May 1, 2015.

ETIP Organization

This ETIP utilizes the format provided in the Guidance Documents and presents the programs and portfolios proposed by NYSEG and RG&E collectively, although budgets and metrics are shown separately and will continue to be reported separately for each company. In addition, although separate tables for electric and natural gas budgets and targets are included, the electric and gas portfolios are both included in this single ETIP document.

Portfolio Description

The Companies plan an electric and natural gas energy efficiency portfolio which builds on the successes of past program offerings and incorporates over time, additional activities in support of REV objectives and consultation with NYSERDA regarding its emerging Clean Energy Fund activities.

This ETIP covers a three year period from 2018 through 2020. The portfolio of programs offered by the Companies during this period will be anchored by the core programs that have historically proven to be successful. These core programs will be adapted to address changing market demands and technologies. Additionally, efforts continue to identify and match energy efficiency programs to Distributed Energy Resource ("DER") distribution needs, to accommodate and incorporate new approaches and flexibility which is part of the REV paradigm and in particular part of the Track 1 Order, and to expand the Companies' activities beyond the Kilowatt Hour ("kWh") and Dekatherm ("Dth") savings targets used exclusively in pre-REV energy efficiency programming.

The Companies are currently evaluating proposals for new and innovative programs that were submitted in a Request for Proposal ("RFP"). Since awards associated with this RFP are pending, the Companies are not able to discuss specific details regarding potential new and innovative programs that may be added to their program offerings. The Companies plan to include more specific information on new and innovative programs in the December 2017 ETIP filing.

In developing this ETIP the Companies have consulted with Affiliates in Connecticut regarding their conservation and load management programs. The Affiliates have several nationally recognized programs that the Companies are considering for possible implementation in their New York markets. While the Affiliate programs work well in Connecticut, there may be challenges in implementing similar programs in New York given the large geographic and predominantly rural nature of the Companies' service areas. The Companies may look to pilot or initially implement some of these programs in service areas which are more similar to those of Affiliates operating in Connecticut.

The programs which are planned for continuation into 2018 and beyond represent the past successes in the Companies' portfolio and take advantage of the opportunities which still exist to stimulate energy efficiency in the Companies' service territories. Further, this model utilizes the flexibility provided in the REV Order for utilities to design and manage energy efficiency portfolios to achieve targets in innovative and cost effective ways,[4] specifically by managing and reporting on activities at a higher level, facilitating the transfer of funds between program budgets as necessary to achieve savings goals, and engaging customers on multiple levels (e.g. gas and electric, rebate and direct install).

Energy efficiency is considered both an opportunity in future system planning and operation and a core business component that offers the potential for DERs, customer engagement, and cost savings for customers. One of the processes being used to ensure that energy efficiency activities support REV objectives is the development of potential alternative and expanded approaches to energy efficiency consistent with other elements of the NYSEG/RG&E DSIP and supplemental DSIP filings such as the Companies' NWA Program. Customer engagement in energy efficiency is also considered a key element of the Companies' overall customer engagement and awareness strategy moving forward. Demonstration projects, both those which are a part of the formal REV process such as the Energy Marketplace at RG&E, and smaller, organic projects that may be conducted within energy efficiency programs are helping to inform and advance the contribution of energy efficiency activities toward the larger REV objectives.

[4] REV Order, 72.

Similarly, one of the emerging functions that the Companies will fulfill as the Distribution System Provider ("DSP") is the suite of Distribution Level Demand Response ("DLDR") programs which were introduced July 1, 2015, as part of the December 15, 2014 "Order Instituting Proceeding Regarding Dynamic Load Management and Directing Tariff Filings"[5]. These programs, although organized and funded separately from the more traditional energy efficiency programs described in this ETIP, are providing opportunities for synergies between demand response and energy efficiency programs, achieving savings for both through measures and activities which are yielding positive benefits in both areas. For example, the Companies have incorporated an energy efficiency component in their Smart Savings Rewards Direct Load Control Demand Response program. Through these and other activities, the Companies' energy efficiency programs will evolve to align with developing REV approaches.

NYSERDA's Clean Energy Fund Investment Plan: Resource Acquisition Transition Chapter[6] describes NYSERDA's program portfolio for the 2016-2018 period which supports the State's Clean Energy Goals. The Companies strongly support NYSERDA's strategy, and we are working collaboratively to ensure our programs work together seamlessly from a customer perspective.

Budget and Target Summary

The Companies are proposing to keep the budget and target levels for 2019 and 2020 the same as 2018 approved levels. The goal is to continue to improve the efficiency of program delivery which will allow the Companies to launch new and innovative programs aimed at offsetting reduced savings from existing, mature programs without the need for additional funding.

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[5] Case 14-E-0423, Proceeding on Motion of the Commission to Develop Dynamic Load Management Programs.

[6] NYSERDA, Clean Energy Fund Investment Plan: Resource Acquisition Transition Chapter (Revised February 22, 2016) filed in accordance with Case 14-M-0094, Proceeding on the Motion of the Commission to Consider a Clean Energy Fund.

TABLE 1A: FOUR-YEAR BUDGETS- NYSEG ELECTRIC

PORTFOLIO	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020
Non-Residential Sector				
Incentives & Services	$11,085,775	$11,085,775	$11,085,775	$11,085,775
Program Implementation	$2,302,096	$2,302,096	$2,302,096	$2,302,096
Total Budget	$13,387,871	$13,387,871	$13,387,871	$13,387,871
Residential Sector				
Incentives & Services	$1,306,334	$1,306,334	$1,306,334	$1,306,334
Program Implementation	$535,512	$535,512	$535,512	$535,512
Total Budget	$1,841,846	$1,841,846	$1,841,846	$1,841,846
Multifamily Sector				
Incentives & Services	$652,366	$652,366	$652,366	$652,366
Program Implementation	$233,380	$233,380	$233,380	$233,380
Total Budget	$885,746	$885,746	$885,746	$885,746
Total Non-Residential Sector	$13,387,871	$13,387,871	$13,387,871	$13,387,871
Total Residential Sector	$1,841,846	$1,841,846	$1,841,846	$1,841,846
Total Multifamily Sector	$885,746	$885,746	$885,746	$885,746
Portfolio Administration	$68,215	$68,215	$68,215	$68,215
Portfolio EM&V	$851,773	$851,773	$851,773	$851,773
Total Portfolio Budget	**$17,035,451**	**$17,035,451**	**$17,035,451**	**$17,035,451**

TABLE 1B: FOUR-YEAR BUDGETS - NYSEG GAS

PORTFOLIO	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020
Non-Residential Sector				
Incentives & Services	$273,154	$273,154	$273,154	$273,154
Program Implementation	$138,154	$138,154	$138,154	$138,154
Total Budget	$411,308	$411,308	$411,308	$411,308
Residential Sector				
Incentives & Services	$1,073,398	$1,073,398	$1,073,398	$1,073,398
Program Implementation	$157,538	$157,538	$157,538	$157,538
Total Budget	$1,230,936	$1,230,936	$1,230,936	$1,230,936
Multifamily Sector				
Incentives & Services	$203,523	$203,523	$203,523	$203,523
Program Implementation	$80,129	$80,129	$80,129	$80,129
Total Budget	$283,652	$283,652	$283,652	$283,652
Total Non-Residential Sector	$411,308	$411,308	$411,308	$411,308
Total Residential Sector	$1,230,936	$1,230,936	$1,230,936	$1,230,936
Total Multifamily Sector	$283,652	$283,652	$283,652	$283,652
Portfolio Administration	$10,408	$10,408	$10,408	$10,408
Portfolio EM&V	$101,911	$101,911	$101,911	$101,911
Total Portfolio Budget	**$2,038,215**	**$2,038,215**	**$2,038,215**	**$2,038,215**

TABLE 1C: FOUR-YEAR BUDGETS – RG&E ELECTRIC

PORTFOLIO	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020
Non-Residential Sector				
Incentives & Services	$6,066,378	$6,066,378	$6,066,378	$6,066,378
Program Implementation	$1,393,583	$1,393,583	$1,393,583	$1,393,583
Total Budget	$7,459,961	$7,459,961	$7,459,961	$7,459,961
Residential Sector				
Incentives & Services	$962,180	$962,180	$962,180	$962,180
Program Implementation	$392,713	$392,713	$392,713	$392,713
Total Budget	$1,354,893	$1,354,893	$1,354,893	$1,354,893
Multifamily Sector				
Incentives & Services	$857,993	$857,993	$857,993	$857,993
Program Implementation	$243,741	$243,741	$243,741	$243,741
Total Budget	$1,101,734	$1,101,734	$1,101,734	$1,101,734
Total Non-Residential Sector	$7,459,961	$7,459,961	$7,459,961	$7,459,961
Total Residential Sector	$1,354,893	$1,354,893	$1,354,893	$1,354,893
Total Multifamily Sector	$1,101,734	$1,101,734	$1,101,734	$1,101,734
Portfolio Administration	$41,386	$41,386	$41,386	$41,386
Portfolio EM&V	$524,104	$524,104	$524,104	$524,104
Total Portfolio Budget	**$10,482,078**	**$10,482,078**	**$10,482,078**	**$10,482,078**

TABLE 1D: FOUR-YEAR BUDGETS – RG&E GAS

PORTFOLIO	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020
Non-Residential Sector				
Incentives & Services	$332,060	$332,060	$332,060	$332,060
Program Implementation	$140,222	$140,222	$140,222	$140,222
Total Budget	$472,282	$472,282	$472,282	$472,282
Residential Sector				
Incentives & Services	$1,338,766	$1,338,766	$1,338,766	$1,338,766
Program Implementation	$272,304	$272,304	$272,304	$272,304
Total Budget	$1,611,070	$1,611,070	$1,611,070	$1,611,070
Multifamily Sector				
Incentives & Services	$390,007	$390,007	$390,007	$390,007
Program Implementation	$98,899	$98,899	$98,899	$98,899
Total Budget	$488,906	$488,906	$488,906	$488,906
Total Non-Residential Sector	$472,282	$472,282	$472,282	$472,282
Total Residential Sector	$1,611,070	$1,611,070	$1,611,070	$1,611,070
Total Multifamily Sector	$488,906	$488,906	$488,906	$488,906
Portfolio Administration	$12,454	$12,454	$12,454	$12,454
Portfolio EM&V	$136,037	$136,037	$136,037	$136,037
Total Portfolio Budget	**$2,720,749**	**$2,720,749**	**$2,720,749**	**$2,720,749**

The Portfolio Administration budget category in Tables 1A–D includes costs such as, but not limited to, those for outreach, education and marketing activities which are not conducted by program implementation contractors; organization membership, conferences, training, travel and related expenses; all of which are not recovered through the Companies' base rates.

Administrative costs which are recovered in base rates are not included in Tables 1A-D, but are included in the costs used to determine the portfolio Benefit Cost Analysis ("BCA") and specifically the Societal Cost Test ("SCT") in Tables 8A-D. Those costs include employee labor and employee benefits.

