STATE OF NEW YORK

DEPARTMENT OF PUBLIC SERVICE

STAFF MEMORANDUM

November 6, 2020

TO: Chief Executive Officer John Rhodes

FROM: DPS Staff (LIPA and PSEG LI 2020 U2.0 and EEDR Plan Review Teams)

SUBJECT: Review of and recommendations regarding the Long Island Power Authority and PSEG Long Island's 2020 Utility 2.0 Plan Annual Update and 2020 Energy Efficiency and Demand Response (EEDR) Plan

Introduction

This memorandum is provided on behalf of the Department of Public Service (DPS or the Department) Staff (Staff) review teams who conducted the review of and herein provide their recommendations regarding the Long Island Power Authority (LIPA or the Authority) and PSEG Long Island's (PSEG LI or the Company) 2020 Utility 2.0 Annual Update (2020 Utility 2.0 Plan) of its Utility 2.0 Long Range Plan, and their 2020 Energy Efficiency and Demand Response (EEDR Plan).[1]

Pursuant to Public Authorities Law (PAL) §1020-f(ee); LIPA and its service provider PSEG LI submit to DPS on an annual basis any proposed plan related to implementation of distributed generation, energy efficiency (EE) measures, or advanced grid technology programs having the purpose of providing customers with tools to more efficiently and effectively manage their energy usage and utility bills, and improving system reliability and power quality. In accordance with Public Service Law (PSL) §§3-b(3)(a) and (g), DPS reviews and makes recommendations to LIPA with respect to the plans and rates and charges, including those related to energy efficiency and renewable energy programs.

PSEG LI 2020 Utility 2.0 Annual Update Proposal Overview

On June 30, 2020 PSEG LI submitted to DPS its 2020 Utility 2.0 Plan, including its EEDR Plan for 2021. In the 2020 Utility 2.0 Plan, PSEG LI seeks funding for nine new program proposals comprising a Commercial and Industrial Demand Alert pilot, FlexPay pilot, On-bill Financing pilot, Enhanced Marketplace, Electric Vehicle (EV) Make-Ready program, Non Wires Solutions Process Development, Hosting Capacity Maps - Stage 3, Distributed Energy Resources Visibility Platform, and a Conservation Voltage Reduction (CVR) program. An update to the previously approved Utility Scale Storage Project at Miller Place is included. PSEG LI also reported its progress on 2018 and 2019 Utility 2.0 proposals.

Staff recommends adoption of all of the proposals in accordance with the recommendations contained herein, except for the FlexPay pilot program. Staff recommends that PSEG LI report to the DPS the status of the 2020 Utility 2.0 Plan projects in its quarterly reports, which are currently being filed for its 2018 and 2019 Utility 2.0 projects, in accordance with prior DPS recommendations. Staff will continue to monitor the approved programs in accordance with corresponding metrics and quarterly updates.[2]

The total cost of PSEG LI 's 2020 Utility 2.0 Plan as proposed is $46.78M, consisting of Capital costs: $29.61M. and O&M Costs: $17.17M. PSEG LI seeks funding through 2025 for a majority of the proposed programs. The total cost of PSEG LI's 2020 Utility 2.0 Plan, as recommended by Staff, is approximately $28.39M through 2025. This reflects a decrease of $18.39M. Staff recommends gross capital costs of Utility 2.0 programs in the amount of $13.83M for 2021, $3.47M for 2022, and $0.01M for years 2023 through 2025 for a total of $17.32M. Staff recommends gross O&M costs of Utility 2.0 programs in the amount of $3.70M for 2021, $2.56M for 2022 and $1.60M for 2023, $1.62M for 2024 and $1.59M for 2025 a total of $11.07M.[3]

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[1] Matter 14-01299, In the Matter of PSEG-LI Utility 2.0 Long Range Plan, PSEG LI Utility 2.0 2020 Annual Update (filed June 30, 2020).

[2] Case 14-M-0101, Reforming the Energy Vision, Order Adopting Regulatory Policy Framework and Implementation Plan (issued February 26, 2015).

[3] See, Appendix 1.

PSEG LI's EEDR Plan for 2021 includes nine programs, seven on-going from previous years: Energy Efficient Products, Home Comfort, Residential Energy Affordability Partnership (REAP), Home Performance, Commercial Efficiency, Home Energy Management (HEM), Dynamic Load Management (DLM), and two new programs: Pay for Performance, and the Solar Community Adder. Staff recommends adoption of all of the proposals in accordance with the recommendations contained herein. PSEG LI seeks EEDR funding of approximately $88.8M for 2021 only.

