(Excerpt From October 6, 2014 Utility 2.0 Plan)

Section 3 – Updated Utility 2.0 Programs

3.1 Direct Load Control Program Modernization and Expansion

PSEG Long Island's existing direct load control ("DLC") program uses a one-way pager signal to remotely cycle (i.e., switch off) air conditioning units and pool pumps. The program delivered 35 MW in 2013 and 29 MW in 2014, both on peak demand days when the system is most stressed to maintain reliability and energy prices are at their highest. The equipment used in the DLC program has exceeded its useful life and is expected to experience a higher failure rate. Additionally, the communication network which supports the program is slowly eroding as the pager technology gives way to broadband and cellular technologies. Equipment will need to be replaced in the near term to ensure that the load reductions are achieved.

PSEG Long Island proposes to replace the existing capacity and expand the direct load control program capability with modern technology to provide up to 125 MW of peak demand reduction to the Authority (about 2% of peak demand), including replacing the existing 35 MW demonstrated in 2013 and adding an incremental 90 MW to the program capability. Existing participants would have their equipment replaced and would also be marketed any additional technology control that may be offered.

In an effort to avail ourselves and our customers of the best solution that the marketplace has to offer, our approach would intend to issue a broad RFP for direct control solutions. In doing this, our approach would be to look for a primary contractor (or contractors) who would serve as a turnkey provider of direct load control capacity. We would seek a contractor to provide at least ten years of control capability. The technologies offered would be at the discretion of the proposers and aggregation of multiple technologies would be acceptable provided the contractor provides one single interface for PSEG Long Island to operate through. Technologies proposed would need to address level of commercialization, proven demonstration, capability to provide accurate reporting of actual load curtailed, customer interfaces, and basis for how actual impacts would be measured and reported. Similarly, the use of incentives, and the level of incentives (if any) would be proposed by the contractor(s) as they believed necessary in order to provide the associated level of curtailment.

Our targeted level of penetration includes 20% of residential customers with central air conditioning. This is on the higher side of traditional industry averages, so we believe that having the RFP require bids for increasing levels of actual controllable load would give us the transparency and flexibility to implement the program that best supports the customers' interest. Specifically, our current plan would be to request prices from each RFP respondent for 75 MW, 100 MW, 125 MW and 150 MW of directly controllable load. This should provide us a gauge as to the marketplace's estimation of levels of controllable load, and should provide us both a minimum position if our goal of 125 MW is deemed as either unachievable or prohibitively expensive by the marketplace and the opportunity to achieve a maximum higher than our goal if the marketplace can deliver it cost effectively. We would use a base target of annual program activation of approximately 27 to 45 hours (i.e., 6 to 11 days, for an average of 4 hours a day), however we would also ask respondents to provide premiums necessary for an additional 45 hours of annual capability.

Lastly, we would want respondents to the RFP to elaborate on tangential customer efficiency and load management benefits that may be supported by current state-of-the art direct load control technology. To the extent that there are other synergistic effects (e.g., individualized customer consumption reporting and peer ranking, equipment diagnostic reporting, etc.) which can be achieved through the technology we would look to leverage those to the maximum extent possible.

In addition to enrolling customers across the service area, PSEG Long Island would seek to target DLC where incremental load relief would defer costly distribution projects. This would represent additional benefits of the program. Conceptually, we could deploy DLC where load reduction, peak load characteristics, number of times DLC measures will be needed annually, and likely reliability impact and duration of the deferment provide sufficient capability. This concept would be a step to directly integrate distributed resources into our system planning responsibilities.

Subsequent to the initial filing, PSEG Long Island has updated this program with a higher savings goal. We expect that the higher participation rates needed to reach these goals will require a greater cost.