TABLE 2A: FOUR-YEAR PRIMARY AND SECONDARY TARGETS – NYSEG ELECTRIC

PORTFOLIO-MWh (Primary)	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020
Non-Residential Sector	42,383	42,383	42,383	42,383
Residential Sector	7,866	7,866	7,866	7,866
Multifamily Sector	3,308	3,308	3,308	3,308
Total Portfolio	**53,557**	**53,557**	**53,557**	**53,557**

TABLE 2B: FOUR-YEAR PRIMARY AND SECONDARY TARGETS – NYSEG GAS

PORTFOLIO-Dth (Primary)	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020
Non-Residential Sector	13,040	13,040	13,040	13,040
Residential Sector	56,292	56,292	56,292	56,292
Multifamily Sector	15,705	15,705	15,705	15,705
Total Portfolio	**85,037**	**85,037**	**85,037**	**85,037**

TABLE 2C: FOUR-YEAR PRIMARY AND SECONDARY TARGETS – RG&E ELECTRIC

PORTFOLIO-MWh (Primary)	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020
Non-Residential Sector	22,646	22,646	22,646	22,646
Residential Sector	5,857	5,857	5,857	5,857
Multifamily Sector	3,273	3,273	3,273	3,273
Total Portfolio	**31,776**	**31,776**	**31,776**	**31,776**

TABLE 2D: FOUR-YEAR PRIMARY AND SECONDARY TARGETS – RG&E GAS

PORTFOLIO-Dth (Primary)	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020
Non-Residential Sector	19,054	19,054	19,054	19,054
Residential Sector	76,638	76,638	76,638	76,638
Multifamily Sector	31,429	31,429	31,429	31,429
Total Portfolio	**127,121**	**127,121**	**127,121**	**127,121**

The Guidance Document allowed utilities to propose additional metrics to align with REV-like outcomes, but no specific additional metrics were required. The Companies will collect and track, but not use initially for a target, demand reduction in MW, in addition to progress against their MWh and Dth targets as outlined in the January 22, 2016 Order. Regarding these secondary targets, as of this filing the Metrics, Tracking and Performance Assessment subcommittee of the Clean Energy Advisory Council are completing work on recommended definitions for Secondary Target Metrics, including participant bill savings, greenhouse gas emission reductions, and private investment. Once definitions of Secondary Metrics are final, the Companies' anticipate adding Secondary Targets in future ETIP filings. Additionally, the Companies have filed for Earning Adjustment Mechanisms ("EAMs") and some of the proposed metrics are related to energy efficiency targets. There is an ongoing collaborative process related to the Companies' EAM filing.

Forecasted Portfolio-Level Activity[7]

The forecasted portfolio level budgets by program year are provided in Tables 3A-D.

TABLE 3A: FORECASTED EXPENDITURES – NYSEG ELECTRIC

Budgets	Forecasted Expenditures				
	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020	Total
Current Year 2017	$15,027,270	$2,008,181	$0	$0	$17,035,451
Program Year 1 2018	$0	$15,027,270	$2,008,181	$0	$17,035,451
Program Year 2 2019	$0	$0	$15,027,270	$2,008,181	$17,035,451
Program Year 3 2020	$0	$0	$0	$17,035,451	$17,035,451
Total Portfolio	**$15,027,270**	**$17,035,451**	**$17,035,451**	**$19,043,632**	**$68,141,804**

[7] As required in the Guidance Documents, these tables capture forecasted expenditures and savings achievements such that funds expected to be encumbered and savings expected to be committed at the end of a program year are reflected in the future year in which funds are anticipated to be expended and savings are anticipated to be acquired. The Companies note that these amounts are forecasts only and are subject to change based upon customer demand, project lead time, and other factors.

TABLE 3B: FORECASTED EXPENDITURES – NYSEG GAS

Budgets	Forecasted Expenditures				
	Current Year 2017	**Year 1 2018**	**Year 2 2019**	**Year 3 2020**	**Total**
Current Year 2017	$1,976,519	$61,696	$0	$0	$2,038,215
Program Year 1 2018	$0	$1,976,519	$61,696	$0	$2,038,215
Program Year 2 2019	$0	$0	$1,976,519	$61,696	$2,038,215
Program Year 3 2020				$2,038,215	$2,038,215
Total Portfolio	**$1,976,519**	**$2,038,215**	**$2,038,215**	**$2,099,911**	**$8,152,860**

TABLE 3C: FORECASTED EXPENDITURES – RG&E ELECTRIC

Budgets	Forecasted Expenditures				
	Current Year 2017	**Year 1 2018**	**Year 2 2019**	**Year 3 2020**	**Total**
Current Year 2017	$9,363,084	$1,118,994	$0	$0	$10,482,078
Program Year 1 2018	$0	$9,363,084	$1,118,994	$0	$10,482,078
Program Year 2 2019	$0	$0	$9,363,084	$1,118,994	$10,482,078
Program Year 3 2020	$0	$0	$0	$10,482,078	$10,482,078
Total Portfolio	**$9,363,084**	**$10,482,078**	**$10,482,078**	**$11,601,072**	**$41,928,312**

TABLE 3D: FORECASTED EXPENDITURES – RG&E GAS

Budgets	Forecasted Expenditures				
	Current Year 2017	**Year 1 2018**	**Year 2 2019**	**Year 3 2020**	**Total**
Current Year 2017	$2,649,907	$70,842	$0	$0	$2,720,749
Program Year 1 2018	$0	$2,649,907	$70,842	$0	$2,720,749
Program Year 2 2019	$0	$0	$2,649,907	$70,842	$2,720,749
Program Year 3 2020				$2,720,749	$2,720,749
Total Portfolio	**$2,649,907**	**$2,720,749**	**$2,720,749**	**$2,791,591**	**$10,882,996**

The forecasted portfolio level savings achievements by program year are provided in Tables 4A-D.

TABLE 4A: FORECASTED PORTFOLIO ACHIEVEMENTS (PRIMARY METRIC) – NYSEG ELECTRIC

Targets (MWh)	Forecasted Achievements				
	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020	Total
Current Year 2017	47,200	6,357	0	0	53,557
Program Year 1 2018	0	47,200	6,357	0	53,557
Program Year 2 2019	0	0	47,200	6,357	53,557
Program Year 3 2020	0	0	0	53,557	53,557
Total Portfolio	**47,200**	**53,557**	**53,557**	**59,914**	**214,228**

TABLE 4B: FORECASTED PORTFOLIO ACHIEVEMENTS (PRIMARY METRIC) – NYSEG GAS

Targets (Dth)	Forecasted Achievements				
	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020	Total
Current Year 2017	83,081	1,956			85,037
Program Year 1 2018		83,081	1,956		85,037
Program Year 2 2019			83,081	1,956	85,037
Program Year 3 2020				85,037	85,037
Total Portfolio	**83,081**	**85,037**	**85,037**	**86,993**	**340,148**

TABLE 4C: FORECASTED PORTFOLIO ACHIEVEMENTS (PRIMARY METRIC) – RG&E ELECTRIC

Targets (MWh)	Forecasted Achievements				
	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020	Total
Current Year 2017	28,379	3,397	0	0	31,776
Program Year 1 2018	0	28,379	3,397	0	31,776
Program Year 2 2019	0	0	28,379	3,397	31,776
Program Year 3 2020	0	0	0	31,776	31,776
Total Portfolio	**28,379**	**31,776**	**31,776**	**35,173**	**127,104**

TABLE 4D: FORECASTED PORTFOLIO ACHIEVEMENTS (PRIMARY METRIC) – RG&E GAS

Targets (Dth)	Forecasted Achievements				
	Current Year 2017	**Year 1 2018**	**Year 2 2019**	**Year 3 2020**	**Total**
Current Year 2017	124,263	2,858			127,121
Program Year 1 2018		124,263	2,858		127,121
Program Year 2 2019			124,263	2,858	127,121
Program Year 3 2020				127,121	127,121
Total Portfolio	**124,263**	**127,121**	**127,121**	**129,979**	**508,484**

Evaluation Measurement and Verification

The following plan and schedule for Evaluation Measurement and Verification ("EM&V") activities clearly identifies the information being sought and the date by which it will be obtained to support the overall program and guidance cycle. EM&V activities listed may include, but are not limited to, process evaluations that inform program design and implementation, impact evaluations and measurement and verification activities that inform TRM revisions, as well as other market research.

Objectives

There are five objectives for the evaluations covered by this ETIP:

1. **Verification of program and portfolio record keeping**

   Each impact evaluation shall review program implementation contractor databases of savings calculations, measure counts and incentive payments, including on-site verification of a sample of transactions to verify the accuracy of program and portfolio record keeping.

2. **Verification of measure installations and savings reporting**

   Each impact evaluation shall conduct sufficient on-site visits to verify measure installations. On-site metering of a statistically significant sample of measures and projects shall be conducted to verify energy savings and demand reductions reported by the Companies to the Commission.

3. Determination of savings persistence of individual measures, including lifetime savings

Each impact evaluation shall verify annual operating hours of a statistically significant sample of efficient measures, including on-site metering and field studies of year-over-year measure persistence, to verify annual and lifetime savings of measures, programs, and portfolios.

4. Measurement of demand reduction coincident with the circuit/substation, utility system, and New York Independent System Operator ("NYISO") demand peaks

Individual measure and total program and portfolio demand reduction will be important components of impact evaluations, and impact evaluations shall include site and measure time-stamped interval metering to develop site and measure coincidence factors for the utility circuit/substation feeding the customer, the utility system peak, and the New York Independent System Operator peak.

5. Ex-post benefit/cost testing of programs and portfolios

Evaluated Savings[8] and reported program costs will be used to perform Societal Cost, Utility Cost, and Ratepayer Impact Measure tests on each evaluated program, with program test results rolled up to a single test result for each company and each portfolio.

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[8] *Evaluated Savings* refers to the measure and program Realization Rate savings, **not** including Free Ridership or Spillover, determined by review of implementation contractor databases, post-installation measure counts, verification of measure installation, operating hours verification, and savings calculation verification. A *Realization Rate* shall be developed for measures, programs, and portfolios.

The portfolio-level annual EM&V budgets are allocated to various activities.

TABLE 5: FOUR-YEAR EM&V ACTIVITY SCHEDULE

EM&V Activity	Expected Plan Submission Date	Expected Start Date[9]	Expected Completion Date	Cycle Year Informed	Status
Activity 1: UEEP (Utility Energy Efficiency Programs 15-M-0252) Annual Non-Res Electric and Gas Program Impact Evaluations	September 1, 2017	June 1, 2017; June 1, 2018; June 1, 2019	June 1, 2018; June 1, 2019; June 1, 2020	2019; 2020; 2021	Anticipated to commence June 1, 2017
Activity 2: UEEP SBDI Localized Process Evaluation	September 1, 2017	June 1, 2017	June 1, 2018	2019	Anticipated to commence June 1, 2017
Activity 3: UEEP SBDI Localized Impact Evaluation	September 1, 2017	June 1, 2017	June 1, 2018	2019	Anticipated to commence June 1, 2017
Activity 4: UEEP Res Gas Impact Evaluation Including On-Site Metering	September 1, 2017	June 1, 2017	June 1, 2018	2019	Anticipated to commence June 1, 2017
Activity 5: UEEP Annual Res and Non-Res Gas and Electric Outreach and Education Process Evaluation	September 1, 2017	June 1, 2017; June 1, 2018; June 1, 2019	June 1, 2018; June1, 2019; June 1, 2020	2019; 2020; 2021	Anticipated to commence June 1, 2017
Activity 6: UEEP Gas and Electric Market Potential Study Including Building Stock Assessment conducted jointly with National Grid	September 1, 2017	June 1, 2017	June 1, 2018	2019	Anticipated to commence June 1, 2017
Activity 7: UEEP Non-Res Electric Non-Energy Benefits Impact Evaluation	September 1, 2017	June 1, 2017	June 1, 2018	2019	Anticipated to commence June 1, 2017

[9] Expected start dates listed are assumed to be the dates of initial kick off meetings.