Staff Review of New Utility 2.0 Proposals and Public Comments

Staff conducted an extensive review of the nine proposals submitted by PSEG LI in its 2020 Utility 2.0 Plan. Staff issued more than 119 document and information requests to obtain further detail in its evaluation of PSEG LI 's 2020 proposals and engaged in several technical meetings with LIPA, PSEG LI, and PSEG LI's consultant, Navigant. Staff reviewed the Benefit Cost Analyses (BCA) for all programs for which PSEG LI developed a BCA, as well as the substantive aspects of the proposals, for consistency with State policies and goals. These policies and goals include those related to energy efficiency and greenhouse gas emissions reductions required by the Climate Leadership and Community Protection Act (CLCPA), as well as goals of customer empowerment and third-party market participation, as set forth in Reforming the Energy Vision (REV) Public Service Commission (Commission or PSC) Orders.[4] PSEG LI presented certain proposals in the 2020 Plan as pilot programs, to test particular hypotheses, and as such, in accordance with the REV Demonstration principles a traditional BCA was not developed at this stage.

Staff simultaneously conducted a review of each program contained in the EEDR Plan, specifically to ensure alignment with NY State energy efficiency policies set out by the PSC in 18-M-0084.[5]

On July 8, 2020, the Department issued a Notice Requesting Comments on PSEG LI 's 2020 Utility 2.0 Plan and a separate Notice Requesting Comments on the EEDR Plan.[6] The Department received comments from ten organizations including the New York Power Authority (NYPA), the City of New York, several advocacy organizations including the US Green Building Council's Drive Electric Coalition, the Natural Resources Defense Council (NRDC), and the Sierra Club. Comments were also received from industry associations, including NY BEST, the Building Performance Contractors Association (BPCA), and the NY Solar Energy Industries Association (NYSEIA). Public comments received for both plans are available on the Department's Document Matter Management (DMM) website under Matter 14-01299.[7] The comments recognized many benefits of PSEG LI 's proposals and offered feedback as summarized in the public comments section below. Staff recommends that PSEG LI consider the public comments concerning each of the proposals.

[4] Case 14-M-0101, supra, Order Adopting Regulatory Policy Framework and Implementation Plan (issued February 26, 2015), et, al.

[5] Case 18-M-0084, In the Matter of a Comprehensive Energy Efficiency Initiative.

[6] Matter 14-01299, supra, Notice Requesting Comments (issued July 8, 2020). See also, Matter 20-01326, In the Matter of PSEG Long Island 2021 Energy Efficiency and Demand Response Plan Review, Notice Requesting Comments (issued July 8, 2020).

[7] Matter 14-01299, supra, Public Comments.

2018-2019 Progress Update

In the 2020 Utility 2.0 Plan, PSEG LI reported on its continued progress in implementing its 2018 and 2019 Utility 2.0 projects, and included additional information regarding changes to scope and schedule, performance reports and funding reconciliation.[8] The advanced meter infrastructure (AMI) deployment program was the primary component of the 2018 Utility 2.0 Plan. In 2019, PSEG Long Island began to accrue anticipated benefits from AMI, including, remote meter reading, remote connect/disconnect, enhanced outage management, and revenue protection. PSEG LI states that "benefits realized in 2019 from meter deployment exceeded projections because the meters were installed ahead of plan."[9] However, the Company states that AMI-OMS integration took most of 2019 to implement, so management benefits are expected to accrue later than planned. PSEG LI does not expect to realize optimal benefits until later years when AMI-enabled capabilities fully mature. As of the end of June 2020 PSEG LI reported that it installed more than 496,000 advanced meters on LI, comprising approximately half of the customer base.[10]

The 2018 Utility 2.0 Plan also included three programs for which PSEG LI states it has encountered challenges in meeting targets in 2019. Specifically, the Super Savers program, a subset of EV initiatives, and a behind-the-meter (BTM) storage project. Concerning Super Savers, PSEG LI "is focused on the Landis+Gyr Load Control Switch pilot program for peak load management." The Company continues to adjust its outreach approach and incentive levels to engage more customers in order to meet its goals. For the EV program, electric vehicle sales have been significantly less than projected in 2019, thus affecting program uptake, but PSEG LI continues to support EV adoption on Long Island through its on-going and newly proposed programs. PSEG LI's 2019 proposal to engaged Fleetcarma did not materialize. PSEG LI is instead developing an in-house solution for off peak incentives. Through PSEG LI's programs, installations of BTM storage have been increasing but the Company recognized that the timing of the Dynamic Load Management tariff inhibited benefits in 2019. Rate Modernization and Utility-Scale Storage have also encountered program delays but continue to be pursued. PSEG LI is engaging with its vendor GridX to advance its Rate Modernization program. Finally, concerning Utility Scale Storage, the Department discusses its specific recommendations below.