Direct Load Control Program Modernization & Expansion Illustrative Summary				
MW Target	Technology	Metrics	Customers	Participation Rate**
88MW	Residential CAC	1.1kW/customer	80,000	20%
12MW	Small Business CAC	1.3kW/customer	9,000	9%
25MW	Pool Pumps	0.65kW/pool	40,000	25%
Total Savings: 125 MW / 3,386 MWh		Total Cost: $106 M		PAC B/C Ratio: 1.9

*These figures are illustrative, preliminary, and rounded. More detailed information on costs, benefits, and economic screening are provided in Appendix A.

**This rate is the targeted participation rate of the customers who are eligible rather than total residential customers. For example, residential customer CAC would target the 400,000 customers with CAC, and for the 88 MW load reduction we would need approximately 20% of these customers to participate.

3.2 Residential Home Energy Management

This proposed behavioral energy efficiency program would provide energy use benchmarking data to customers via six mailings per year. PSEG Long Island proposes to issue an RFP seeking a turn-key provider for this program. The provider will send reports to enrolled customers to enhance the visibility of their consumption data and improve management of their energy use. The mailing may include historic use of the customer and benchmarks based on home square footage, types of appliances and equipment in the home, and other attributes. It would also include suggestions for managing energy end use and marketing for applicable programs.

We propose revising this program to double enrollment to 500,000 residential customers by 2018. The expansion is recommended to further align this program with goals of the REV proceeding, including enabling broad market participation and providing customers with information to build awareness, interest, and confidence in DER.

Residential Home Energy Management Illustrative Summary			
Year	**Cumulative Number of Customers****	**Demand Savings**	**Energy Savings**
2015	50,000*** (2 reports each)	0	0
2016	300,000 (6 reports each)	12 MW	30,000 MWh
2017	500,000 (6 reports each)	20 MW	50,000 MWh
2018	500,000 (6 reports each)	20 MW	50,000 MWh
Total Savings: 20MW / 50,000 MWh		Total Cost: $16M	PAC B/C Ratio: 1.0

*These figures are illustrative, preliminary, and rounded. More detailed information on costs, benefits, and economic screening are provided in Appendix A.

3.3 Advanced Metering Initiative

In our July 1 filing, PSEG Long Island recommended that the Authority expand its AMI investments in a phased approach to get to approximately 25,000 smart meters installed. In addition, we recommended expanding the AMI communication network to cover the entire service area. This will provide ready infrastructure to expand new smart meter installations on a selective basis based upon pre-determined criteria. The AMI initiative adds customer capabilities to manage load and enables several utility capabilities including improved meter reading, improved billing and settlement processes, accurate near real-time information for enhanced distribution system planning, and enhanced customer load information for benefit of developing further offerings, such as demand response.

Originally our concept was to provide meters for industrial and large commercial customers in Rate Class 285, as well some other customers. This update expands the meter deployment to include commercial customers in Rate Class 281. We propose to install smart meters for the 25,000 largest Rate 281 customers with peak demands below 145 kW. The expansion aligns with goals of the REV proceeding of making energy usage data available to customers to assist them in managing energy use.

Summary of AMI Deployment	
AMI Deployment	**Benefits**
6,000 Rate 285 customers (Large C&I, > 145 kW)	• Improve load management tools and capabilities at customer level, with better and faster data • Improve utility program offerings such as demand response programs with enhanced understanding of customer load and usage pattern
25,000 Rate 281 customers (C&I with peak demand, < 145kW)	
6,000 accounts with chronic long-term estimates	• Access difficult to reach customer meter locations. Improvement in the "read rate" performance by an estimate average of 0.75% - 1%. • Improve customer satisfaction with accurate data (scheduled monthly reads)
7,500 net-metered customers	• Offer enhanced functionalities for improved monitoring and controls • Improve distribution network planning and power quality with accurate and near-real time information
3,950 retail choice customers	• Provide accurate load settlements for retail-choice customers • Improve accounting of energy sales and energy consumption at the customer levels
155 ReCharge NY customers	• Provide accurate load settlements for NYPA program customers • Improve accounting of energy sales and energy consumption at the customer levels

Advanced Metering Initiative Illustrative Summary		
Total Savings:	Total Cost:	PAC B/C Ratio:
20 MW / 60,000 MWh	$25M	1.4

*These figures are illustrative, preliminary, and rounded. More detailed information on costs, benefits, and economic screening are provided in Appendix A.