TABLE 6: THREE-YEAR EM&V ACTIVITY EXPENDITURES[10]

EM&V Activity	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020
Activity 1: UEEP Utility Energy Efficiency Programs 15M-0252) Annual Non-Res Electric and Gas Program Impact Evaluations	$1,120,000	$1,160,000	$1,160,000	0
Activity 2: UEEP SBDI Localized Process Evaluation	$20,000*	0	0	0
Activity 3: UEEP SBDI Localized Impact Evaluation	$80,000*	0	0	0
Activity 4: UEEP Res Gas Impact Evaluation Including On-Site Metering	$200,000	$250,000	$250,000	0
Activity 5: UEEP Annual Res and Non-Res Gas and Electric Outreach and Education Process Evaluation	$200,000	$200,000	$200,000	0
Activity 6: UEEP Gas and Electric Market Potential Study Including Building Stock Assessment conducted jointly with National Grid	$250,000*	0	0	0
Activity 7: UEEP Non-Res Electric Non-Energy Benefits Impact Evaluation	$20,000*	0	0	0
Activity 8: UEEP Process and Impact Evaluations for Next Program Cycle				$1,610,000
UEEP Total:	**$1,520,000**	**$1,610,000.00**	**$1,610,000.00**	**$1,610,000.00**
***Remaining EEPS EM&V Total:**	**$370,000**	**0**	**0**	**0**

[10] Estimated expenses pending final EM&V vendor contracts. Evaluation expenditures shown are combined total budgets for NYSEG and RG&E. Final EM&V budgets by Activity, fuel type, and company will be provided in the Companies' detailed evaluation plans to be filed 3Q2017.

<u>Activity 1 :</u> UEEP ("Utility Energy Efficiency Programs 15-M-0252") Annual Non-Residential Electric and Gas Program Impact Evaluations. Detailed measure and program impact evaluations including extensive on-site measurement and verification. New program measures to be evaluated within 12 months. *Information sought:* Measure and program energy savings, measure operating hours, measure persistence and measure lifetime savings. Determination of program and portfolio electric demand reduction at the local circuit/substation, utility, and NYISO peak demands. Demand reduction calculations shall be based on on-site measured demand reduction for a statistically significant sample of measures and sites.

<u>Activity 2 :</u> UEEP SBDI Localized Process Evaluation. Evaluation of the effect of various incentive levels, geo-targeting, and detailed building stock analysis on savings and demand reduction. *Information sought:* Planning metrics to predict program success in targeted geographic areas.

<u>Activity 3:</u> UEEP SBDI Localized Impact Evaluation. Impact evaluation of SBDI program including site visits with detailed data gathering and metering. *Information sought:* Energy savings, demand reduction, and estimated economic development impact on small communities/ neighborhoods.

<u>Activity 4:</u> UEEP Residential Gas Impact Evaluation Including On-Site Metering. Impact evaluation of energy efficient furnace and boiler installations, correlating billing analysis, building energy simulation modeling, and on-site appliance metering. *Information sought:* Accurate furnace and boiler savings data to improve modeling and billing analysis results. For a statistically significant sample of homes that have participated in the Companies' residential gas program, detailed site surveys, on-site metering of end-use heating and cooling equipment, computer modelling (DOE II or equivalent), and statistical analysis of participant utility bills shall be completed to accurately triangulate savings from energy efficient heating and cooling measures, including Wi-Fi and learning thermostats.

<u>Activity 5:</u> UEEP Annual Residential and Non-Residential Gas and Electric Outreach and Education Process Evaluation. Process evaluation including surveys, telephone interviews, and focus groups. *Information sought:* Effectiveness of outreach, education, and marketing channels. The Companies contract with outside advertising agencies to develop umbrella marketing

campaigns for all of the energy efficiency programs and portfolios. The researchable question to be answered by this process evaluation is, “How effective is this marketing and does it drive savings achievements?” This process evaluation shall be conducted annually for 2017, 2018, and 2019. A variety of methods, from desk review of marketing concepts and materials, to focus groups, and telephone or web based surveys, may be employed in this evaluation.

Activity 6: UEEP Gas and Electric Market Potential Study Including Building Stock Assessment, conducted jointly with National Grid. Detailed assessment of geographically targeted achievable potential for current and new energy efficiency measures and programs. *Information sought:* Obtain defensible estimates of achievable energy efficiency potential for years 2019-2025 for the three-year planning cycles. The estimates should inform the planning process to help set overall energy efficiency goals and also determine target areas that offer clear opportunities for bringing existing energy efficiency measures and services, as well as newer ones not yet in the portfolio, to market.

Activity 7: UEEP Non-Residential Electric Non-Energy Benefits Impact Evaluation. Engineering and laboratory study of ancillary electric system benefits of high output fluorescent and LED lighting systems. *Information sought:* Quantification of voltage regulation and power factor improvement benefits; effects of conservation voltage reduction on high output fluorescent and LED lighting systems.

Activity 8: UEEP process and impact evaluations for the next program cycle. *Information sought:* Savings verification.

Benefit Cost Analysis

The filing of this ETIP initiates a change in benefit cost calculation procedures and inputs for program years 2019 and 2020. This change is in conformance with the requirements in the "Order Establishing the Benefit Cost Analysis Framework", issued and effective January 21, 2016, in Case 14-M-0101 and the Companies' Benefit Cost Analysis Handbook, Version 1.0 filed June 30, 2016, and updated to Version 1.1, filed on August 22, 2016. BCA results shown in the last two columns (Program Years 2019 and 2020) in Tables 9A-D were calculated using the new BCA procedures and inputs.

BCA results shown in the tables for Program Years 2017 and 2018 are those previously filed in the Companies' April 2016 ETIP filing calculated using the procedures and inputs for energy efficiency BCA approved and in use at that time .[11]

Changes in the Benefit Cost Analysis Employed for the 2019 and 2020 Program

On June 30, 2016, the Companies' filed their Benefit Cost Handbook ("BCA Handbook") in compliance with the January 21, 2016 "Order Establishing the Benefit Cost Analysis Framework" in Case 14-M-0101. Consistent with that order, the BCA Handbook specified the benefit cost tests to be conducted, the required input data to be used in the tests and the sources of the required data. Major changes from the benefit cost analysis performed since 2008 under EEPS were:

1) Use of the Societal Cost Test ("SCT") as the primary test for programs and portfolios, rather than the Total Resource Cost Test.
2) Updating of Long Run Avoided Costs ("LRACs") for electricity, electric capacity, and natural gas. (These LRACs had previously not been updated since first issued by the Commission in 2008.)

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[11] The Commission has previously reviewed and approved the Companies' Budgets and Metrics filing for Program Years 2016 – 2018 (Case 15-M-0252 "Order Authorizing Utility Administered Energy Efficiency Portfolio and Budget Targets for 2016-2018", January 22, 2016) based on the benefit cost analysis presented in the Companies' ETIP filings of July 15, 2015, and April 1, 2016. The benefit cost analysis underlying program years 2017 and 2018 will not be recalculated here using the new methodology as the programs, budgets and metrics for those years remain the same. The benefit cost analysis results for program years 2019 and 2020, for which the Companies seek Budgets and Metrics approval with this filing, have been recalculated in conformance with the principles in the BCA order and the Companies' BCA Handbook.

3) Use of the Utility Cost Test ("UCT") and Ratepayer Impact Measure Test ("RIM") as secondary tests to inform review of programs and portfolios.

These cost-effectiveness tests are summarized in Table 7.

TABLE 7: COST EFFECTIVENESS TESTS[12]

Cost Test	Perspective	Key Question Answered	Calculation Approach
SCT	Society	Is the State of New York better off as a whole?	Compares the costs incurred to design and deliver projects, and customer costs with avoided electricity and other supply-side resource costs (e.g., generation, transmission, and natural gas); also includes the cost of externalities (e.g., carbon emissions and other net non-energy benefits)
UCT	Utility	How will utility costs be affected?	Compares the costs incurred to design, deliver, and manage projects by the utility with avoided electricity supply-side resource costs
RIM	Ratepayer	How will utility rates be affected?	Compares utility costs and utility bill reductions with avoided electricity and other supply-side resource costs

The BCA Order positions the SCT as the primary cost-effectiveness measure because it evaluates impacts on society as a whole.

The role of the UCT and RIM is to assess the preliminary impact on utility costs and ratepayer bills from the benefits and costs that pass the SCT. The results of the UCT and RIM test are critical in identifying programs that may require a more detailed analysis of their impact to the utility and ratepayers. Some projects may not provide benefits to the utility and ratepayers, even if it is beneficial to society as a whole.

It is important to note, however, that if a measure passes the SCT, but its results do not satisfy the UCT and RIM tests, the measure would not be rejected unless a complete bill impact analysis determines that the impact is of a "magnitude that is unacceptable".[13]

[12] NYSEG and RG&E Benefit Cost Analysis Handbook, Version 1.1, August 22, 2016, page 28.

Clean Energy Guidance Document CE-02 requires that the portfolio level BCA should be calculated using the total benefits and total costs of the portfolio, and that the SCT ratio must exceed 1.0. Tables 8A-D provide the required Societal Cost Test results at both the portfolio and sector level. The companies are still reviewing UCT and RIM test results and are actively seeking staff guidance on specific inputs and assumptions to be used in these tests. The companies anticipate making a subsequent filing of UCT and RIM test results within 45 days, pending guidance from staff.

Tables 8A-D provide test results as both a ratio and in dollars. The ratio illustrates how much benefits exceed costs, regardless of program size. An SCT result of 2.0, for example, indicates that the program returns twice as much in benefits to society as the incremental cost to society of the energy efficient equipment, its installation, and the cost of running the program. An SCT result of 1.5 indicates that benefits exceed costs by 50%, and an SCT of 1.0 indicates that benefits exactly equal costs.

The dollar values in Tables 8A-D represent lifetime benefits of the program to society as a whole, shown in today's dollars using an appropriate interest rate, and also show the costs of running the program. Subtracting the program costs from the program benefits results in the net value to society from implementing these programs.

The BCA test results (both the test ratios and the benefit and cost dollar values) in Tables 8A-D utilize actual program performance from program year 2016. Since the programs, targets, and metrics remain the same in this filing, the Companies felt this back-cast of actual data provided the most reliable basis for predicting future program performance in program years 2019 and 2020.

As noted elsewhere in this ETIP, the Companies are planning additional new energy efficiency programs beyond these core programs which will be presented in a future filing. Corresponding program design assumptions, program participation, program costs and savings levels will be used at that time to calculate BCA test results for those programs.

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[13] *BCA Order*, 13.

TABLE 8A: FOUR-YEAR BENEFIT COST RATIOS – NYSEG ELECTRIC

PORTFOLIO	Current Year 2017	Year 1 2018	Year 2 2019[14]	Year 3 2020
Non-Residential Sector				
Benefits	$33,563,060	$33,853,747	$38,265,313	$38,265,313
Costs	$25,135,700	$25,164,472	$23,406,119	$23,406,119
Benefit Cost Ratio	1.34	1.35	1.64	1.64
Residential Sector				
Benefits	$3,603,817	$3,641,228	$1,566,105	$1,566,105
Costs	$1,728,322	$1,739,925	$1,225,379	$1,225,379
Benefit Cost Ratio	2.09	2.09	1.28	1.28
Multifamily Sector				
Benefits	$2,495,715	$2,521,097	$2,060,901	$2,060,901
Costs	$905,406	$910,478	$682,222	$682,222
Benefit Cost Ratio	2.76	2.77	3.02	3.02
Total Benefits	$39,662,592	$40,016,072	$41,892,319	$41,892,319
Total Costs	$29,467,591	$29,529,885	$25,313,719	$25,313,719
Portfolio Benefit Cost Ratio	1.35	1.36	1.66	1.66

[14] Benefit cost ratios for 2017 and 2018 include EM&V and internal administration costs at portfolio level only. 2019 and 2020 benefit cost ratios include EM&V and internal administration costs at program, sector and portfolio levels.