Regarding other 2019 programs, PSEG LI reports that as of June 2020, progress is on-going. Concerning the Next Generation Insights pilot, the team has initiated the program with a chosen vendor, and the Energy Concierge teams are finalizing process design, customer engagement, training, and management plans. For the CVR Study, PSEG LI's Utility of the Future team has conducted a successful field trial to calculate the CVR factor at the Patchogue Substation. The Interconnection Online Application Portal (IOAP) is currently in the implementation stage. PSEG LI is developing an input template for the Locational Value Study tool and is also continuing to develop the Non-Wires Solutions Alternative (NWA) Planning Tool.

New 2020 Plan Proposals:

Enhanced Marketplace

PSEG LI proposes to expand and modernize its existing online energy marketplace. The goal is to offer products and services to customers through integration of existing efficiency programs such as the Home Energy Management program to create a more streamlined experience for customers seeking energy efficient measures. PSEG LI seeks $4.65M in Capital

[8] Id., PSEG LI Utility 2.0 2020 Annual Update (issued June 30, 2020) Appendix B.
[9] Id., p. B-2.
[10] Id., p. xiv

and $4.51M in O&M, totaling $9.16M in funding for the program through 2025. The BCA for the program is 1.08. Staff recommends that LIPA adopt the program consistent with the recommendations contained herein.

PSEG LI proposes to enhance the current marketplace by providing its customers with information based on their geographic location and leveraging product offerings through HEM behavioral reports. The Enhanced Marketplace proposal includes a direct purchase online catalog, a Home Services Marketplace (e.g., offering customers the ability to request an energy audit) to be launched in 2021, Point of Sale Instant Rebates, an online Product Advisor comparing marketplace offerings with products available in the broader market, and a Program Enrollment Center (e.g., allowing customers to enroll in other PSEG LI programs such as Time of Use (TOU) rate options) which is to launch in 2022.

Utility marketplace sale of energy-efficient products and related services are now standard, and all of the State's Investor Owned Utilities (IOUs) offer at least one marketplace. PSEG LI's proposed Marketplace is a full replacement of the current marketplace which has been in place for 10 years. The current marketplace is unable to integrate the customized offerings and service options of a more modern platform. As part of the integration enhancements, such as single-sign-on functionality, customers' data will be accessible without their having to log into other platforms. PSEG LI proposes to solicit through a Request for Proposals (RFP) bid process, an appropriate Information Technology (IT) vendor, to build and administer these enhancements.

Staff compared the costs of PSEG LI's proposal with those of REV Demonstration projects conducted by IOUs in New York State. A comparative review of Consolidated Edison and Central Hudson's marketplaces and offerings determined PSEG LI's proposal to be consistent with those comparable utilities. In 2018, PSEG LI sold 12,000 products through the Marketplace, and in 2019 PSEG LI sold 42,000 products through the Marketplace. PSEG LI anticipates a 1% increase in existing residential Energy Efficiency program participation in the first year of implementation and a 3% increase subsequent to first year of implementation through 2025.

DPS received public comments from Edgewise Energy and NYSEIA, commenting that the Enhanced Marketplace should include solar photovoltaics, storage, and Community Distributed Generation (CDG) products in its offerings. Staff recommends that PSEG LI should consider whether the Enhanced Marketplace would be an appropriate portal for customers to obtain further information and contact contractors for these services.

Staff supports the Enhanced Marketplace because it will enable customers to adopt energy efficiency measures, assist PSEG LI to achieve its energy efficiency performance goals, and further its progress toward achievement of Statewide energy efficiency targets. The Enhanced Marketplace, as proposed, will be easy to use and will be accessible via computer, tablets, and smartphone devices. Despite these enhancements, Staff is concerned with the high level of proposed IT costs. Staff recommends that, PSEG LI reconcile the budget based upon actual bid responses received for its review, as the bid process may result in cost savings which should be passed on to customers. PSEG LI states that an Outreach and Marketing plan will be developed during the Design and Preparation Stage of program implementation. Staff recommends that when it is developed, PSEG LI provide a copy of the plan to Staff for review. Staff also recommends that PSEG LI and LIPA continue to adopt and refine performance indicators, to drive success and avoid delays in program implementation. Staff recommends adoption of the Enhanced Marketplace proposal as discussed above.