3.4 Far Rockaway – Infrastructure Deferment

The update expands on the original proposal for the Rockaways. The area of focus has been expanded to address an emerging resource need in the Far Rockaway load pocket as a result of revised reliability standards from the North American Electric Reliability Corporation ("NERC"). The total load in the Southwest Nassau area is forecasted to be approximately 315 MW by year 2019 and is supplied by local generation at Far Rockaway along with three 138kV transmission circuits emanating from Barrett and East Garden City. PSEG Long Island forecasts a need for transmission reinforcement between East Garden City and Valley Stream in 2019, or the addition of approximately 150 MW of generation in the area. However, proposals received in response to the New Generation, Energy Storage, and Demand Response Resources ("GSDR") RFP may satisfy some or all of this need.

Should the GSDR RFP not result in deferral of the projected transmission reinforcement, PSEG Long Island proposes to issue an RFP which would look for the marketplace to deliver 25 MW of guaranteed capacity relief within the Far Rockaway load pocket. Our intent is to commence a process similar to Consolidated Edison Company of New York's Brooklyn/Queens Demand Management Program. Given the magnitude of expected reductions and the basis of the need for the reinforcement, effective load relief will not eliminate the need for the transmission reinforcement but would defer it beyond 2019.

The RFP would seek to encourage innovative solutions which we would hope included partnering and the leveraging of other efforts and resource deployments occurring in the area. The RFP would not limit potential solutions beyond certain base requirements of not being duplicative of the proposed universal access program (see below), being on the demand side of the grid, be commercially proven, and be measurable and verifiable. Our RFP process would be integrated with our other proposals to ensure that awards are coordinated and no efforts are duplicative.

It is not possible to set forth a representative result of what technologies and savings may result from the award of the proposed RFP (and potentially as segment of the Direct Load Control RFP) at this juncture. Our approach in evaluating the responses to the RFP would be to use a PAC testing approach whereby the "base" case would be the installation of the transmission reinforcement in 2019.

Far Rockaway – Infrastructure Deferment **Illustrative Summary**		
Total Savings: 25 MW / N/A MWh	Total Cost: $76M	PAC B/C Ratio: N/A

*These figures are illustrative, preliminary, and rounded. More detailed information on costs, benefits, and economic screening are provided in Appendix A.

3.5 Far Rockaway – Universal Access

PSEG Long Island proposes to address universal access to programs by offering a program specifically targeted to the New York City Housing Authority ("NYCHA"), New York City Department of Citywide Administrative Services ("DCAS"), and multi-family housing buildings within the Rockaways. Our program approach includes an appliance replacement program in which participants would receive lighting and eligible energy efficient appliances including room AC units and refrigerators. New appliances would be Energy Star certified to adhere to modern efficiency standards. Outdated models would be collected to ensure the program results in energy savings rather than additions. The program would also include direct install of efficient lighting for residential building common areas. We propose to move forward with these programs to ensure they are implemented regardless of the results of the proposed Rockaways RFP. We have eliminated the solar PV component of the original program, which we expect would be incorporated into other proposed offerings.

Far Rockaway – Universal Access Illustrative Summary		
Total Savings: 2 MW / 8,800 MWh	Total Cost: $5M	PAC B/C Ratio: 1.5

*These figures are illustrative, preliminary, and rounded. More detailed information on costs, benefits, and economic screening are provided in Appendix A.