TABLE 8B: FOUR-YEAR BENEFIT COST RATIOS – NYSEG GAS

PORTFOLIO	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020
Non-Residential Sector				
Benefits	$1,570,039	$1,571,161	$2,562,476	$2,562,476
Costs	$743,906	$746,920	$1,678,138	$1,678,138
Benefit Cost Ratio	2.11	2.10	1.53	1.53
Residential Sector				
Benefits	$7,045,720	$7,003,945	$3,336,982	$3,336,982
Costs	$5,661,004	$5,664,488	$2,995,770	$2,995,770
Benefit Cost Ratio	1.24	1.24	1.11	1.11
Multifamily Sector				
Benefits	$1,276,968	$1,277,987	$843,448	$843,448
Costs	$268,085	$269,867	$235,388	$235,388
Benefit Cost Ratio	4.76	4.74	3.58	3.58
Total Benefits	$9,892,727	$9,853,093	$6,742,907	$6,742,907
Total Costs	$6,858,386	$6,868,846	$4,909,296	$4,909,296
Portfolio Benefit Cost Ratio	1.44	1.43	1.37	1.37

TABLE 8C: FOUR-YEAR BENEFIT COST RATIOS – RG&E ELECTRIC

PORTFOLIO	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020
Non-Residential Sector				
Benefits	$21,807,735	$22,150,196	$20,151,364	$20,151,364
Costs	$13,882,554	$13,918,291	$12,492,227	$12,492,227
Benefit Cost Ratio	1.57	1.59	1.61	1.61
Residential Sector				
Benefits	$3,231,598	$3,282,725	$2,215,930	$2,215,930
Costs	$1,273,358	$1,281,913	$1,553,586	$1,553,586
Benefit Cost Ratio	2.54	2.56	1.43	1.43
Multifamily Sector				
Benefits	$3,234,032	$3,281,000	$3,090,016	$3,090,016
Costs	$1,223,402	$1,228,693	$934,696	$934,696
Benefit Cost Ratio	2.64	2.67	3.31	3.31
Total Benefits	$28,273,365	$28,713,921	$25,457,311	$25,457,311
Total Costs	$17,429,419	$17,491,632	$14,980,510	$14,980,510
Portfolio Benefit Cost Ratio	1.62	1.64	1.70	1.70

TABLE 8D: FOUR-YEAR BENEFIT COST RATIOS – RG&E GAS

PORTFOLIO	Current Year 2017	Year 1 2018	Year 2 2019	Year 3 2020
Non-Residential Sector				
Benefits	$2,067,382	$2,068,565	$3,355,345	$3,355,345
Costs	$770,925	$773,965	$1,743,687	$1,743,687
Benefit Cost Ratio	2.68	2.67	1.92	1.92
Residential Sector[15]				
Benefits	$8,997,257	$8,993,560	$5,286,414	$5,286,414
Costs	$7,995,554	$8,001,517	$5,565,778	$5,565,778
Benefit Cost Ratio	1.13	1.12	0.95	0.95
Multifamily Sector				
Benefits	$2,447,386	$2,449,338	$3,577,135	$3,577,135
Costs	$457,296	$459,525	$923,009	$923,009
Benefit Cost Ratio	5.35	5.33	3.88	3.88
Total Benefits	$13,512,025	$13,511,463	$12,218,894	$12,218,894
Total Costs	$9,460,538	$9,475,054	$8,232,474	$8,232,474
Portfolio Benefit Cost Ratio	1.43	1.43	1.48	1.48

15 The RG&E Residential Gas Sector is forecasted to not pass the SCT in 2019 and 2020. RG&E plans to continue this program and will make program adjustments to achieve a Benefit Cost Ratio of 1 or greater.

TABLE 9A: FOUR-YEAR PORTFOLIO BCA RESULTS – NYSEG ELECTRIC[16]

PORTFOLIO	Current Year 2017	Planned Year 1 2018	Planned Year 2 2019	Planned Year 3 2020
Societal Cost Test	1.35	1.36	1.66	1.66
Utility Cost Test	N/A	N/A	TBD	TBD
Ratepayer Impact Test	N/A	N/A	TBD	TBD

TABLE 9B: FOUR-YEAR PORTFOLIO BCA RESULTS – NYSEG GAS[16]

PORTFOLIO	Current Year 2017	Planned Year 1 2018	Planned Year 2 2019	Planned Year 3 2020
Societal Cost Test	1.44	1.43	1.37	1.37
Utility Cost Test	N/A	N/A	TBD	TBD
Ratepayer Impact Test	N/A	N/A	TBD	TBD

TABLE 9C: FOUR-YEAR PORTFOLIO BCA RESULTS – RG&E ELECTRIC[16]

PORTFOLIO	Current Year 2017	Planned Year 1 2018	Planned Year 2 2019	Planned Year 3 2020
Societal Cost Test	1.62	1.64	1.70	1.70
Utility Cost Test	N/A	N/A	TBD	TBD
Ratepayer Impact Test	N/A	N/A	TBD	TBD

TABLE 9D: FOUR-YEAR PORTFOLIO BCA RESULTS – RG&E GAS[16]

PORTFOLIO	Current Year 2017	Planned Year 1 2018	Planned Year 2 2019	Planned Year 3 2020
Societal Cost Test	1.43	1.43	1.48	1.48
Utility Cost Test	N/A	N/A	TBD	TBD
Ratepayer Impact Test	N/A	N/A	TBD	TBD

[16] The Companies are still reviewing UCT and RIM test results and are actively seeking staff guidance on specific inputs and assumptions to be used in these tests. The Companies anticipate making a subsequent filing of UCT and RIM test results within 45 days, pending guidance from staff.

Input Data Sources

1. LRACs for electric energy, capacity, natural gas and CO_2 emissions, and appropriate escalation factors, provided by New York State Department of Public Service ("DPS") staff in an April 18, 2017 email.

2. Interest rates, loss factors and avoided local (marginal) distribution costs from the Companies' Benefit Cost Analysis Handbook, Version 1.1, August 22, 2016, Section 9.

3. Program implementation costs, including incentives and services, contractor and employee costs, administrative costs, and outreach and education costs from 2016 actual program costs.

4. Evaluation, measurement and verification costs based on 5% of projected program budgets.

5. Savings from 2016 actual program gross savings.[17]

6. Energy Efficiency Measure material and labor costs, both full and incremental, are taken from the Companies' program implementation contractor data files and from industry incremental cost studies.
(see http://www.neep.org/initiatives/emv-forum/forum-products#Incremental Cost Studies), and from publicly available sources.

7. Program, sector, and portfolio Effective Useful Lives ("EULs") calculated from a savings weighted average of measure EULs rebated or provided through the programs.

Program Descriptions

The Companies plan to continue offering a broader, customer market sector approach to Energy Efficiency Programs. This market sector approach allows the Companies to make changes more quickly, to be more flexible in addressing changing customer and marketplace needs, and integrating new or pilot programs. Under each market sector the Companies will offer several

[17] Measure-level factors addressing Free Ridership, Spillover and Realization Rate are being incorporated into the TRM (the New York Standard Approach for Estimating Energy Savings from Energy Efficiency Programs – Residential, Multi-Family, and Commercial/Industrial Measures) with each revision, making further discounting of savings at a gross program or portfolio level unnecessary. Further, in the Commission's Track 2 order (ORDER ADOPTING A RATEMAKING AND UTILITY REVENUE MODEL POLICY FRAMEWORK, CASE 14-M-0101 – Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision, May 19, 2016, page 65), with regard to Free Ridership and Spillover, the Commission states: "Avoidance of counterfactuals: Incentive mechanisms are less effective and lead to significant controversy when metrics rely on complicated verification processes and debatable baseline assumptions.*"* ***Incentives that depend on a determination of what would have taken place in the absence of the incentive — that is, the proving of a counterfactual — are challenging to administer, can lead to contentious ex post review processes, and may result in tremendous administrative expense for uncertain net benefit.***"(emphasis added)

individual programs. As the Clean Energy Fund continues to evolve, the Companies along with other NYS Utilities, have been working with NYSERDA to both understand the impact on the space they are vacating while also collaborating on new program design partnerships going forward. The Companies are currently collaborating with NYSERDA on their Agriculture Energy Audit Program, Commercial Implementation Assistance Program, Industrial and Process Efficiency Program, Multifamily Performance Program, and Empower Program.

The Companies are currently reviewing bids from a Request for Proposal to both secure implementation services for traditional programs in 2017, 2018, and 2019 as well as requesting proposals for non-traditional, innovative programs to engage the marketplace. Based on a comprehensive review of the proposals, the Companies will determine which of these non-traditional proposals are likely to provide the most effective mix of energy savings and customer value, and will begin to integrate these new programs into their portfolios during late 2017 and 2018. The final selection of which new innovative programs to implement, the timing of their implementation, and the success of these implementations will impact some or all of the individual programs that are further described.

The Companies expect to consider several non-traditional programs, some of which are described below and others which may be proposed by program vendors.

Behavioral Program

While this type of program is becoming more accepted with increased implementation nationwide, it would be considered a non-traditional program for the Companies. This program would offer a customized web portal for program participants to access and track energy usage and savings, while receiving energy savings tips and links to other energy efficiency programs or pilots.

Upstream Incentive Program

This type of program would pay incentives for prescriptive type residential and commercial equipment to wholesale distributors. This will help drive the wholesale distributor market towards clean energy technologies by increasing the stocking and adoption of efficient equipment in the residential and commercial sectors.

Customer Education/Engagement Programs

These types of programs will assist customers in gaining an understanding of how and when they use energy along with how energy efficiency measures impact their usage profile. Programs such as this could engage the general population or particular segments such as low income or students.

The Companies are also operating demonstration and pilot projects described below to tie energy efficiency to demand response, system efficiency, and marketplace changes.

RG&E Energy Marketplace

Launched as a demonstration project in September 2016, the RG&E Energy Marketplace, named the Your Energy Savings ("YES") Store is an online portal offering RG&E customers point of sale rebates on products chosen for their efficacy in reducing energy use and system demand while increasing customer engagement. The online marketplace currently offers rebates on LED lighting, advanced power strips, and Wi-Fi enabled thermostats. The portal also offers non-incentivized water saving devices and connected home technologies in which customers can connect to their home monitoring systems, smoke alarms, and even control their lighting through use of a smart phone. The RG&E YES Store is also being leveraged as a distribution channel to cross-promote the Smart Savings Rewards Direct Load Control Demand Response program. Each eligible thermostat product page contains links to the demand response program and email marketing campaigns that have been developed to target previous YES Store smart thermostat purchasers, further integrating energy reduction and demand response.

Community Energy Coordination

The Community Energy Coordination ("CEC") demonstration project is designed to connect customers within NYSEG's Tompkins County service territory to local service providers for energy efficiency and solar energy. Through the program, NYSEG is marketing three different Distributed Energy Resources ("DER") directly to its customers: residential solar, community shared solar, and energy efficiency services.