Non-Wires Solutions Development

PSEG LI proposes to procure the services of a consultant to improve the Company's process for developing NWA projects to defer or eliminate the need for traditional utility infrastructure capital expenditure projects. PSEG LI and the consultant will develop a "playbook" beginning in the first half of 2021, completed by the end of 2021, to inform the process of developing NWA proposals. While PSEG LI proposes to continue its previous NWA program, Super Savers, with various improvements to maximize customer participation, the new consultant will assist the Company to further implement Super Savers. PSEG LI is seeking $0.5M in O&M funding during 2021, only. PSEG LI did not develop a BCA for the program which is characterized as an "enabling initiative." PSEG LI defines an enabling initiative as a tool to enable capabilities to align with REV, but which may not have direct monetized benefits. Staff recommends that the program be adopted as proposed.

The proposed NWA Process Playbook will guide implementation of NWA projects in four areas. First, regarding identification of NWA opportunities, the consultant will develop screening criteria to match capital projects with available load relief technologies to determine whether an NWA project would successfully defer or avoid capital expenditures. Second, the consultant will guide improvements in PSEG LI's market solicitation process. This includes improvements as to how PSEG LI would seek market solutions in the forms of RFPs and other solicitations, as well as guidance on scoring and ranking RFP responses to procure a successful load relief portfolio. Third, the consultant will develop proposals for monetizing NWA opportunities to align development of NWAs with the existing utility business model. Fourth, PSEG LI's consultant will benchmark practices of other utilities, assess where PSEG LI currently stands with its programs and processes, and develop recommendations for new tools and processes required to develop the NWA Process Playbook. PSEG LI states that this project will increase contractor responsiveness to NWA solicitations.

All IOUs in New York State have Commission-approved Capital Expenditure (CapEx) project screening criteria, detailed NWA development processes, specific accounting treatment for NWA project costs, and Shareholder Incentive mechanisms approved or currently under consideration by the Commission.[11] [12] PSEG LI lags behind IOUs in New York because it does not have a strongly defined screening process and associated accounting treatment of NWA project costs. Developing such NWA projects has become a typical part of the utility's system planning processes and doing so will enable PSEG LI to be consistent with other utilities.

Staff supports this project because the cross-utility review, development of screening criteria for CapEx projects to find those that offer the highest likelihood and suitability for solicited NWS solutions, development of indicative NWA project portfolios to test the feasibility of deferring or eliminating the need for the CapEx project, and development of best practices for publishing solicitations and analyzing market offers, has the potential to expedite the trial-and-error development processes with which the IOUs have experimented since 2015. Further, while the shareholder incentive mechanism and other accounting treatments have been successfully implemented and developed for the IOUs, PSEG LI's unique relationship with LIPA may entail different accounting practices and incentive structures, such as performance metrics,

[11] The Commission has approved NWA project cost recovery and incentive mechanisms for Con Edison (See, Cases 16-E-0060 and 15-E-0229), Central Hudson (See, Case 17-E-0459), Niagara Mohawk (See, Case 17-E-0238), Orange and Rockland (Case 18-E-0067).

[12] Cost recovery and Net Plant Reconciliation mechanisms for NYSEG and RG&E's NWA project costs was approved by the Commission in Cases 15-E-0283 and 15-E-0285, however, a proposal for a Shareholder incentive mechanism is currently being considered by the Commission as part of the Joint Proposal in Cases 19-E-0378 and 19-E-0380.

to spur NWA development within LIPA's service territory. For example, Staff recognizes that PSEG LI does not earn a return on Capital Expenditure projects, and therefore may not face the same challenges in balancing traditional capital spending against funding NWAs. Staff recommends that this project be adopted as proposed.

Electric Vehicle Make-Ready Program

PSEG LI is proposing an EV Make-Ready program containing several components. PSEG LI proposes to develop an EV Implementation Plan, focused on identifying beneficial charging sites and estimating the associated costs of establishing charging stations at these locations. PSEG LI also proposes an EV Make-Ready Incentive program. Staff notes that the proposed program is considerably smaller than the program envisioned by the Electric Vehicle Infrastructure Make-Ready Order adopted by the Commission in July 2020.[13] PSEG LI seeks to fund only 6% of the five-year goal in the first year. In addition, PSEG LI proposes a LIPA-owned Direct Current Fast Charge (DCFC) pilot consisting of one station with four plugs. PSEG LI also seeks to develop an EV Salesforce Database in 2021 to capture customer data on EVs and electric vehicle supply equipment (EVSE). PSEG LI seeks $5.03M in funding, including $3.20M in Capital and $1.83M in O&M costs for this program. PSEG LI allocates the proposed funding in the amount of $3.20M for the EV Make-Ready Incentive program and $1.2M for a Salesforce database for 2021. The remaining $0.63m is allocated to on-going O&M costs through 2025. No funding is requested for the Implementation Plan because it is funded through unspent previously approved EV project funding. PSEG LI calculates a BCA of 0.59; only evaluating the first year of investment in EVSE, based on the assumption that the EV Make-Ready program incents only 5,400 EVs.[14] Staff recommends adoption of the EV Make-Ready Program, consistent with the recommendations contained herein.

