PSEG LONG ISLAND
We make things work for you.

Utility 2.0 Plan

2017 Annual Update

Prepared for Long Island Power Authority

Appendix 2 – Innovative Load Reduction "Super Saver" Demonstration Program Proposal

September 8, 2017

Table of Contents

Executive Summary

PSEG Long Island has obtained significant experience and knowledge in managing energy efficiency and renewable energy programs over the past few years. Using that expertise and compiling it with the strength of the data analytics and personalized customer outreach capabilities behind the Tendril Home Energy Management, PSEG Long Island has developed a demonstration program encompassing Advanced Metering Infrastructure ("AMI"), also known as smart meters, and demand reduction projects for a section of its North Bellmore Substation customers. This section of North Bellmore substation is projected to exceed its normal capacity over the next few years. As part of conventional T&D Planning effort, North Bellmore substation will require T&D construction work within the next five years.

This proposed demonstration program ("the Program") will use a unique and targeted outreach approach to the North Bellmore customers as a community aimed at reducing customer peak load through both behavioral and technical approaches. We expect to deploy multiple tools and technologies such as Customer Assessment and Engagement, AMI, Direct Load Management ("DLM") using smart thermostats, and energy audits. Our third-party evaluation contractor (Opinion Dynamics Corporation) will be leveraged to evaluate the success of the program with proven statistical methods to determine the load reduction and energy savings results of this program.

The program objectives, consistent with New York State's Reforming Energy Vision ("NY REV"), are:

- Enhance customer knowledge and provide customers with the tools that will support effective management of their total energy bills.
- Empower customers with additional energy management choices leading to enhanced market animation and improvement in system-wide efficiency.
- Defer conventional T&D-related capital expenditures by deploying non-traditional approaches in lieu of capital construction.

PSEG Long Island selected North Bellmore Substation based upon (a) projected load growth and need for new capital investment, (b) infrastructure readiness for AMI, (c) concentration of residential customers and their loads, and (d) feeder profiles which may offer highest load reduction potentials.

PSEG Long Island will incorporate the following items in this proposed program:

1. Utilizing a targeted community and customer-focused approach, the effort will challenge customers through both direct mail and electronic media to become more involved with their electric consumption and to reduce their peak consumption in an effort to postpone and/or eliminate the need for a utility capital project to be necessary in coming years. This channeled approach will enhance customer knowledge and offer tools and advice that will support effective management of the total energy bill.

- Replace conventional meters and install AMI for residential customers and small/medium commercial customers.
- Introduce modified Time of Use ("TOU") rates to give consumers better price signals and options to reduce their consumption and save on their bills.
- Offer to perform Energy Audit at no cost for select group of residential customers and small/medium commercial customers who exhibit propensity (willingness) to adopt load reduction tools and techniques.
- Offer enhanced incentives for residential customers enrolling in the Smart Savers thermostat program as well as commercial customers enrolling in the Distribution Load Relief program through the Dynamic Load Management tariff.
- Utilizing behavioral analytics and enhanced meter data, offer gamification, challenges and progress reports on both a customer and community level on achievements through periodic updates.
- Provide access to view and analyze the usage data to the customers with AMI for them to manage their energy usage and choices.

2. Monitor and analyze the overall benefit of this innovative program. This will include analysis of feeder level and customer level loads before and after the implementation of the Program for the target customers. The control group will be made up of the customers from a substation with similar growth and customer demographics to those of the treated North Bellmore substation feeders. Customers in this control group will be targeted to be nearly statistically identical to the program's target customers based upon similar consumption patterns.

PSEG Long Island anticipates the full implementation of the required equipment and making analytical capabilities available to the targeted customers within 18 months of this demonstration program approval.

Section 1 – Project Design

PSEG Long Island has obtained significant experience and knowledge in managing energy efficiency and renewable energy programs over the past few years. Using that expertise and also the learnings from Utility 2.0 programs being implemented since 2014, PSEG Long Island has developed a demand reduction program for a section of its North Bellmore Substation customers. This innovative demonstration program ("the Program") will use a targeted outreach and communication approach employing customer behavioral analytics to deploy multiple tools and technologies such as customer engagement and empowerment, demand load management ("DLM"), smart thermostats, advanced meter infrastructure ("AMI"), potentially enhanced rebates, and energy audits that will deliver the load reduction along with enhanced customer empowerment.