Customers are encouraged to go to a NYSEG online services marketplace, named YES Home Solutions, where they can sign up for and receive a free home energy assessment, sign up for, receive, and compare competitive quotes for residential solar installation or a free consultation for community shared solar. Opportunities are being explored to incorporate the installation of energy efficiency measures for residential customers as part of the YES Home Solutions program.

Energy Smart Community

Further expanding on these concepts, NYSEG is implementing the Energy Smart Community ("ESC") pilot project. In 2017, the ESC project plans to install approximately 12,400 electric and 7,300 gas smart meters in the Ithaca area of Tompkins County, NY. This project will demonstrate the enhanced functionality of these devices when deployed to support the smart energy grid. Enabled by the smart meter, an online tool will provide customers access to their personal energy data, usage alerts, along with tools and tips to help better manage their energy usage. This project is also soliciting input from stakeholders and the public, specifically to identify temporary incentives that could help transition existing energy efficiency programs to a market based approach.

The Companies anticipate including more details on the coordination of energy efficiency with the YES Home Solutions and ESC projects in the next ETIP filing as those activities evolve.

Over time, an enhanced energy efficiency program portfolio will achieve greater market-wide efficiency savings, will target specific system needs, and depend less on direct ratepayer support by including programs with market mechanisms that combine resource acquisition with third-party activities to drive greater value for customers. The ultimate goal of this migration is the development of voluntary markets for clean energy technologies that require little or no out-of-market support.

In conclusion, the flexibility built into the January 22, 2016 Order allows NYSEG and RG&E to consider market-based approaches to support overall REV outcomes. These new programs are expected to combine resource acquisition with third-party activities that will drive greater value for customers, achieve greater market-wide efficiency savings, and target specific system needs.

Non-Residential Electric and Gas Programs

The Companies' Non-Residential Electric and Gas Programs will continue to provide services to non-residential electric and natural gas customers, who pay the appropriate surcharge, through direct customer incentives, direct installation of measures, self-direct or other delivery mechanisms.

Performance metrics for the 2016 Non-Residential Sector are summarized in Appendix A, Budget and Target Activity Summary.

Commercial and Industrial Rebate Program

The Companies operate the Commercial and Industrial Electric and Gas Rebate Program in the same manner, utilizing a single vendor for both, and thus for this ETIP, the Electric and Gas Rebate Programs are described in the same section.

Design

The Commercial and Industrial Rebate Program incents eligible NYSEG/RG&E non-residential customers to improve the efficiency of eligible facilities through both prescriptive incentives (applicable when a customer's needs match a broad range of pre-determined measures) and custom incentives (applicable when a customer's project requires site-specific engineering and cost analysis).

The prescriptive electric incentives currently include those for lighting fixtures and controls, unitary HVAC equipment and chillers. The prescriptive gas incentives include those for boilers, furnaces, controls and Wi-Fi thermostats. Incented measures are, and will continue to be reviewed frequently and updated based on the introduction of new technologies which the Companies determine warrant incentives, the saturation of a market with measures indicating customers may no longer require incentives to install the technology, or other factors which impact the need for a customer incentive to achieve savings goals. Prescriptive measure incentives are pre-set and are generally established to reduce the higher market price for selecting an incrementally higher efficiency measure, or in the case of lighting measures, based on Appendix O of the TRM. These incentive amounts are periodically reviewed and revised.

Custom projects require customers to identify and implement energy efficiency improvements in their facilities which are more involved than prescriptive projects and for which prescriptive incentives are not available. Custom electric incentives are available for, but not limited to, measures such as energy management systems, energy recovery systems, energy efficient process improvements, day-lighting systems, variable frequency drives, and infrared radiant heaters. Custom gas incentives are available for, but not limited to, measures such as energy management systems, building thermal envelope upgrades, energy recovery systems, energy efficient process improvements, geothermal heating and cooling, infrared radiant heaters, and steam traps. Incentive amounts for custom projects are generally established to buy down up to 50% of the incrementally higher market price for selecting an incrementally higher efficiency measure, except for lighting measures (described above for prescriptive measure incentives). Incentive levels may be adjusted based on market conditions, technology, and customer adoption. Depending on market demand the program may also cap rebates at a dollar per kWh or Dth delivered, payback period, and an annual cap of total incentive per customer account.

Both prescriptive and custom incentives are available to active NYSEG/RG&E non-residential electric and/or gas commercial, industrial, and municipal customers, who pay the required surcharge.[18] There is no minimum or maximum kilowatt ("kW") or dekatherm ("Dth") limit required for eligibility, but pre-approval is required for prescriptive applications totaling more than $10,000 and for all custom applications.

Delivery Method

The Companies utilize an implementation contractor to deliver services including communications with customers and trade allies, assistance with applications and project development, application processing, providing an engineering review for applicable custom projects; developing and

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[18] Non-residential customers may include the common area portions of multifamily buildings or multifamily buildings which are not separately metered per dwelling unit.

refining detailed program design, marketing strategies, technical guidelines, program forms, and detailed program procedures in consultation with the Companies; as well as QA/QC activities.

In addition, some complex non-residential projects are initially evaluated for feasibility and energy savings potential by the Companies' in-house technical staff, prior to or in conjunction with the analysis by the implementation contractor. This step is conducted with a few new technology or highly complex projects in order to make an initial determination regarding whether the project can be developed in a manner consistent with the program guidelines.

Target Market, Customer Eligibility Rules and Anticipated Participation Levels

The target market for these incentives is all active commercial, industrial and municipal customers with NYSEG/RG&E electric or gas accounts and who pay the required surcharge on at least a portion of their billed energy. Additionally,

- Electric customers are eligible for electric measure incentives; gas customers are eligible for gas measure incentives. A customer who is both an electric and gas NYSEG or RG&E customer is eligible for both electric and gas measure incentives from the Company with whom they are a customer.
- All incentivized equipment must be new. Used or rebuilt equipment is not eligible for incentives. Existing equipment must be removed and not reinstalled within the NYSEG or RG&E service area.
- NYSEG and RG&E reserve the right to cap the rebate amount afforded to any one customer and also reserve the right to deny any application that may result in either Company exceeding its program budget.

New construction projects are currently not eligible for rebates under the program. However, as NYSERDA's energy efficiency portfolio transitions, new construction may be considered for eligibility. Participation in the program has remained steady over time. The Companies will be monitoring a potential market saturation impact and impacts of other new programs over the next several years. Any such impact will be reflected in future year ETIPs. The Companies currently estimate that 950 NYSEG electric, 60 NYSEG gas, 500 RG&E electric and 60 RG&E gas projects may be completed each year during the 2017 through 2020 period.

Anticipated Changes During Program Years 2 and 3

For 2017 and going forward the Companies will continue to explore offering new prescriptive measures with incentive levels mainly being driven by market demand for these programs.

Quality Assurance/Quality Control Procedures

The Companies provide QA/QC through a combination of implementation contractor activities and Company employee oversight and monitoring.

The QA/QC processes and controls undertaken by the implementation contractor are designed to ensure proper project energy savings calculations and incentive payments, and compliance with other program rules specific to the Companies' Non-Residential Program. QA/QC procedures include those for:

- Operations/Project Management
- Project Documentation
- Engineering Review
- Inspections
- Incentive Payment

Company employees monitor QA/QC activities during invoice processing, reporting (Scorecards), and monthly project documentation audits.[19] They also randomly choose projects and accompany the implementation contractor QA/QC inspectors on their scheduled pre- or post-inspections to verify compliance with the QA/QC procedures.

Incentives and Services/Program Implementation Budgets

Historically, program installation activity does not follow a seasonal pattern since it is based on customer schedules and varying customer demand; therefore energy savings and expenses are projected to be spread evenly during future program years with approximately 85% of incentive budgets being acquired within the calendar year and the remaining 15% of incentive budgets being committed at year end.

Primary and Secondary Performance Targets

The Guidance Document allowed utilities to propose additional metrics to align with REV-like outcomes, but no specific additional metrics were required. The Companies will collect and track, but not use initially for a target, demand reduction in MW, in addition to progress against their

[19] The Companies conduct a monthly analysis on a sampling of vendor-supplied savings reports for each program, reviewing the general accuracy and compliance with TRM savings requirements.

MWh and Dth targets as outlined the January 22, 2016 Order. Regarding these secondary targets, as of this filing the Metrics, Tracking and Performance Assessment subcommittee of the Clean Energy Advisory Council are completing work on recommended definitions for Secondary Target Metrics, including participant bill savings, greenhouse gas emission reductions and private investment. Once definitions of Secondary Metrics are final, the Companies' anticipate adding Secondary Targets in future ETIP filings.

Previous Year

The Companies continued to operate the Electric and Gas C&I Rebate Programs in the same manner as previous years and as described under the Program Descriptions for Current and Planned Years above. The Companies signed a contract with Franklin Energy for implementation contractor services for both programs in 2016.

In the 3rd and 4th quarters of 2015 NYSERDA exhausted funding for their C&I programs, which led to a spillover of applications into the NYSEG and RG&E programs. This spillover resulted in a large backlog of projects entering 2016, thereby contributing to strong 2016 performance for the C&I programs. To help meet this customer spillover demand and to also help achieve portfolio level goals, the C&I programs were able to utilize funds transferred in from the Multifamily and Residential Programs.

Small Business Direct Install Program

The Small Business Direct Install Program ("SBDI") provides services to non-residential electric customers, who pay the appropriate surcharge, through customer incentives and direct installation of measures.

Design

The Companies plan to continue offering a direct install program within the Non-Residential Electric Sector, which is currently available to small non-residential electric customers with electric demand of less than 110 kW. This program is designed to identify cost-effective efficiency improvement opportunities and encourage customers to implement these improvements by providing a free assessment of a customer's facilities and direct installation of the measures selected by the customer on a cost-shared basis. Historically in most cases, the cost-sharing mechanism has provided utility payment of up to 70% of the total installed measure cost.[20]

Measures offered include the retrofitting of existing fluorescent fixtures with higher efficiency lamps and ballasts, retrofitting exit signs to utilize LED lighting, occupancy sensors, incandescent bulbs retrofitted with LEDs, replacement LED High-Bay and canopy fixtures, and refrigeration measures.

Delivery Method

The Companies offer direct installation of selected measures to small non-residential customers as described above, and utilize an implementation contractor to promote the program, qualify customers' eligibility, perform assessments, obtain customer authorizations for project installation, procure measures, remove old equipment and install new measures, bill customers for the cost sharing balance, and provide customer service and inspections.

Target Market, Customer Eligibility Rules and Anticipated Participation Levels

Although all active non-residential customers with the appropriate demand that pay the required surcharge and are willing to provide the required customer cost share are eligible to participate, eligibility is limited, as a practical matter, to those customers who have equipment installed in their facility which can be upgraded to more energy efficient equipment.

Participation in the program has remained steady over time. However, the Companies will be monitoring a potential market saturation impact and impacts of other new programs over the next several years. Any such impact will be reflected in future year ETIPs. The Companies currently estimate that 1,340 NYSEG and 630 RG&E projects will be completed each year during the 2017 through 2020 period.

[20] The Companies' generally provide up to 70% of the installed costs for Non-Residential Direct Installed projects, however the Companies have offered, and may continue to offer, projects where the Company contribution is higher or lower, depending on customer needs, system needs and program targets.

Anticipated Changes During Program Years 2 and 3

For 2017 and going forward, the SBDI Program will continue to add new technologies to serve eligible non-residential customers as they become available. In addition, the Companies may consider expanding the program to include larger customers and by offering natural gas measures. Performance of the program indicates that the evolution of included measures may require an increase in customer cost sharing to enable this component to contribute in a cost-effective manner to the Companies' targeted savings goals. This program may also be impacted as other potential programs are explored and added over time.