In April 2018, the Commission commenced Case 18-E-0138, to identify cost effective approaches for electric utilities to support the infrastructure and equipment necessary to accommodate increased electricity demands associated with the deployment of EVs.[15] The EV Instituting Order, in that case, recognized that EV supply equipment and infrastructure is critical to securing the benefits of greater EV adoption and achieving the State's environmental and clean energy goals. Staff notes that PSEG LI filed its 2020 Utility 2.0 Long Range Plan including its EV Make-Ready proposal, based primarily on the guidance provided by the Staff White Paper. The Commission adopted the EV Initiating Order in July 2020 which more comprehensively addressed this issue.[16]

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[13] Case 18-E-0138, Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure, Order establishing Electric Vehicle Infrastructure Make-Ready Program and Other Programs, Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure (issued July 16, 2020) (EV Initiating Order).

[14] The New York State Energy Research and Development Agency (NYSERDA) BCA of EV Deployment in New York, which the EV Initiating Order relied upon, found positive net benefits for Long Island with almost $1 billion in societal net benefit when considering a full deploy of EVSE infrastructure over a period from 2017 to 2030. See, Benefit-Cost Analysis of Electric Vehicle Deployment in New York State, prepared for NYSERDA by Energy & Environmental Economics, ICF, and MJ Bradley & Associates (February 2019), https://www.nyserda.ny.gov/. Further, NYSERDA also forecast positive Ratepayer Impact benefits of EVs, as new revenue from EV load reduces delivery rates. Use of electric vehicles is considered beneficial electrification in that it reduces overall greenhouse gas emissions from the transportation sector, while providing increased utility revenue.

[15] Case 18-E-0138, supra, Order Instituting Proceeding (issued April 24, 2018).

[16] Id.

Through the multi-state ZEV Memorandum of Agreement[17] (ZEV MOU), New York State seeks to achieve a target of 850,000 electric vehicles on the road by 2025. Based on the approximately 21% of the state's registered light duty vehicles in LIPA's territory, PSEG LI has calculated Long Island's portion of that target to be 178,500.[18] PSEG LI anticipates 4,638 ports to be installed by 2025, allocated as follows, 402 DCFC, 1496 Level 2 public ports, and 2740 workplace Level 2 ports. Six percent of those, or 24 DCFC, 90 public Level 2, and 164 workplace Level 2 are expected to be installed in 2021. While the DCFC goals are similar to those set forth in the EV Initiating Order, PSEG LI's estimate of Level 2 charging needed for Long Island to attain the statewide goals is significantly less the number determined from the Commission's Order.

The Commission and PSEG LI share the goal of promoting greater adoption of clean, electrified transportation and ensuring that additional load is managed in a grid beneficial manner. To that end, there is agreement on the goal of 178,500 EVs by 2025. However, there is incongruity between the PSC and PSEG LI regarding the number of EV chargers needed to service those EVs. Both PSEG LI and the Commission used the National Renewable Energy Laboratory's (NREL) Electric Vehicle Infrastructure Projection Tool (commonly known as EVI-Pro Lite) to estimate the number of chargers needed, but because PSEG LI used different assumptions, the results differ. Staff believes that the plug counts proposed in the EV Initiating Order are necessary to support the achievement of 178,500 EVs by 2025 and should be adopted by PSEG LI as part of its Utility 2.0 Planning.

EV Charger goals	Consistent with EV Initiating Order	Proposed by PSEG LI through 2025	Staff Proposed Goal for 2021	Proposed by PSEG LI in 2021(6% of Goal)
Workplace Level 2	9,131	2,740	1,826	164
Public Level 2	5,184	1,496	1,037	90
Total Level 2	14,315	4,236	2,863	254
DC Fast Chargers	349	402	70	24

PSEG LI estimated the make-ready cost to be approximately $73,000 per DCFC charger and $7,500 per port for Level 2 chargers. In the Company's Filing, Utility and customer-side portions of the make-ready cost were assumed to be 60% and 40%, respectively, for DCFC and 30% and 70%, respectively for Level 2 chargers.[19] While utility-side make-ready was assumed to be 100% covered, a portion of customer-side make-ready was assumed to be incentivized through rebates. These estimates are subject to change based on the outcome of the

[17] On October 24, 2013, Governor Cuomo entered into a Memorandum of Understanding with the Governors of California, Connecticut, Maryland, Massachusetts, Oregon, Rhode Island, and Vermont agreeing to coordinate and collaborate to promote effective and efficient implementation of ZEV regulations. seedec.ny.gov/docs/air_pdf/zevmou.pdf.