1.1. Project Objectives

PSEG Long Island project objectives for the Program are:

- Demonstrate a PSEG Long Island's innovative solution which supports NY REV Objectives and PSEG Long Island's Utility 2.0 Program.
- Evaluate the ability of this unique approach to relieve customer loads and energy consumption.
- Investigate the benefits of AMI and Home Energy Management tools in increasing savings over base level efforts.
- Enhance customer participation in energy programs with increased customer information and outreach.
- Leverage and potentially enhance energy efficiency offerings.
- Utilize the lessons learned from the Program to initiate similar programs in other constrained areas.

1.2. Description of the Program Area and Target Customers

1.2.1. North Bellmore Substation Projected Load Growth

North Bellmore Substation serves customer loads in Nassau County. The substation area straddles along Southern State Parkway West of Wantagh Parkway and East of Nassau Road. It supplies a total of 33,500 customers.

Below is a map of the area where the Program will be offered.

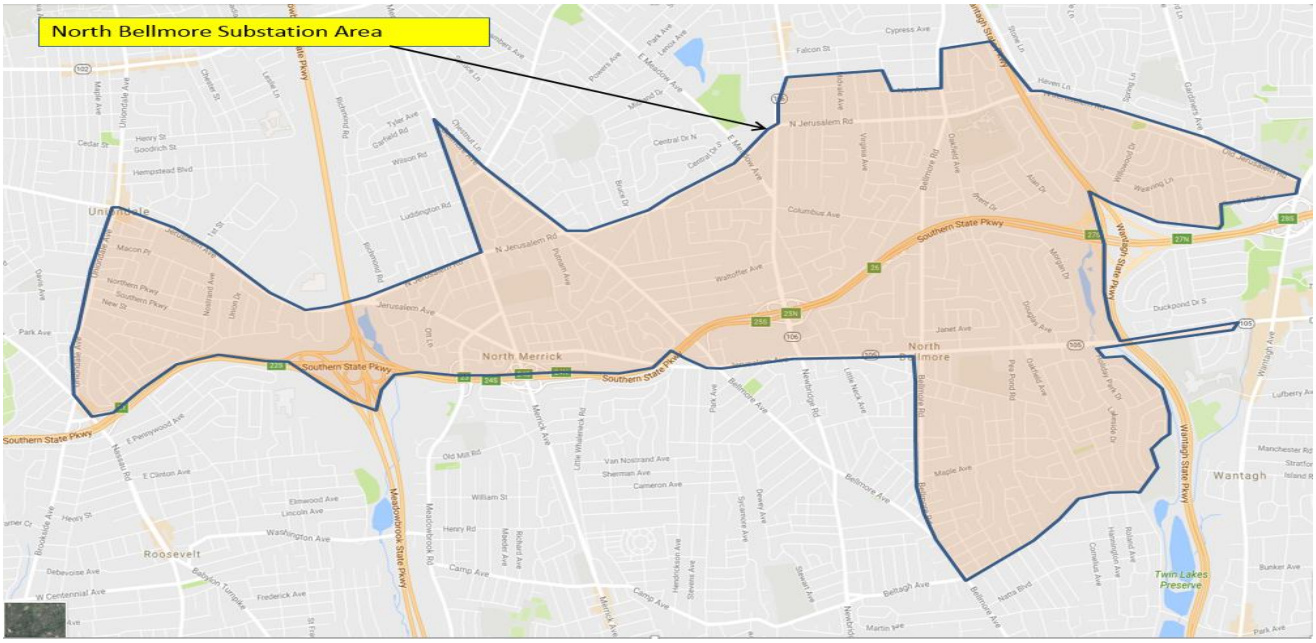

Figure 1. North Bellmore Substation electric service area map

PSEG Long Island has selected four specific distribution circuits (also known as feeders), originating from North Bellmore Substation, for the Program. These circuits are: Feeder 5R-261, Feeder 5R-262, Feeder 5R-263 and Feeder 5R-264. As the table below illustrates, PSEG Long Island anticipates that these circuits will reach their targeted normal ratings limits in the next few years.

North Bellmore Substation Feeder Load Growths

Feeder	Peak Amps (Year 2016)	Percent of Normal Rating (Year 2016)	Projected Annual Load Growth (2017-2022) *
5RK-261	495	95.70%	0.82%
5RK-262	481	93.00%	0.82%
5RK-263	497	96.10%	0.82%
5RK-264	470	90.90%	0.82%

*Over the next few years, North Bellmore infrastructure will require additional capacity due to the projected load growth.