Quality Assurance/Quality Control Procedures

The Companies provide QA/QC through a combination of implementation contractor activities and Company employee oversight and monitoring. QA/QC procedures include those requiring the implementation contractor to collect and dispose of all removed equipment (lamps and ballasts) in accordance with New York State regulations and laws. The implementation contractor directly supervises measure installations conducted by its subcontractors in accordance with local and national electrical codes.

Company employees monitor QA/QC activities during invoice processing, reporting (Scorecards), and monthly project documentation audits. They also randomly choose projects to conduct periodic audits of program activities such as customer installations and implementation contractor project documentation.

Incentives and Services/Program Implementation Budgets

Historically, program installation activity does not follow a seasonal pattern since it is based on customer adoption patterns which are unique and subject to change; therefore, energy savings and expenses are projected to be spread evenly during future program years.

Primary and Secondary Performance Targets

The Guidance Document allowed utilities to propose additional metrics to align with REV-like outcomes, but no specific additional metrics were required. The Companies will collect and track, but not use initially for a target, demand reduction in MW, in addition to progress against their MWh and Dth targets as outlined the January 22, 2016 Order. Regarding these secondary targets, as of this filing the Metrics, Tracking and Performance Assessment subcommittee of the Clean Energy Advisory Council are completing work on recommended definitions for Secondary Target Metrics, including participant bill savings, greenhouse gas emission reductions and private investment. Once definitions of Secondary Metrics are final, the Companies' anticipate adding Secondary Targets in future ETIP filings.

Previous Year

The Companies continued to operate the SBDI Program in a similar manner as previous years and as described under the Program Descriptions for Current and Planned Years above. Due to increasing market saturation, it is expected that savings performance going forward may begin to level off.

Large Customer Self-Direct Program

The Self-Direct Program provides the Companies' largest electric customers with single account average monthly demand of 2 MW or greater, or aggregated demands of 4 MW or greater, the opportunity to direct a portion of their System Benefit Charge ("SBC") contributions to fund cost effective energy efficiency projects of their own choosing.

Design

In the REV Order. the Commission required each utility to implement a Self-Direct Program for its large energy users. In collaboration with DPS Staff, the utilities and large industrial customers developed and issued guidelines that establish rules and principles for the Self-Direct Program. In addition, the Commission required the electric utilities to implement a Self-Direct Program for large energy users by January 1, 2017.

The Self-Direct Program is intended to encourage individual customers' unique energy management actions by allowing them to self-direct funds toward a suite of investments over a period of three years and complement existing or future strategic energy management activities. As with the utilities' other energy efficiency programs, the Self-Direct Program is included in the portfolio-level cost-effectiveness test. This program is expected to achieve savings at a lower cost than traditional energy efficiency programs due to the requirement that a run rate of at least 7.5%

lower than the total authorized program-only dollar per MWh cost of the Company's energy efficiency portfolio is achieved.

Funding for the program is collected from the participating customers through a volumetric surcharge, the Energy Efficiency ("EE") Tracker, and is deposited in a customer specific Energy Savings Account ("ESA"). Participants will have the opportunity to self-direct a majority of their own contributions in their ESA to qualifying projects; however, a portion of the contributions, no more than 15%, is allocated to support program administration and EM&V.

Upon enrollment in the Self-Direct Program, each customer is assigned an energy savings goal based on the stated dollar per MWh in the customer application. Once enrolled in the program, participants are no longer eligible to participate in the utility's other energy efficiency programs. Participants may withdraw from the Self-Direct Program by providing written notice to the utility in the second quarter of any year during the cycle. However, such withdrawal will not be effective until the beginning of the next year and the participant's contributions to the ESA match the amount that the participant has self-directed. Upon withdrawal, the balance of the customer's ESA will be retained by the utility and included in the next competitive solicitation. Customers who withdraw during a three-year cycle will be ineligible to participate in the next Self-Direct Program cycle. Upon the effective date of the withdrawal, customers will be eligible to participate in the utility's other energy efficiency programs.

Delivery Method

The Self-Direct Program is implemented on consecutive three-year cycles and all eligible customers were encouraged to apply for enrollment in the current Self-Direct cycle (2017-2019) during quarters two and three of 2016. Throughout the cycle, participants will be able to access their ESA to fund eligible projects of their choosing. A participant may withdraw from the program as noted above but will forfeit any ESA funds they have accumulated and will lose the opportunity to participate in the next three-year cycle. A common customer application for enrollment has been developed and requires:

- A commitment to achieve savings at a specific dollar per MWh that is at least 7.5% less than the utility's approved portfolio-level program only, dollar per MWh

- An estimated portfolio savings plan that contains enough detail to allow the Companies to determine the reasonableness of a customer's proposal
- A list of the customer's accounts that will be included in the aggregated ESA
- A statement agreeing to grant the Companies and consultants the right to review all project data and access to perform onsite inspections and metering, as necessary, to verify measure installation and performance, operating parameters and cost documentation

<u>Target Market, Customer Eligibility Rules and Anticipated Participation Levels</u>

The Self-Direct Program is open to the Companies' largest electric customers with single account average monthly demand of 2 MW or greater, or aggregated monthly demands of 4 MW or greater. Eligible customers are notified of their eligibility directly by telephone and mail during the six month enrollment period prior to the three-year program cycle, and are encouraged to enroll in the program.

A participating customer must implement its projects within the service territory of the Company providing the funds. However, participating customers are allowed to aggregate their accounts within a service territory in accordance with the customer eligibility rules. The Self-Direct Program funds new projects only. A participating customer may not receive program funds for projects it has already undertaken. Eligible projects are defined as those electric efficiency projects that achieve MWh savings at the dollar per MWh committed to by the customer at time of enrollment and pass Benefit-Cost criteria to be developed.

Participants in the Self-Direct Program must provide the Companies with a detailed Project Plan for review and approval prior to initiating the project. At a minimum, the Project Plan must include:

- A detailed description of the proposed project, expected costs and savings target
- Information and data to support the calculation of the current baseline
- A proposed method of M&V
- A schedule for completion and payment milestones
- A list of third-party contractors
- A legally binding agreement granting the Companies and consultants the right to review all project data and access to perform onsite inspections and metering, as necessary, to verify measure installation and performance, operating parameters, and cost documentation

During 2016, four NYSEG and two RG&E customers applied and were accepted into the Self-Direct Program. These participation levels are expected to remain the same over the program's initial three-year cycle of 2017 through 2019. Participation in the next program cycle beginning in 2020 are unknown at this time but will be reflected in future year ETIPs.

Anticipated Changes During Program Years 2 and 3

The Self-Direct Program is implemented on a three-year cycle so it is expected that the six existing customers may renew their participation for the next three-year cycle beginning in Year 3, and a small number of additional customers will enroll in the program for the next cycle.

Quality Assurance/Quality Control Procedures

The Companies provide QA/QC through a combination of Non-Residential Program implementation contractor activities and Company employee oversight and monitoring. QA/QC procedures include those requiring the review and approval of all project plans for cost effectiveness prior to installation, and verification of the completed installation against the approved plan before funds requested from the customer's ESA are paid. Company employees monitor QA/QC activities during invoice processing, reporting (Scorecards), and project documentation audits. They also randomly choose projects to conduct periodic audits of program activities such as customer installations and implementation contractor project documentation.

Incentives and Services/Program Implementation Budgets

Beginning January 1, 2017, the Companies will regularly allocate a Self-Direct participant's contributions to the utility's energy efficiency portfolio into the participant's ESA. It is anticipated that Self-Direct customers will wait until their ESA accumulates sufficient funds before implementing projects, therefore it is expected that the majority of the program savings will occur towards the end of the program cycle.

Primary and Secondary Performance Targets

The Guidance Document allowed utilities to propose additional metrics to align with REV-like outcomes, but no specific additional metrics were required. The Companies will collect and track, but not use initially for a target, demand reduction in MW, in addition to progress against their MWh and Dth targets as outlined the January 22, 2016 Order. Regarding these secondary targets, as of this filing the Metrics, Tracking and Performance Assessment subcommittee of the Clean Energy Advisory Council are completing work on recommended definitions for Secondary Target Metrics, including participant bill savings, greenhouse gas emission reductions and private investment. Once definitions of Secondary Metrics are final, the Companies' anticipate adding Secondary Targets in future ETIP filings.

Residential Electric and Natural Gas Programs

The Companies' Residential Electric and Gas Programs will continue to provide services to customers who pay the appropriate surcharge, through direct customer incentives, direct installation of measures or other delivery mechanisms. In addition, the Companies will continue to explore new opportunities to increase customer engagement in energy savings, integration with residential demand response programs, and other REV-like programs. For example, in 2017 the Companies added Wi-Fi thermostats as an energy efficiency measure in support of the residential demand response program.

Performance metrics for the 2016 Residential Sector are summarized in Appendix A, Budget and Target Activity Summary.

Refrigerator and Freezer Recycling Program

The Companies' Refrigerator and Freezer Recycling Program ("RFRP") continues to provide direct customer incentives and refrigerator recycling services to residential electric customers who pay the appropriate surcharge.

Design

The Refrigerator and Freezer Recycling Program was launched in May 2011 to encourage customers to recycle old, inefficient refrigerators and freezers. It continues to be an effective way to reduce energy consumption and is an important component of the Residential Electric Program.[21] The RFRP component offers residential customers free removal and recycling of an old refrigerator or freezer and a $35 incentive check.

[21] The implementation contractor for the Companies' Refrigerator and Freezer Recycling Program withdrew from the program in November, 2015. The program reopened during Q4 2016.

Delivery Method

The Companies utilize an implementation contractor to deliver services including marketing and customer recruitment, customer service including a staffed call center, refrigerator/freezer removal, transportation and recycling in accordance with accepted industry practices, and reporting and quality assurance.

Target Market, Customer Eligibility Rules and Anticipated Participation Levels

The target market for the RFRP program is all active residential electric customers of the Companies who pay the required surcharge. Eligibility rules apply to customer-owned refrigerators and freezers including size, condition and total number per customer.

Based on the current conditions and history, RFRP participation levels are anticipated to decline slightly over the next several years due to market saturation. The Companies currently estimate that 6,300 NYSEG and 4,349 RG&E customers will participate during 2017 and that participation will taper to 5,082 NYSEG and 2,979 RG&E customers annually during 2019 and 2020.

Anticipated Changes to the Program During Program Years 2 and 3

As refrigerator and freezer baseline efficiency increases, the program will adapt by adjusting incentive levels and reporting savings based on latest TRM deemed values. The program may be discontinued if BCAs indicate a lack of cost effectiveness, or incentives are found to no longer be necessary to assure residential refrigerator and freezer recycling.

Quality Assurance/Quality Control Procedures

The Companies maintain QA/QC processes and procedures which check both the quality of work performed and reporting data accuracy. Processes which assure vendor quality include:

- Vendor appointment scheduling, including call center flexibility, observation and monitoring, use of complaint handling processes, and benchmarking against metrics
- Unit collections (refrigerator/freezer) – managing appropriate crew size, training, supervision, onsite review for conditions and customer concerns, and quality benchmarking against metrics
- Program reporting including regular performance reports, data needed for process and impact evaluations, and maintenance of a tracking database

In addition, Company employees monitor QA/QC activities during invoice processing, reporting (Scorecards), and monthly project documentation audits.