[18] Id., p. 64.

[19] Matter 14-01299, supra, PSEG LI Utility 2.0 2020 Annual Update (issued June 30, 2020) p. 68.

implementation plan and are expected to be updated in the Commission's full-scale EVSE Make-Ready plan, which is anticipated for 2021.

More clarity is needed of the total budget that will be allocated to achieve the EV Initiating Order's combined plug goals and estimated make-ready costs, along with its other assumptions. Staff's calculation of the EV Initiating Order goals using PSEG LI's make-ready cost estimates results in an estimated $98M incentive budget over five years. PSEG LI estimates the cost of its five-year goal to be approximately half of the $98M. PSEG LI further reduced the financial commitment to the proposed EV Make-Ready program by proposing to attain only 6% of the goal in the first year. In the Initiating Order, the Commission restrained spending of the Level 2 budget to 60% of the total number of plugs in the first three years of the program.[20] The State EV Make-Ready program for Long Island should be further developed, refined, and evaluated each year through the Utility 2.0 process.

The Commission's EV Initiating Order directs utilities to provide estimated incremental administrative costs for implementation of a Fleet Assessment Service.[21] The Commission also directs future proofing of make-ready programs to allow future expansion at minimal additional cost. The EV Initiating Order includes an additional 15% of the incentive budget to cover implementation and development of fleet assessment tools, and 8% of incentive budget for future proofing.

PSEG LI's implementation Plan is expected to identify various items, specifically, a target number and type of ports to be incentivized, estimate of infrastructure cost, and an apportionment of customer and utility side costs. It will further evaluate business models such as rebates for make ready, LIPA ownership and a mixed ownership model, program design funding requirements, and developing siting support such as hosting capacity maps or customer engagement strategies.[22] However, PSEG LI's plan does not set forth an actual plan for implementation, nor how or if it will achieve consistency with the EV Initiating Order's discounts and access requirements. The EV Initiating Order has already addressed most of these issues and should be referenced for how to structure a PSEG LI implementation plan. IOUs were directed by the Commission to file implementation plans with the Commission 60 days after the issuance of the EV Initiating Order.[23] PSEG LI's implementation program should align as closely as possible with the requirements of the Commission's order regarding program timing size and budget, types of eligible equipment, eligibility Criteria (e.g., accessibility, station maturity, plug types, future proofing, and locational capacity), program incentive levels and cost containment. In addition, the plan should include an application portal, processes for program review, including periodic reporting requirements on program and participant performance, efforts regarding system planning and mapping, fleet assessment services, and a Medium and Heavy-Duty Fleet Make-Ready pilot. Time is of the essence to make the EVSE infrastructure investments necessary to put PSEG LI on course to achieve its portion of the State's EV goals, which are an integral part of the State Energy Plan, CLCPA goals, and ZEV MOU goals.

Regarding PSEG LI's proposal for LIPA to own the make-ready infrastructure for a DCFC charging station with four plugs, the Commission did not endorse utility ownership of charging stations in the EV Initiating Order, although it was considered. We note that LIPA is unique from IOUs, in that it is owned by LIPA's ratepayers. While IOUs are able to finance subsidies for customer owned make-ready infrastructure and defer these costs as regulatory assets, these costs are expensed by LIPA and can negatively impact LIPA's coverage ratio and

[20] EV Initiating Order at p. 74.
[21] EV Initiating Order at p. 75.
[22] Matter 14-01299, supra, PSEG LI Utility 2.0 2020 Annual Update (issued June 30, 2020) pp. 67-68.
[23] EV Initiating Order, p. 149.

credit rating. An ownership structure where LIPA owns the make-ready infrastructure on both the utility and customer side of the meter will allow LIPA to capitalize all of the incentives and thereby avoid adverse effects to LIPA's debt service coverage ratio. Staff therefore recommends that as proposed by PSEG LI, a LIPA owned customer side make-ready pilot should be implemented to test the viability of financing customer side make-ready infrastructure as an alternative business structure. Staff recommends the pilot examine any implications of alternative ownership structure on the installation and ongoing operations and maintenance of the customer side make-ready infrastructure.