1.2.2. Customer Demographics

The selected four (4) circuits have a total of 10,495 customers. The breakdown of the customers, by feeder numbers and type of customers, is provided below.

All Customers

All Customers			
Feeder No	Total Customers	Total C&I	Total Residential
Feeder 5R-261	3,311	144	3,167
Feeder 5R-262	2,370	59	2,311
Feeder 5R-263	2,234	149	2,085
Feeder 5R-264	2,580	109	2,471
Total	10,495	461	10,034

Residential

Residential Customers				
Feeder No	Total Residential	Resi w/HVAC	Resi w/RAC	Resi - Other
Feeder 5R-261	3,167	1,425	1,108	633
Feeder 5R-262	2,311	1,040	809	462
Feeder 5R-263	2,085	938	730	417
Feeder 5R-264	2,471	1,112	865	494
Total	10,034	4,515	3,512	2,007

Commercial

Commercial and Industrial (C&I)			
Feeder No	Total C&I	Large C&I ≥ 15kW	Small/Medium C&I
Feeder 5R-261	144	45	99
Feeder 5R-262	59	23	36
Feeder 5R-263	149	43	106
Feeder 5R-264	109	28	81
Total	461	139	322

1.2.3. Residential Annual Electric Usage

The targeted 10,034 customers in this program use 96,778 MWh annually, based on the last 12-month data available for this analysis.

Based on the energy consumption data and also applying PSEG Long Island service area matrices, it is projected that an estimated 4,200 customers have HVAC (central air-conditioners) and an estimated 4,000 customers have one or more room air conditioners.

All Feeders

Residential Customers					
All 4 Feeders	< 7,500 kWh	7500 < 10,000 kWh	10,000 < 12,500 kWh	> 12,500 kWh	Total
No. of Customers	3,635	2,157	1,794	2,448	10,034
Total Annual MWh	16,457 MWh	18,867 MWh	20,092 MWh	41,362 MWh	96,778 MWh

Individual Feeders

Residential Customers					
	< 7,500 kWh	7500 < 10,000 kWh	10,000 < 12,500 kWh	> 12,500 kWh	Total
Feeder 5R-261 No. of Customers	1,053	697	566	851	3,167
Total Annual MWh	4,867 MWh	6,087 MWh	6,341 MWh	14,211 MWh	31,506 MWh
Feeder 5R-262 No. of Customers	751	552	473	535	2,311
Total Annual MWh	3,593 MWh	4,818 MWh	5,305 MWh	8,879 MWh	22,595 MWh
Feeder 5R-263 No. of Customers	797	440	332	516	2,085
Total Annual MWh	3,605 MWh	3,858 MWh	3,730 MWh	9,045 MWh	20,239 MWh
Feeder 5R-264 No. of Customers	1034	468	423	546	2,471
Total Annual MWh	4,391 MWh	4,105 MWh	4,716 MWh	9,226 MWh	22,438 MWh

1.2.4. Large Commercial Annual Peak Demand

All Feeders

Larger Commercial Customers				
All 4 Feeders	15-30 kW	30-100 kW	>100 kW	Total
No. of Customers	62	55	22	139
Total Annual MW	1.2 MW	2.5 MW	5.5 MW	9.2 MW

This Program will not offer any specific program for Large Commercial customers, other than the enhanced DLM.

1.2.5. Small and Medium Commercial Customers Annual Peak Demand

All Feeders

Small/Medium Commercial Customers			
All 4 Feeders	<5 kW	5-15 kW	Total
No. of Customers	218	104	322
Total Annual MW	0.0 MW	1.0 MW	1.0 MW

PSEG Long Island will target 322 customers, with measured kW loads of less than 15 kW for this project

1.3. Scope of Work Activities

PSEG Long Island will perform the following key activities for implementing the Program. Details of each individual item are provided in this Section as well.

No.	Key Activities	Number of Target Customers**	Number of Equipment**
1	Customer outreach engagement and empowerment tools and customer analytics	10,356	NA
2	Smart Meters procurement and installation: Residential and C&I Customers	10,356	10,000
3	Energy Audits: targeted customers	1,000	1,000 sets
4	Smart Thermostat: with incremental incentives	1,000	1000
5	Smart Plug equipment	700	1500
6	Orchestrated Energy	1,000	1,000
7	Program management and reporting		

** The number of customers and equipment shown are estimates only and will be firmed up as part of the project implementation

Program Opt-In/Opt-Out Summary

This Program is offered to the customer segment served by the North Bellmore substation. To effectively execute the planned program and also deliver the optimum benefits, PSEG Long Island will offer selected components of the program on an opt-in basis. The following table provides an overview of the Program plan offer.