Incentives and Services/Program Implementation Budgets

Traditionally, refrigerator and freezer recycling programs are promoted on a seasonal basis, with promotional activities beginning in the spring and ending in the fall each year. Experience shows that customers are less likely to surrender a secondary unit during the latter part of the year due to heavier use during the holidays. Consequently, expenditures and reported energy savings are generally lower from November through March than during the rest of each year.

The expectation is that the program will continue to operate across all three years, with energy savings and expenses tapering slightly during this period due to saturation.

Primary and Secondary Performance Targets

The Guidance Document allowed utilities to propose additional metrics to align with REV-like outcomes, but no specific additional metrics were required. The Companies will collect and track, but not use initially for a target, demand reduction in MW, in addition to progress against their MWh and Dth targets as outlined the January 22, 2016 Order. Regarding these secondary targets, as of this filing the Metrics, Tracking and Performance Assessment subcommittee of the Clean Energy Advisory Council are completing work on recommended definitions for Secondary Target Metrics, including participant bill savings, greenhouse gas emission reductions and private investment. Once definitions of Secondary Metrics are final, the Companies' anticipate adding Secondary Targets in future ETIP filings.

Previous Year

The RFRP was suspended for most of 2016 due to the November 2015 receivership of JACO, NYSEG and RG&E's former program implementation contractor. A new contract was signed with Appliance Recyclers of America ("ARCA") and recycling services resumed on November 14, 2016. Participation in the program was relatively strong during December and likely reflected pent-up demand held over from the program's closure. Incentive levels were reduced from $50 to $35.

The savings achieved by the Recycling Program during 2016 was only 2.3% of the annual goal due to the loss of momentum caused by the 2015 program closure and the amount of time required during 2016 to award and implement a new contract with ARCA.

Residential Natural Gas Rebate Program

The Residential Natural Gas Rebate Program offers incentives to install high efficiency natural gas space and domestic water heating equipment to customers with residential natural gas service and who pay the required surcharge.

Design

The Companies' Residential Natural Gas Rebate Program was launched July 1, 2009, to encourage customers to install high efficiency natural gas furnaces, boilers, and associated equipment. It continues to be an effective way to reduce natural gas energy consumption and reduce greenhouse gas emissions. The program initially offered incentives only for furnace, boiler, indirect water heater and thermostat incentives; however, as prices for Energy Star storage and instantaneous water heaters declined, these units became more cost effective and were added to the program.

Delivery Method

The Companies utilize an implementation contractor to deliver services including rebate application and payment processing, customer service including call center functions, reporting, and quality assurance including field verification inspections.

Target Market, Customer Eligibility Rules and Anticipated Participation Levels

The target market for the program is all of the Companies' active residential natural gas customers who pay the required surcharge. Additional eligibility rules are designed to ensure the installation of new, high efficiency equipment by qualified contractors.

The Companies have seen limited growth in the number of participants as market saturation becomes more of a factor, but expect that the Companies' gas conversion rebate programs may offset the increase in market saturation over the next several years. Any such impact will be reflected in future year ETIPs. The Companies currently estimate 2,528 NYSEG and 6,308 RG&E customers will participate in the program annually during the 2017 through 2020 period.

Anticipated Changes During Program Years 2 and 3

The Companies anticipate that Years 2 and 3 may see changes to the mix of rebate measures due to ongoing analysis of measure performance and the evolution of new equipment such as combination heat and hot water boilers. Other possible program modifications include the addition of thermal shell measures including air sealing and insulation, and an upstream natural gas equipment rebate pilot program targeting gas equipment suppliers in a specific part of the Companies' service area. The upstream model may ultimately be expanded to replace the existing Natural Gas Equipment rebate program if successful. The Companies will continue to coordinate future programming plans with NYSERDA to fill in market gaps and avoid, as much as possible, market overlap.

Quality Assurance/Quality Control Procedures

The Companies maintain QA/QC processes and procedures which check the quality of work performed and data accuracy. Processes which assure vendor quality include the following activities:

- Rebate application processing quality checks, including customer and equipment eligibility and non-duplication of incentives
- Sampling of installed equipment in the field to verify installation quality and savings veracity
- Program reporting including regular performance reports, data needed for process and impact evaluations, and maintenance of a tracking database

In addition, Company employees monitor QA/QC activities during invoice processing, reporting (Scorecards), and monthly project documentation audits.

Incentives and Services / Program Implementation Budgets

The Residential Natural Gas Rebate Program is promoted on a seasonal basis, with outreach activities beginning in the late summer and ending in March. Experience shows that customers are less likely to request heating equipment rebates during the spring and summer due to the seasonal equipment use and lack of concern during those times about residential heating equipment. Consequently, expenditures and reported energy savings are generally lower from April through August than during the other months of the year.

The expectation is that the program will continue to operate across all three years, with energy savings and expenses consistent in future program years.

Primary and Secondary Performance Targets for the Program

The Guidance Document allowed utilities to propose additional metrics to align with REV-like outcomes, but no specific additional metrics were required. The Companies will collect and track, but not use initially for a target, demand reduction in MW, in addition to progress against their MWh and Dth targets as outlined the January 22, 2016 Order. Regarding these secondary targets, as of this filing the Metrics, Tracking and Performance Assessment subcommittee of the Clean Energy Advisory Council are completing work on recommended definitions for Secondary Target Metrics, including participant bill savings, greenhouse gas emission reductions and private investment. Once definitions of Secondary Metrics are final, the Companies' anticipate adding Secondary Targets in future ETIP filings.

Previous Year

Several minor changes were made to the Residential Natural Gas Rebate Program during the year. Furnace tune up rebates were added to the program effective January 1st, rebate levels were reduced October 1st to reflect the reduced heating load hours specified in the 2016 TRM, and rebate eligibility was limited to equipment installed within one year prior to the rebate application date effective November 1st.

An area of concern is with saturation due to the extended period of time the program has been offered. The number of program participants continued to taper off slowly and the average saving level per participant was considerably less during 2016 compared to previous years due to the 2016 TRM changes previously noted. Furnace tune ups were added at the beginning of the year to partially compensate for the savings loss due to the reduced heating load hours, and have been very popular.

Multifamily Electric and Gas Programs

The Companies' Multifamily Electric and Gas Programs will continue to provide services to multifamily electric and natural gas customers, who pay the appropriate surcharge, through direct customer incentives, direct installation of measures, or other delivery mechanisms.

Performance metrics for the 2016 Multifamily Sector are summarized in Appendix A, Budget and Target Activity Summary.

Design

The Companies' Multifamily Program offers the direct installation of energy efficiency upgrades to multifamily property owners. The list of measures offered by the program has expanded over time to include interior and exterior LEDs and dwelling unit domestic electric and gas hot water measures.

Dwelling unit measures and some common area lighting measures are provided at no charge to the customer. The Companies pay up to 70% of the cost of all other common area lighting upgrades, requiring the customer to cost-share the remaining balance of the installed costs.

Delivery Method

The Companies utilize an implementation contractor to deliver services including marketing and customer recruitment, customer service provided by field and office staff, performing audits, providing project proposals, scheduling and carrying out installation activities, assuring customer satisfaction with post-installation contacts, proper disposal of removed lighting and hot water measures, reporting, quality assurance, and customer issue resolution.

Target Market, Customer Eligibility Rules and Anticipated Participation Levels

The target market for the program is multifamily buildings with an active electric and/or natural gas account on which the required surcharge is paid. The Companies' Multifamily program serves buildings with four or more units with no upper limit.

Participation in the program has remained steady over time, however the Companies will be monitoring a potential market saturation impact over the next several years. Any such impact will be reflected in future year ETIPs. The Companies estimate that 350 NYSEG and 350 RG&E multifamily complexes may participate in the program during the 2017 through 2020 period.

Anticipated Changes During Program Years 2 and 3

As lighting technologies and prices evolve, the program will adapt by adding new measures and eliminating some old ones for which incentives are no longer necessary. LEDs are playing a larger role in the program and this expansion is expected to continue. Additional changes to the programs are being considered in collaboration with NYSERDA as their program transition plans develop. Specifically, this collaboration will enable customers to take advantage of both the Companies' and NYSERDA's multifamily programs, through the development of a common referral process and adjustment of NYSERDA's program measures to complement the measures offered by the Companies' multifamily program.

Quality Assurance/Quality Control Procedures

The Companies maintain QA/QC processes and procedures which check the quality of work performed and data accuracy. Processes which assure vendor quality include the following activities:

- Vendor appointment scheduling
- Measure installation including the management of appropriate crew size, training, supervision, onsite review for conditions and customer concerns and quality benchmarking against metrics

Program reporting including regular performance reports, data needed for process, and impact evaluations and maintenance of a tracking database.

In addition, Company employees monitor QA/QC activities during invoice processing, reporting (Scorecards), and utilizing monthly project documentation audits.

Incentives and Services/Program Implementation Budgets

Historically, program installation activity does not follow a seasonal pattern; therefore energy savings and expenses are projected to be spread evenly during future program years. Any significant changes to program design would occur with the introduction of new measures or changes in the TRM and would impact future program savings and expenses. However, such impacts are not included here.

Primary and Secondary Performance Targets for the Programs

The Guidance Document allowed utilities to propose additional metrics to align with REV-like outcomes, but no specific additional metrics were required. The Companies will collect and track, but not use initially for a target, demand reduction in MW, in addition to progress against their

MWh and Dth targets as outlined the January 22, 2016 Order. Regarding these secondary targets, as of this filing the Metrics, Tracking and Performance Assessment subcommittee of the Clean Energy Advisory Council are completing work on recommended definitions for Secondary Target Metrics, including participant bill savings, greenhouse gas emission reductions and private investment. Once definitions of Secondary Metrics are final, the Companies' anticipate adding Secondary Targets in future ETIP filings.

Previous Year

The Companies continued to operate the electric portion of the Multifamily Program in the same manner as previous years and as described under the Program Descriptions for Current and Planned Years above. The Companies' Multifamily Program expanded in 2016 to offer a limited number of gas measures, reported separately as the Multifamily Gas Program, including but not limited to, free installation of dwelling unit efficient showerheads, faucet aerators, and pipe wrap. Also in 2016, CFL bulbs were eliminated from the program and the program now serves buildings with four or more units with no upper limit. The Companies signed a contract with Franklin Energy for implementation contractor services for both the Multifamily electric and gas programs in 2016.

The 2016 performance of Multifamily Programs lagged behind the anticipated results through much of the year but momentum built during the last quarter. Funds transfers did occur from three of the four Multifamily Programs (NYSEG electric, NYSEG gas and RG&E gas) into the C&I Programs.

APPENDIX A

Budget and Target Activity Summary

Tables A1 A-D provide the planned 2016 annual budget and the actual amount that was expended and encumbered for each portfolio.