In addition to development and ownership of the make-ready infrastructure, PSEG LI proposed as part of the DCFC pilot, development and LIPA ownership of one station with four plugs. While Staff supports LIPA's ownership of the make-ready infrastructure, LIPA's ownership of the chargers or EVSE equipment is not supported by Staff, as in accordance with Commission policy, private development should be favored. Staff recommends that LIPA and PSEG LI consider utilizing the funding budgeted for EVSE ownership, including the related O&M, to support the furtherance of the EV Make-Ready program, either through additional infrastructure or incentives, as may be appropriate.

In its 2019 Utility 2.0 Plan, PSEG LI sought approval of a proposal to provide incremental funding allocated to three electric school buses to be owned by Suffolk Transit Solutions, in exchange for enabling the utility to pilot a Vehicle-to Grid (V2G) project to collect data on the buses' energy output abilities during the summer months to help offset peak load.[24] PSEG LI stated that this program is currently on hold due to problems encountered by the manufacturer which prevented PSEG LI from providing the electric school buses in time for the 2020 summer season. In 2018, PSEG LI also proposed a multi-prong program to encourage EVs, including a residential charger incentive, an off-peak charging program, and the establishment of a per-port incentive for private owners of DCFC equipment. The program is currently ongoing. DPS recommended discontinuing for 2020, a workplace charger program had been in effect for 2019, because a similar program was becoming available Statewide through the New York State Energy Research and Development Authority (NYSERDA). The 2019 target for that program was 100 workplace chargers, and 105 were approved within the same budget during that year. While the program was successful, continuing to fund the program in addition to the NYSERDA program, was duplicative.

PSEG LI reports that 341 Residential Smart Charger rebates have been paid this year, although, the participation projection was 765 rebates for 2020. PSEG LI received and approved four DCFC demand incentive applications consisting of 45 ports in total. Further, PSEG LI reports that its proposal to engage Fleetcarma did not materialize. PSEG LI is instead developing an in-house solution for off peak incentives. Staff determined that PSEG LI's EV Make-Ready Program, as outlined in the 2020 Annual Update filing, is not sufficient to achieve the state's goals. Identification of public charging locations, in order to achieve the broader Statewide EV goals by 2025, has not been accomplished at necessary levels. Further, a lower level of investment is proposed for 2021 than expected to be adequate to achieve these goals. This may result in high levels of funding being necessitated in future years to achieve regional and State-wide goals. PSEG LI's current challenges with the V2G pilot, and the Fleetcarma program have contributed to the $1.175M underspending for the overall EV program.

PSEG LI proposes to develop a robust outreach plan as part of PSEG LI's EV program. Staff recommends that the plan include further engagement and education of vehicle

[24] Matter 14-01299, supra, 2019 PSEG LI Utility 2.0 Annual Update (filed June 29, 2019) p. 51.

dealerships inadequate or inaccurate information from dealerships may present significant obstacles to customers in obtaining electric vehicles.

Public comments on the EV Make-Ready program were received from Drive Electric Coalition, NYPA, Sierra Club, NRDC, and the City of New York. These commenters state that EV Make-Ready infrastructure and incentives will assist in resolving a key barrier to infrastructure development on Long Island. The Drive Electric Coalition encourages acceleration of EV adoption and charging infrastructure on Long Island. Sierra Club also urges PSEG LI to ensure that its EV programs are scaled to achieve the utility's proportional share of statewide goals.

NYPA recommends that PSEG LI accelerate its program timeline and include more funding for deployment in 2020-2021 to align with the scale of the PSC's Make-Ready program. NYPA states that a larger scale EV Make-Ready Program should begin immediately to build out the statewide DCFC network, to the third or fourth quarter of 2021, since many of the DCFC chargers supported by the program likely would not be operational until 2022. NYPA also requests that LIPA provide additional clarity by the end of 2020 as to how PSEG LI will select the sites and how it intends to coordinate with other EV charging infrastructure developers relative to these sites. NYPA also suggests that PSEG LI accelerate producing Load Capacity Maps showing suitable sites for DCFC interconnection to allow for more cost-efficient deployment of DCFC Infrastructure. Further, NYPA contends that faster response timeliness for interconnection request processing is needed to avoid project delays. NYPA suggests that PSEG LI accelerate development of a Fleet Advisory Services offering to provide fleet operators with site feasibility and rate analyses for locations. In its 2020 Utility 2.0 Plan, PSEG LI announced that it is in early stages of development of a fleet electrification program for municipal and commercial customer fleets and is in talks with Suffolk County Transit to electrify its transit fleet.[25]

NRDC supports PSEG LI's efforts, including the fleet electrification program and the possible expansion of the vehicle-to-grid (V2G) pilot to light duty vehicles. NRDC suggests that PSEG LI should have a medium-to heavy-duty (MHDV) make-ready plan that aligns with the EV Initiating Order. NRDC asserts that PSEG LI should include support for the 10% of customers at multi-unit dwellings, consistent with the EV Initiating Order. NRDC notes that the EV Initiating Order establishes a Fleet Assessment Service for customers consisting of site feasibility and rate analyses, and PSEG LI should do the same. NRDC suggests that PSEG LI update its cost-benefit analysis to include benefits associated with off-peak charging, including downward pressure on rates for all customers, and integrate sustainable rate-design into their plans.