Project Component Overview

	Opt In	Opt Out
Infrastructure		
Smart Meters (AMI)		X
Communications		
Customer Outreach and Engagement		X
Load Reductions and Energy Reduction		
Energy Audits	X	
DLM/Smart Thermostat	X	
Smart Plugs	X	
Orchestrated Energy	X	

1.4. Key components of the program:

1.4.1. Customer Outreach and Engagement

PSEG Long Island will engage customers connected to its North Bellmore feeders (Feeder 5R-261, Feeder 5R-262, Feeder 5R-263 and Feeder 5R-264) to communicate information about the Program and solicit input. The strategies to be used are as follows.

The primary outreach medium for the effort will be through a customized outreach mailing and email campaign building off the Home Energy Management program software offered by the existing program contractor (Tendril).

In addition, to effectively engage the targeted customers, PSEG Long Island will work to engage community leaders through coordination with the Town leadership, small group meetings with targeted organizations, and if appropriate, open community-wide meetings.

PSEG Long Island anticipates meeting with the local leadership on a periodic basis to provide key Program updates and receive feedback on Program progress. If meetings are unnecessary or impractical, PSEG Long Island may provide written progress updates and solicit feedback where appropriate.

PSEG Long Island will reach out to key community organizations to inform them of goals and plans for the program and gain an understanding their concerns and expectations for the Program. PSEG Long Island's goal is to create ongoing outreach and communication opportunities with groups specifically focused on the North Bellmore community. These groups can include faith-based communities, neighborhood associations, schools, sports and recreation groups, and civic organizations. PSEG Long Island believes that engaging these community-focused groups throughout the Program will enhance the community and geographically focused approach of this unique effort.

1.4.2. Ongoing Communications

While the primary direct mail communication to the customer base will be through the Tendril Home Energy Management reports, other direct outreach to the customer base will also occur as different aspects of the program get underway. For instance, prior to the installation of AMI, PSEG Long Island will deliver a set of communications to introduce the targeted North Bellmore customers to the new interval meter benefits and key project elements available immediately and in the future. These communications will be sent in the form of reports delivered by direct mail, bill stuffers, and email. PSEG Long Island will send a welcome packet prior to the installation of AMI, focused on education. Following the installation of AMI, customers will receive educational materials focused on the various Program elements.

In all communications to customers, PSEG Long Island will provide a dedicated telephone number and a trained team of representatives who will be prepared to answer questions on project specifics.

Web and Social Media

PSEG Long Island will create a site in the Company's current PSEGLI.com website to include information on the Program. The Program website will include the following information:

- AMI details including technology specifics and rollout schedule
- Information about DLM and smart thermostat opportunities
- Information about Smart Plug
- Information about Energy Audits
- Home energy management tools
- Sign-up options for smart thermostats, smart-plug and energy audits and related services immediately available and services that will be available once AMI is installed (Home Energy Management, or "HEM")
- Bill inserts will be incorporated as new Program elements are rolled out

1.4.3. Customer Analytics

With targeted deployment of customer analytics and customer marketing, engagement and behavioral techniques, PSEG Long Island expects to be able to achieve significant reductions in peak demand.

Phase 1 – Analytics Assessment – Begin in Q1 2018

PSEG Long Island and its vendor, Tendril, will conduct a deep-dive analysis of the targeted customers on North Bellmore Substation, which will be done before AMI install. This analysis will be used for program planning, as well as to leverage analytics to address this load pocket. Building on feeder analysis, this assessment will have three components:

- **Customer Characteristics**: Residential customers broken down by housing type, income, consumer characteristics, etc.
- **Energy Usage Characteristics:** Estimate peak demand and total usage by household; heat maps of largest kW and kWh customers on the circuits
- **Propensity Analysis:** Rank all targeted customers on the substation on their propensity to be interested in rooftop solar, smart thermostats and load management, including heat maps for high-propensity customers

Phase 2 – Integrated Program Plan – Begin in Q1 2018

PSEG Long Island will deploy solutions from its HEM Program (a separate program initiated in conjunction with its vendor, Tendril) along with additional customer communications to this North Bellmore customer group to supplement HEM tools to drive engagement, program participation, energy efficiency ("EE") savings, and load reduction for the North Bellmore substation.