Table A1-A: Total Funds Expended and encumbered – NYSEG Electric

PORTFOLIO	Planned Annual Budget	Expended	Encumbered	Total Expended and Encumbered
Non-Residential Sector				
Incentives & Services	$11,085,775	$7,214,268	$3,205,832	$10,420,100
Program Implementation	$2,302,096	$511,270	$656,169	$1,167,439
Total Budget	$13,387,871	$7,725,538	$3,862,001	$11,587,539
Residential Sector				
Incentives & Services	$1,306,334	$32,747	$0	$32,747
Program Implementation	$535,512	$0	$0	$0
Total Budget	$1,841,846	$32,747	$0	$32,747
Multifamily Sector				
Incentives & Services	$652,366	$280,105	$192,102	$472,207
Program Implementation	$233,380	$112,337	$26,855	$139,192
Total Budget	$885,746	$392,442	$218,957	$611,399
Total Non-Residential Sector	$13,387,871	$7,725,538	$3,862,001	$11,587,539
Total Residential Sector	$1,841,846	$32,747	$0	$32,747
Total Multifamily Sector	$885,746	$392,442	$218,957	$611,399
Portfolio Administration	$68,215	$349,256	$0	$349,256
Portfolio EM&V	$851,773	$35,426	$0	$35,426
Total Portfolio Budget	$17,035,451	$8,535,409	$4,080,958	$12,616,367

TABLE A1-B: TOTAL FUNDS EXPENDED AND ENCUMBERED – NYSEG GAS

PORTFOLIO	Planned Annual Budget	Expended	Encumbered	Total Expended and Encumbered
Non-Residential Sector				
Incentives & Services	$273,154	$206,044	$598,366	$804,410
Program Implementation	$138,154	$75,938	$154,151	$230,089
Total Budget	$411,308	$281,982	$752,517	$1,034,499
Residential Sector				
Incentives & Services	$1,073,398	$619,539	$0	$619,539
Program Implementation	$157,538	$54,095	$0	$54,095
Total Budget	$1,230,936	$673,634	$0	$673,634
Multifamily Sector				
Incentives & Services	$203,523	$38,334	$31,981	$70,315
Program Implementation	$80,129	$15,855	$0	$15,855
Total Budget	$283,652	$54,189	$31,981	$86,170
Total Non-Residential Sector	$411,308	$281,982	$752,517	$1,034,499
Total Residential Sector	$1,230,936	$673,634	$0	$673,634
Total Multifamily Sector	$283,652	$54,189	$31,981	$86,170
Portfolio Administration	$10,408	$63,205	$0	$63,205
Portfolio EM&V	$101,911	$3,751	$0	$3,751
Total Portfolio Budget	$2,038,215	$1,076,761	$784,498	$1,861,259

TABLE A1-C: TOTAL FUNDS EXPENDED AND ENCUMBERED – RG&E ELECTRIC

PORTFOLIO	Planned Annual Budget	Expended	Encumbered	Total Expended and Encumbered
Non-Residential Sector				
Incentives & Services	$6,066,378	$3,342,056	$2,166,955	$5,509,011
Program Implementation	$1,393,583	$316,265	$565,409	$881,674
Total Budget	$7,459,961	$3,658,321	$2,732,364	$6,390,685
Residential Sector				
Incentives & Services	$962,180	$72,960	$7,265	$80,225
Program Implementation	$392,713	$1,056	$193	$1,249
Total Budget	$1,354,893	$74,016	$7,458	$81,474
Multifamily Sector				
Incentives & Services	$857,993	$541,926	$323,929	$865,855
Program Implementation	$243,741	$160,147	$47,305	$207,452
Total Budget	$1,101,734	$702,073	$371,234	$1,073,307
Total Non-Residential Sector	$7,459,961	$3,658,321	$2,732,364	$6,390,685
Total Residential Sector	$1,354,893	$74,016	$7,458	$81,474
Total Multifamily Sector	$1,101,734	$702,073	$371,234	$1,073,307
Portfolio Administration	$41,386	$223,989	$0	$223,989
Portfolio EM&V	$524,104	$25,545	$0	$25,545
Total Portfolio Budget	$10,482,078	$4,683,944	$3,111,056	$7,795,000

TABLE A1-D: TOTAL FUNDS EXPENDED AND ENCUMBERED – RG&E GAS

PORTFOLIO	Planned Annual Budget	Expended	Encumbered	Total Expended and Encumbered
Non-Residential Sector				
Incentives & Services	$332,060	$266,852	$436,066	$702,918
Program Implementation	$140,222	$86,746	$118,892	$205,638
Total Budget	$472,282	$353,598	$554,958	$908,556
Residential Sector				
Incentives & Services	$1,338,766	$1,070,507	$270	$1,070,777
Program Implementation	$272,304	$118,465	$7	$118,472
Total Budget	$1,611,070	$1,188,972	$277	$1,189,249
Multifamily Sector				
Incentives & Services	$390,007	$138,152	$135,767	$273,919
Program Implementation	$98,899	$27,323	$0	$27,323
Total Budget	$488,906	$165,475	$135,767	$301,242
Total Non-Residential Sector	$472,282	$353,598	$554,958	$908,556
Total Residential Sector	$1,611,070	$1,188,972	$277	$1,189,249
Total Multifamily Sector	$488,906	$165,475	$135,767	$301,242
Portfolio Administration	$12,454	$79,114	$0	$79,114
Portfolio EM&V	$136,037	$6,839	$0	$6,839
Total Portfolio Budget	$2,720,749	$1,793,998	$691,002	$2,485,000

The Portfolio Administration budget category in Tables A1 A–D includes costs such as, but not limited to, those for outreach, education and marketing activities which are not conducted by program implementation contractors; organization membership, conferences, training, travel and related expenses; all of which are not recovered through the Companies' base rates.

Administrative costs which are recovered in base rates are not included in Tables A1 A-D, but are included in the costs used to determine the portfolio BCA (SCT). Those costs include employee labor and employee benefits.

A discussion is provided below for any portfolio that had a variance of +/- 25% or greater between the planned budget and the actual expended and encumbered amounts for 2016.

NYSEG and RG&E Residential Electric

- NYSEG and RG&E's Refrigerator and Freezer Recycling Program was suspended for most of 2016 due to the unexpected receivership of the program implementation contractor late in 2015. Recycling services resumed November 14, 2016, after a contract was signed with a new implementation contractor. Since only six weeks of program activity were realized for the year, results lagged behind the planned annual budgets.

NYSEG Multifamily Electric

- NYSEG and RG&E selected a new vendor for their Multifamily Programs and results lagged from the planned budget through program startup. Increased outreach efforts led to good year closing performance.

NYSEG and RG&E Non-Residential Gas

- The NYSEG and RG&E C&I gas programs experienced a spill over of potential NYSERDA projects as a result of NYSERDA exhausting their program funding. This increased program demand allowed the Companies to transfer in budget from other lower performing programs.

NYSEG and RG&E Residential Gas

- NYSEG and RG&E's residential gas programs lagged behind the original planned budget due to increasing market saturation. Increased outreach efforts and the addition of furnace tune up rebates partially offset these effects, especially for the RG&E program.

NYSEG and RG&E Multifamily Gas

- NYSEG and RG&E selected a new vendor for their Multifamily Programs and results lagged behind the planned budget through program startup. Increased outreach efforts led to good year closing performance.

The savings targets acquired and committed for each portfolio in 2016 are provide in Tables A2 A-D.

TABLE A2-A: PRIMARY AND SECONDARY TARGETS ACQUIRED AND COMMITTED THIS YEAR NYSEG ELECTRIC

PORTFOLIO MWH (Primary)	Planned Annual Targets	Acquired This Year	Committed at Year End	Year Total
Non-Residential Sector	42,383	35,540	22,243	57,783
Residential Sector	7,866	169	0	169
Multifamily Sector	3,308	1,544	1,375	2,919
Total Portfolio	53,557	37,253	23,618	60,871

TABLE A2-B: PRIMARY AND SECONDARY TARGETS ACQUIRED AND COMMITTED THIS YEAR NYSEG GAS

PORTFOLIO Dth (Primary)	Planned Annual Targets	Acquired This Year	Committed at Year End	Year Total
Non-Residential Sector	13,040	13,548	27,977	41,525
Residential Sector	56,292	36,348	0	36,348
Multifamily Sector	15,705	5,065	5,729	10,794
Total Portfolio	85,037	54,961	33,706	88,667

TABLE A2-C: PRIMARY AND SECONDARY TARGETS ACQUIRED AND COMMITTED THIS YEAR RG&E ELECTRIC

PORTFOLIO MWH (Primary)	Planned Annual Targets	Acquired This Year	Committed at Year End	Year Total
Non-Residential Sector	22,646	16,866	19,166	36,032
Residential Sector	5,857	469	52	521
Multifamily Sector	3,273	2,893	2,159	5,052
Total Portfolio	31,776	20,228	21,377	41,605

TABLE A2-D: PRIMARY AND SECONDARY TARGETS ACQUIRED AND COMMITTED THIS YEAR RG&E GAS

PORTFOLIO Dth (Primary)	Planned Annual Targets	Acquired This Year	Committed at Year End	Year Total
Non-Residential Sector	19,054	15,478	21,578	37,056
Residential Sector	76,638	65,163	96	65,259
Multifamily Sector	31,429	21,181	25,646	46,827
Total Portfolio	127,121	101,822	47,320	149,142

A discussion is provided below for any portfolio that had a variance of +/- 25% or greater between the planned targets and the actual acquired and committed amounts for 2016.

NYSEG and RG&E Non-Residential Electric

- The NYSEG and RG&E C&I electric programs experienced a spill over of potential NYSERDA projects as a result of NYSERDA exhausting their program funding. This increased program demand allowed the Companies to transfer in targets from other lower performing programs.

NYSEG and RG&E Residential Electric

- NYSEG and RG&E's Refrigerator and Freezer Recycling Program was suspended for most of 2016 due to the unexpected receivership of the program implementation contractor late in 2015. Recycling services resumed November 14, 2016, after a contract was signed with a new implementation contractor. Since only six weeks of program activity were realized for the year, results lagged behind the planned annual targets.

RG&E Multifamily Electric

- RG&E had a large Multifamily organization participate in the program which positively impacted program results.

NYSEG and RG&E Non-Residential Gas

- The NYSEG and RG&E C&I gas programs experienced a spill over of potential NYSERDA projects as a result of NYSERDA exhausting their program funding. This increased program demand allowed the Companies to transfer in targets from other lower performing programs.

NYSEG Residential Gas

- NYSEG's residential gas program lagged behind the original planned target due to the 2016 reduction in heating load hours specified in the TRM and to increasing market saturation. Increased outreach efforts and the addition of furnace tune up rebates partially offset these effects.

NYSEG and RG&E Multifamily Gas

- NYSEG and RG&E selected a new vendor for their Multifamily Programs and NYSEG's results lagged behind the planned targets through program startup. Increased outreach efforts led to good year closing performance. RG&E had a large Multifamily organization participate in the program which positively impacted program results.

APPENDIX B

Evaluation Measurement and Verification ("EM&V")

TABLE B-1: EM&V ACTIVITY EXPENDITURES

EM&V Activity (Electric or Gas)	Planned Expenditures	Expended	Encumbered	Total Expended and Encumbered
Activity 1- EEPS ("Energy Efficiency Portfolio Standard 07M-549") Energy Savers Gas and Electric Process and Impact Evaluation.	$256,617	$212,053	$44,564	$256,617
Total EM&V Budget	**$256,617**	**$212,053**	**$44,564**	**$256,617**

TABLE B-2: WITHDRAWN OR COMPLETED EM&V ACTIVITIES

EM&V Activity (Electric or Gas)	Status	Details & Significant Dates
Activity 1 - UEEP Remaining Market Potential Study – Top 100 Customers Not Eligible for Self-Direct Program	Withdrawn	No scope of work developed, no contracts let, project dropped.

BENEFIT COST ANALYSIS ("BCA")

No changes were made to BCA inputs for program years 2017 and 2018, which continue to use avoided costs for electricity, natural gas and CO2 from the EEPS 1 and EEPS 2 Commission orders.

Program years 2019 and 2020 use the new avoided costs for electricity, natural gas and CO2 from guidance provided by DPS Staff via email on April 18, 2017. Program performance assumptions (cost and savings) were modified slightly based on actual program performance during calendar year 2016.