3.6 Targeted Solar PV Expansion – Utility Scale

PSEG is prepared to invest its own capital in utility scale solar PV projects and earn a rate of return. We have experience developing such projects in New Jersey as part of the Solar4All program. The program design would target solar installations that contribute a greater share of their output during peak load conditions in the summer months between the hours of 2:00 – 8:00 pm. This could be accomplished by facing the arrays towards the west, or by adding battery storage. In addition, PSEG Long Island could consider focusing on development areas such as landfills and brownfields. Another factor for consideration would be potential for capital expense deferral where projects may provide load relief in an area of need. We will work with the Authority on the design of the program.

Targeted Solar PV Expansion – Utility Scale Illustrative Summary		
Total Savings: 20MW / 66,666 MWh	Total Cost: N/A	PAC B/C Ratio: N/A

*These figures are illustrative, preliminary, and rounded. More detailed information on costs, benefits, and economic screening are provided in Appendix A

3.7 Targeted Solar PV Expansion – Customer Sited

PSEG Long Island believes potential remains to support behind-the-meter solar PV projects hosted by commercial customers. PSEG Long Island proposes a program targeting behind-the-meter solar PV projects greater than 200kW, but less than 2,000 kW. Solar PV projects within this size range and located in NYISO's Zone K are not currently eligible for incentives offered by the New York State Energy Research & Development Authority ("NYSERDA"), or the Authority. We envision an incentive design similar to the NYSERDA NY-Sun Competitive PV Program. Successful applicants would receive an up-front payment along with two performance payments in order to encourage the installation of high performing systems. Qualified applicants would be competitively selected based on the incentive bid received. PSEG Long Island customers could participate in the program directly or serve as hosts for project owners. We also propose providing a premium value for peak capacity to west-facing systems.

Targeted Solar PV Expansion – Customer Sited Illustrative Summary		
Total Savings: 10 MW / 23,529 MWh	Total Cost: $15 M	PAC B/C Ratio: 3.4

*These figures are illustrative, preliminary, and rounded. More detailed information on costs, benefits, and economic screening are provided in Appendix A.

3.8 Combined Heat & Power ("CHP")

PSEG Long Island recommends incentives to install CHP for systems of 1.3MW or below. Systems of this size on Long Island are excluded from the existing CHP programs offered by NYSERDA. A capacity incentive based upon the installed capacity of generator and a production incentive proportional to the actual energy savings produced by the system could support certain projects. The capacity incentive could be paid in installments based on a project achieving certain milestones (i.e., signing contracts, beginning construction, commercial operation). The production incentive could be available during the first 18 months of operation. The actual incentive structure would be determined through further information gathering and analysis.

In selecting potential projects, we would consider the nature of the facility and if it is critical to the health, safety or security of the service area and its residents. Examples could include nursing homes, public safety facilities (e.g., police, fire, hospital, emergency management), water and wastewater utilities, and communication facilities.

Combined Heat & Power Illustrative Summary			
Project Size (kW)	**Number of Projects**	**Demand Savings (MW)**	**Energy Savings (MWh)**
100	3	0.30	2,340
200	3	0.60	4,680
400	4	1.60	12,480
750	2	1.50	11,700
1,000	1	1.00	7,800
Total	**13**	**5.00**	**39,000**
Total Savings: 5MW / 39,000 MWh		Total Cost: $5M	PAC B/C Ratio: 10.2

*These figures are illustrative, preliminary, and rounded. More detailed information on costs, benefits, and economic screening are provided in Appendix A.

3.9 Geothermal Heating and Cooling

PSEG Long Island recommends expanding the existing incentive program to develop geothermal heat pumps in excess of existing program goals. Geothermal heating and cooling serves to lower peak in the

summer, displaces costly and emission-intensive oil in the winter, and improves the overall system load factor. This proposal would include increasing the residential rebate to approximately 8% - 10% of the net costs (i.e. after tax credits) and increasing the commercial rebate to a rebate of $900 or $1,200 per ton depending on the efficiency of the project. This would reduce customers' operating expenses by approximately 35% - 40%, depending upon the baseline heating fuel and condition of existing equipment.