Key success factors to achieve reduced load in this area include:

- Joint community engagement
- Increased email penetration for residential households

- Heavy adoption of mobile application
- Incentives to substantially increase enrollment into Home Savers smart thermostat direct load control program and participation in Orchestrated Energy
- Messaging:
    - Initial messaging: Engage and challenge the community with a shared program name (for example, North Bellmore Challenge) and a shared goal to eliminate the need for new infrastructure with cleaner, cheaper, more customer-friendly solutions. Messaging would be deployed via the free form text area of Home Energy Reports and specific push messaging via email and mobile (as well as any other advertising PSEG Long Island wishes to use). Community messaging can be more powerful in homogeneous areas such as North Bellmore with a fairly consistent home size and average income.
    - Outbound communications will include the community's collective progress toward this shared goal.
    - Personalized tools such as the web portal and assessments will encourage goal setting and additional EE savings, in the context it will help achieve the community goal.

North Bellmore Envisioned Customer Journey

HERs –Targeted Residential customers will be sent paper and email Home Energy Report ("HER"). This separate treatment group for North Bellmore would be:

- Deployed with custom messaging around the North Bellmore Community's shared peak reduction goal and tips oriented toward peak reduction
- Launched with HERs this fall with the larger HEM HER schedule and messaging, or begin in 2018 only for the North Bellmore group.

Email or additional paper communications

- In conjunction with the vendor, we will determine the frequency of communications, and determine the appropriate content approach per customer segment.
- Send a mailer on the off-HER months, as well promote Orchestrated Energy, MyHome, etc., to ensure all recipients receive the information.
- Email correspondence would likely include "peak day alerts" with tips and information for customers to reduce peak. This could also include High Usage Alerts and email challenges sent out with the larger HEM program.
    - **MyHome - Mobile push** – Tendril's mobile app can be used to deliver push notifications to North Bellmore Community participants around peak day alerts, as well as other savings tips and offers. A small financial incentive to download and use the app will drive penetration. We can promote the app on the HERs.
    - Tendril will work with PSEG Long Island to develop a content strategy for push notifications and newsfeed messages. Content can include alerts, EE tips, promotions, surveys, and more.

    - **Portal** - The North Bellmore customers will leverage the same EE and Engagement Portal being rolled out as part of the larger HEM project.
    - Bellmore customers on AMI data would be able to see more granular usage in the portal and we could promote this additional functionality within the communications.
    - **Assessments** - The North Bellmore customers will leverage the same online assessment solution being rolled out as part of the larger HEM project, and we would promote this solution within the Bellmore communications.
    - **EFI Experience** - The North Bellmore customers will leverage the same EFI Marketplace solution being rolled out as part of the larger HEM project.
        - We can work through the following solutions with EFI that would be specific to North Bellmore to better gauge timing and effort
- Application of instant rebates while in the Marketplace portal
- Purchase of product services, e.g., warranties, additional coverage, etc.

Orchestrated Energy ("OE") – Tendril's patented demand management platform has reduced peak load by roughly 2 kW per household in pilot testing. Using historical estimates on the uptake of direct load control offerings, we estimate that approximately 1,000 customers would enroll in this offering. Dependent upon timing of approval, we expect that roughly 50% would enroll by the summer of 2018.

We will consider enhanced incentives for high-potential OE customers. The extra incentives can still be cost-effective if we target high peak households with strong propensity. Creative incentive offers could be used to enhance participation.

Phase 3 – Evaluation, Reporting and Program Improvement

Tendril will track and report on the following program KPIs on a month-by-month basis: 1) energy efficiency savings (kWh), 2) peak reduction (kW), and 3) customer digital engagement. Tendril will also provide an end-of-summer 2018 assessment, which will include recommendations for program improvements for future summers.

To measure and verify energy efficiency and peak demand impacts while treating all 10,034 North Bellmore households, Tendril will create a matched comparison group that is statistically equivalent to the North Bellmore population in terms of pre-treatment monthly energy usage and key household characteristics. The matched comparison group will be drawn from the broader HEM control population, and will serve as the counterfactual baseline for what the North Bellmore population would have done absent the program. To measure both energy efficiency and peak demand impacts, the comparison group will be selected from those HEM control households with installed AMI meters. Industry-standard data cleaning and statistical modeling methods will be applied to measure and verify program impacts.

Customer Research

PSEG Long Island will deploy customer surveys to support analysis and tracking of progress on hypothesis test questions and to support the Project deployment. Surveys will gather information on customer attitudes and experiences on various Program elements. The information gathered will identify outreach and engagement approaches that may need to be modified to further enhance customer participation.

1.4.4. Advanced Metering Infrastructure

It is proposed that the following set of customers' electric meters will be replaced with PSEG Long Island's smart meters. These smart meters (or AMI) are approved by LIPA for installations in PSEG Long Island's service area.

- 10,034 Residential customers are connected to the four identified feeders (Feeder 5R-261, Feeder 5R-262, Feeder 5R-263 and Feeder 5R-264) originating from PSEG Long Island's North Bellmore Substation
- 322 Small and Medium C&I customers are connected to the four identified feeders (Feeder 5R-261, Feeder 5R-262, Feeder 5R-263 and Feeder 5R-264) originating from PSEG Long Island's North Bellmore Substation

AMI procurement and deployment is anticipated to commence in the 1st quarter of 2018 and it will be completed by the 3rd Quarter of 2018. Customers who sign up for the other components of this program – namely Energy Audits, Smart Thermostat and Smart Plugs – will be prioritized for the AMI installations and Home Energy Management (HEM) tools. This will incentivize those to sign-up for all aspects of the program and achieve the highest possible benefits of load reductions and energy savings.

Customer letters introducing the Program and the AMI installation process will be distributed at least one month prior to the commencement of the meter installations.

1.4.5. PSEG Long Island Home Energy Assessments

PSEG Long Island will offer Specialized Home Energy Assessments (HEA) to targeted customers in the North Bellmore area with single family homes. These energy audits will be administered by PSEG Long Island's assigned partner, Lockheed Martin. It involves a qualified contractor to conduct an energy audit in order to make the homeowner aware of potential energy saving opportunities. It focuses on energy efficiency measures, and weatherization recommendations to encourage customers in taking additional steps for greater energy savings. This comprehensive HEA also provides a report with recommendations for installation of additional energy efficient measures, incentives, and access to low-interest financing through a partnership with the Green Jobs Green NY (GJGNY) Program.

The following services will be offered:

- Based on Tendril Customer Analysis, Tendril would identify customers for energy audits and provide list of customers to PSEG Long Island and Lockheed Martin. This

selection will be based upon proven customer assessment tools (identified in Section 2.1).

- Customers who sign up for the energy audit will be provided an overview of PSEG Long Island's Super Saver Program and informational program material. This overview would include: AMI, DLM program with additional incentives for smart thermostat and benefits of energy audit in reducing the more energy usage.
- During a typical Home Energy Assessment the contractor will perform the following:
    - **i.** Perform a Home Energy Assessment (HEA), utilizing approved BPI testing methods and standards
    - **ii.** Health and safety assessment based on BPI standards;
    - **iii.** Installation of up to ten (10) LED light bulbs in high usage areas; (bulbs purchased and provided by Lockheed Martin)
    - **iv.** Provide the homeowner with one (1) smart strip (smart strips are purchased and provided by Lockheed Martin)
    - **v.** Provide or install up to three (3) smart plugs (PSEG Long Island to purchase and provide material) for customers with room A/C
    - **vi.** Discuss other energy savings tips the customer can use to further reduce consumption through either behavioral or equipment changes.
    - **vii.** Customers meeting income qualification guidelines will be alerted to any appropriate supplemental offerings they may qualify for.

The Contractor will develop a follow-on work scope for additional energy efficiency measures stemming from the HEA which is to be presented to the homeowner. The work scope will include measure costs and estimated savings, as calculated by Home Performance with Energy Star ("HPwES") Program software, and in accordance with the HPwES Eligible Measures list. All audits and follow up work is performed by program participating contractors who are accredited by the Building Performance Institute (BPI). All participants will receive a thank you kit delivered to their home containing four additional LED bulbs and a letter reminding them to follow up on the recommended energy saving opportunities.

Scheduling

HEAs will be scheduled and tracked through the existing Lockheed Martin call center in Malta, NY, as is currently done in the REAP and HPDI programs.

Data Collection

All data collection, processing, reporting and measure data will be recorded on an Excel worksheet specifically developed for the Super Saver program and available to the utility through Lockheed Martin's *LM Captures* database.