Along with the rebate, PSEG Long Island would provide customer education and marketing programs to geothermal contractors. This will highlight the benefits of geothermal heating and cooling, including the energy savings.

Geothermal Heating and Cooling Illustrative Summary				
Type of Customers	Target Quantity	Average Rebate	Average kW Savings	Targeted MW Savings
Residential	1,500-2500	$2,250	1.5kW	2.3-3.7MW
Commercial	200-400	$9,000	4.0kW	0.8-1.6MW
Total Savings: 5 MW / 7,820 MWh		Total Cost: $10M		PAC B/C Ratio: 2.1

*These figures are illustrative, preliminary, and rounded. More detailed information on costs, benefits, and economic screening are provided in Appendix A.

3.10 Targeted Energy Conservation for Hospitals

PSEG Long Island would develop a program similar to a successful program offered by our New Jersey utility affiliate, PSE&G. The program provides investment grade audit, project management, cost sharing, and on-bill financing for energy efficiency projects at hospital facilities in New Jersey. By providing up-front funding, the program helps overcome a major barrier to investment by these customers. In 2015, PSEG Long Island would complete investment grade audits at hospital facilities to determine the extent of cost effective electric measures to be supported by the program. Results of the audits will ultimately determine the level of savings and program costs; our illustrative example is based on our expectations of market potential and the costs of representative projects developed by PSE&G.

Targeted Energy Conservation for Hospitals Illustrative Summary		
Total Savings: 5 MW / 28,000 MWh	Total Cost: $30 M	PAC B/C Ratio: 1.4

*These figures are illustrative, preliminary, and rounded. More detailed information on costs, benefits, and economic screening are provided in Appendix A.

3.11 South Fork Infrastructure Deferment – Guaranteed Capacity Relief

The South Fork plan includes several components of a plan to avoid a needed transmission investment, including solar PV, capacity relief, and peaking generation phased in over a period of years. In this Plan update, components of the South Fork plan have been disaggregated to clarify that they are on a stand-

alone, parallel path with other programs. The components of the South Fork Infrastructure Deferment must move forward to implementation to ensure timing of critical elements.

PSEG Long Island proposes to issue an RFP for a provider of at least 13 MW of guaranteed capacity relief to support the South Fork. Similar to the approach we have described above for the Rockaways, the RFP would allow for creative solutions from the marketplace with the limited requirements that the proposals include demand side measures (i.e., no solutions on the utility side of the meter will be entertained), that the savings be guaranteed for a specific duration or time, that the savings be measurable and verifiable, and that the savings be coincident with the time frames required in the RFP. Due to the size of the offering and the necessity for the full 13 MW to be delivered, the RFP would seek on overall contractor to provide the relief; however, such contractor would be able to aggregate different providers and technologies as necessary in order to meet the overall desired level of capacity relief. Additionally, the RFP process would be integrated with the results of the Direct Load Control RFP to ensure that awards are coordinated and no efforts are duplicative. To the extent that the Direct Load Control RFP yields load relief in the South Fork, this South Fork Capacity Relief RFP could seek less than 13 MW.

It is not possible to set forth a representative result of what technologies and savings may result from the award of the proposed RFP at this juncture. Our approach in evaluating the responses to the RFP would be to evaluate technical capabilities of the load relief and its costs in context of the broader South Fork plan.

South Fork Infrastructure Deferment – Guaranteed Capacity Relief Illustrative Summary		
Total Savings:	Total Cost:	PAC B/C Ratio:
13MW / N/A MWh	$40 M	N/A

*These figures are illustrative, preliminary, and rounded. More detailed information on costs, benefits, and economic screening are provided in Appendix A.