1.4.6. Smart Thermostats with Incremental Incentives

PSEG Long Island's Smart Savers Direct Load Control ("DLC") program pays customers to install devices that allow PSEG Long Island to turn off or limit the use of selected end uses, such as air conditioners and pool pumps. The customers would "bring their own thermostat," meaning that the customer would find a Control Device Provider that would provide and install the control device, which is often but not always connected to the home's thermostat. PSEG Long Island's role is limited to identifying Control Device Providers that offer equipment that can communicate with its monition system, choosing when and where to control customer loads, and make payments to the customer for the ability to control their load. In practice, the Control Device Providers will actively promote the program and sign up customers.

LIPA has approved PSEG Long Island to pay up-front incentives of $85 and recurring payment of $25 per year the customers signing in to this Program.

To provide incentives for North Bellmore's target customers to sign up for this smart thermostat device, PSEG Long Island would offer an enhanced up-front incentive (instead of the $85 offered in the rest of the service area). The annual recurring payments will be unchanged and will remain at $25 consistent with the existing Smart Saver program offering.

1.4.7. Smart Plugs

PSEG Long Island intends to also pilot a new offering in this program targeting direct control of room air conditioners. Under this planned pilot, we would look to install a smart device, called Smart Plug, at no cost to targeted residential customers with room air conditioners ("AC").

Our analysis of the targeted customers in the North Bellmore estimates that an estimated 3,500 (see Section 1.2.2. Customer Demographics) customers have room AC. More than half of these customers have two or more room ACs. At a 20% adoption rate, PSEG Long Island projects that 700 residential customers will participate in this program offering. We anticipate that 1,500 Smart Plugs will be deployed in this program. At an estimated load savings of 0.2 kW per room AC (based upon empirical data from the Smart Plug vendor), we target peak load reduction of 300 kW as part of this pilot demonstration project. It is also estimated that energy savings of 400 kWh per device can be expected by installing this device.

Smart Plug will be distributed and installed as part of the energy audit (Section 1.3.2). It is likely that a few hundred additional customers with room AC, but who did not sign up for energy audits, will require additional means of customer outreach. This will include bill inserts and email campaigns to communicate PSEG Long Island's Smart Plug program and its benefits.

1.4.9. Time of Use Rates

Following the completion of smart meters at customer locations, PSEG Long Island intends to introduce customer to a newly revised TOU rate. This rate will be a pilot rate only offered in the North Bellmore and will be revised based upon experience learned in the roll-out of the previous pilot TOU rate offered in AMI demonstrations along the Route 110 corridor.

We believe with combination of AMI metered data and the data analytics and segmentation capabilities, and resultant tips and tools available through Tendril data software, customers will be in a robust position to engage the new rate offering and modify their usage patterns to leverage savings.

Distribution Load Relief Program

While the large majority of customers on the four targeted feeders are residential customers, we also plan on piloting an enhanced rate for commercial customers on such feeders through the Distribution Load Relief Program offered under the Dynamic Load Relief Tariff. This effort will follow the tariff process and will be targeted for relief during the Summer 2018 peak period.

1.4.10. Evaluation of Results

PSEG Long Island will utilize the existing third-party evaluation contractor (Opinion Dynamics) to assess the impacts and success of this proposed program. The evaluation will estimate a suite of impacts – including energy savings, demand reduction, load shift, and calculating any increases in participation based on enhanced Super Saver outreach for Super Saver initiatives.

Evaluation Approach

Each initiative seeks to achieve distinct impacts (EE, DR, load shift), and requires custom evaluation approaches. The following table provides a summary of these approaches by each proposed initiative.

Impact Estimation Approaches by Super Saver Initiative

Super Saver Initiative	Impact Estimates	Estimation Approach
HEM Reports	EE (kWh) DR (kW)	• Establish randomized control trial (RCT) prior to delivering reports or deploying Behavioral Demand Response (BDR) events • Difference-in-Difference model using AMI data
Home Energy Audits	EE (KWh)	• Regression analysis using matched comparison group (propensity score matching) using monthly consumption data
Smart Thermostats	EE (kWh), DR (kW)	• EE: Regression analysis using matched comparison group using monthly consumption data • DR: Difference-in-Difference model using randomized events using AMI data

Research Deliverables

Based on the proposed research design, the evaluation contractor anticipates delivering two reports:

- *2019*: Report with estimated impacts associated with HEM reports, Home Energy Audits and smart thermostats
- *2020*: Report with estimated impacts and uptake rates associated with all Super Saver initiatives, including TOU offerings

1.5. Proposed Program Implementation Schedule

As the proposed Plan is an evolving document, refinements to the scope of work for Program partners and internal PSEG Long Island teams are expected as the Program progresses. Modifications to this proposed implementation plan will be captured in quarterly reports and formal updates will be issued to the responsible entities.

High-Level Schedule

No.	Program Activities	Number of Customers or Equipment	Duration (Months)	2018												2019		
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
1	Obtain necessary approvals		4th Q 2017															
2	Community Outreach and Key Stakeholder engagements	Multiple meetings; see specific activities																
3	Customer Outreach in advance of customer signups, Home Energy Audits, Orchestrated Energy rollouts		8															
4	Procurement of Smart Meters	10,000	4															
5	Procurement of Smart plugs - for installing during home energy assessments	2,500	4															
6	Procurement of Smart strips and LEDs - for installing during home energy assessments	1,500 sets	4															

No.	Program Activities	Number of Customers or Equipment	Duration (Months)	2018												2019		
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
7	Perform Home Energy Audits and Send Reports	1,500	9															
8	Customer sign-up for DLM Participation	1,000	9															
9	Install Smart Meters	10,000	5															
10	Authenticate smart thermostat; process the rebates	-	9															
11	Implement Orchestrated Energy Mgmt. and initiate reporting	1,000	6															
12	Community and Customer Outreach - Ongoing reinforcements		7															
13	Develop and finalize M&V process		4															
14	Project Reporting		Quarterly															

1.6. Project Budget

Super Saver Program Budgets ($ in thousands)

	2018	2019	2020	2021	2022	Total
Capital	$2,500**					$2,500**
O&M Expenses	$1,000	$750	$500	$250		$2,500
Fuel + Purchase Power	$42	$85	$85	$85	$85	$382

**Includes $2.5M for Smart Meters. The overall cost for full scale deployment of smart meters will decline by $2.5M in later years if funding is approved here.

Supporting documentation for the above budgets is available in Appendix B – Program Costs

Section 2 – Project Structure and Governance

2.1. Project Reporting

Quarterly progress reports will be provided to Staff. These reports will include an overview of project progress against timeline/plan and results as they become available. The quarterly report template is provided below and will continue to be refined as the Project progresses.

Quarterly Reporting Template
Milestones Last Project Milestone Next Project Milestone
Tasks/Timeline Completed Project tasks since last report Changes or impacts to schedule since last report Lessons learned Work stream coordination
Risks Identified risks Risk mitigation plan
Finance Total incremental spend to date and Target incremental spend Incremental spend variance
Additional Comments

Appendix A – REV Alignment

NY REV Objective	Demonstration Alignment
Enhance customer knowledge and tools that will support effective management of the total energy bill	The Project leverages the capabilities of interval metering technologies to generate near real-time information on customers' electric usage.
	This information will be shared via an interactive, customer-friendly portal as well as direct communications and alerts that educate and engage customers with actionable information that they can use to reduce their electric energy use.
Market animation; leverage customer contributions	The Project animates the market by leveraging partnerships with DER providers in efforts to achieve wider deployment of DER.
	Additional energy industry-related services are animated by the Project, including technology and platform developers and providers delivering actionable information.
System wide efficiency	Through the proposed work activities, the Project tests the potential for mass-market participation in electric distribution system management opportunities.
	Participants in the Project will receive AMI meters and will have an option to get smart plug, incremental incentives for smart thermostat and free energy audit
System reliability and resiliency	The Project provides opportunities to manage the electric distribution system with aggregated mass-market demand-response
Reduction of carbon emissions	The Project supports Clean Energy Standard goals of carbon emission reductions through reduced energy consumption.
Partnerships with third- party service providers	The Project has multiple, market-animating partnerships with DER, technology, and platform providers. It is designed to promote DER adoption.

Appendix B – Program Costs Estimate

No.	Key Activities	Number of Targeted Customers/Equipment	Total Budgets
1	Smart Meters Procure and Install - Residential Customers	10,300	$2,500,000
2	Home Energy Assessments - including customer education	1,500	$900,000
3	Smart Thermostat - with incremental incentives	1,000	$50,000
4	Smart Plug equipment	1,000	$300,000
5	Orchestrated Energy – DLM Program	1,000	$400,000
6	Customer engagement and stakeholder enrollment	All	$400,000
7	Program Management and Reporting		$250,000
8	M&V		$200,000
	TOTAL Program Costs		$5,000,000