3.12 South Fork Infrastructure Deferment – Battery Storage and Microgrid

PSEG Long Island would develop, own, and operate a 5 MW / 25 MWh battery storage system to facilitate significant additions of renewables and to enhance power quality, grid reliability, and resilience across the vulnerable grid area in the East End of the South Fork. PSEG Long Island will partner with the Clean Coalition to optimize the battery location and functional configuration; and to help ensure $10 million of NY Prize support for the battery system. The Clean Coalition is a non-profit organization that has a long history of collaborating with the Authority and is highly experienced with Community Microgrids, as evidenced by its Hunters Point Community Microgrid Project being conducted in San Francisco in partnership with Pacific Gas & Electric.

PSEG Long Island would earn a regulated return on the net $15 million, depreciated over 10 years and paid in monthly installments by the Authority for ten years to cover the above cost plus rate of return. This proposed battery project will not conflict with proposals submitted to the Authority's 280 MW Renewable RFP. One significant difference is that the RFP required 12-hours of storage capability and PSEG Long Island is proposing a system with five hours of storage at a far lower cost. In other words, they provide different services. The use of a five-hour battery will provide a cost-effective approach for providing power quality, grid reliability, and resilience to a currently vulnerable grid area that is expected

to have significant additions of renewables. Further, such a battery configuration will match far better with existing battery technologies to allow a more timely deployment that provides an opportunity for PSEG Long Island and the Authority to try to understand the full operational capabilities of battery systems in a manner that will guide subsequent renewables integration and grid management optimization.

South Fork Infrastructure Deferment – Battery Storage and Microgrid Illustrative Summary		
Total Savings:	Total Cost:	PAC B/C Ratio:
5 MW	$15 M	N/A

*These figures are illustrative, preliminary, and rounded. More detailed information on costs, benefits, and economic screening are provided in Appendix A.

3.13 South Fork Infrastructure Deferment – Supply Resources

As described in the Utility 2.0 Plan submitted on July 1, PSEG Long Island has determined that a series of transmission reinforcements would be required on the South Fork of Long Island from 2017 – 2022. Approximately $97 million (2012$) in conventional infrastructure was identified as being required by 2017 with an additional $197 million through 2022 for a total of approximately $294 million. These costs consist primarily of new underground transmission cables and substation work. This capital reinforcement plan also requires continued reliance on the existing East End generation being available and able to provide its full capacity. However, these units are aging and becoming less reliable as time goes on, and they are less efficient and more polluting than modern generating units.

PSEG Long Island is now implementing a plan to defer the transmission through the use of a series of alternatives: the capacity relief RFP described above, 21.6 MW of solar PV procured through the Clean Solar Initiative II ("CSI II"), and energy storage options through the GSDR RFP. Although the results of CSI II and the GSDR RFP are under review, and the capacity relief RFP is still in development, PSEG Long Island believes these resources can defer the need for transmission and peaking capacity on the South Fork.

South Fork Infrastructure Deferment – Supply Resources Illustrative Summary		
Total Savings:	Total Cost:	PAC B/C Ratio:
N/A	N/A	N/A

*These figures are illustrative, preliminary, and rounded. More detailed information on costs, benefits, and economic screening are provided in Appendix A.

3.14 Electric Vehicle Charging Infrastructure

This program would include support for workplace charging stations and smart charging equipment for business customers. Eligible employers would need to commit a targeted number of employees that own or lease electric vehicles and/or plug-in hybrid electric vehicles. The availability of chargers at the workplace would help consumers overcome the "range anxiety" of not having adequate vehicle charge for round trip commuting. At the same time, PSEG Long Island would benefit from charging data collected from the infrastructure to understand the impact of increased electric vehicle market penetration on our

infrastructure needs and ability to integrate data into system planning.

Our New Jersey affiliate, PSE&G, is successfully implementing a similar program in their service territory, which can be a model for this program. The data may also help PSEG Long Island develop an electric vehicle rate to encourage off-peak charging.

Electric Vehicle Charging Infrastructure Illustrative Summary		
Total Savings:	Total Cost:	PAC B/C Ratio:
N/A	$1M	N/A

*These figures are illustrative, preliminary, and rounded. More detailed information on costs, benefits, and economic screening are provided in Appendix A.