In its comments, the City of New York stated that it established its own goals for EV deployment, and suggests that PSEG LI expand the scope of the limited EV Make-Ready Program to accelerate its timeline in order to develop a more robust EV Make-Ready program. The City of New York also suggests that PSEG LI recognize that many customers in the Rockaways park their vehicles on the street and do not have access to home charging. The City of New York suggests that PSEG LI should establish programs to incentivize electrification of fleets and MHDVs. While the City of New York agrees with the rapid development of capacity maps, and streamlining the interconnection process, it reiterates its concerns about the importance of resiliency preparedness to protect equipment against storms and sea level rise.

Staff recommends that PSEG LI proceed with developing a Make Ready Incentive Plan that is consistent with the EV Initiating Order. Staff calculates that this will require an incentive budget of $98.3M over five years. To facilitate this rollout, PSEG LI and LIPA should consider

[25] Matter 14-01299, supra, PSEG LI Utility 2.0 2020 Annual Update (issued June 30, 2020) p. 76.

whether funding can reasonably increase the first year to one-fifth of the total budget or $19.6M. Alternatively, PSEG LI and LIPA should consider how to allocate additional funding for this program so as to appropriately increase the incentive, to ensure that the overall goals for Long Island will be achieved by 2025. Staff encourages LIPA and PSEG LI to consider how to incent early EV adoption, rather than to increase the incentive steeply in the outer years. PSEG LI should further develop estimates for futureproofing and implementation costs, Fleet Assessment tools, and a MHDV Make-Ready Pilot as prescribed by the EV Initiating Order. PSEG LI should develop an Implementation Plan for inclusion in its next Utility 2.0 proposal that is consistent with the requirements of the EV Initiating Order so that appropriate make-ready construction can move forward expeditiously.

Staff recommends that the EV Make-Ready Program be adopted consistent with the recommendations discussed above.

FlexPay Pilot

PSEG Long Island is proposing to implement FlexPay, an opt-in prepay pilot program with adapted Home Energy Fair Practices Act (HEFPA) requirements, payment flexibility, and a notification solution which will enable customers to track their balance and usage. The total amount of funding sought is $14.23M through 2025, which includes $8.13M for Capital and $6.10M for O&M. PSEG LI states that the BCA is 0.84. Staff does not recommend the adoption of this program.

PSEG LI states that the purpose of the FlexPay Pilot is to leverage near real-time AMI capabilities to offer customers payment flexibility, and usage and balance information to have greater control over how they pay for their electricity. PSEG LI asserts that the pilot will increase customer satisfaction; reduce energy usage for participating customers which will result in bill savings; and reduce field operation costs due to fewer truck rolls necessary to disconnect service. Additionally, PSEG LI contends that the program addresses REV objectives to enhance customer knowledge and capabilities (choice, control, convenience, and lower cost) and reduce carbon emissions. As part of the pilot, customers can use digital means to receive data alerts and opt to use digital self-serve methods to make payments. The pilot program would seek to enroll up to 1,000 customers by 2022 and would seek 5,000 additional customers annually, thereafter. PSEG LI believes that by 2040 it may be able to enroll approximately 8% of the eligible customer base, or approximately 61,000 customers.

In 2019 DPS recommended, and LIPA approved, $0.25M for PSEG LI to develop an implementation plan for the FlexPay, pursuant to its flex-pay Utility 2.0 Proposal. PSEG LI stated it spent $82,400 on external vendors for business process design and requirements, IT cost estimate, and a detailed cost estimate associated with customer engagement activities and materials in support of the FlexPay program. PSEG LI stated that it also used this funding to become a member of the Prepay Energy Working Group (PEWG) which gave PSEG LI access to prepaid utility members' information, prepay best practices, lessons learned, and measures of benefits. PSEG LI also focused additional funding outside of Utility 2.0 budgets to leverage development of business process design and requirements, and IT cost estimates. Additionally, PSEG LI stated that it developed a marketing and communications plan along with customer research and intelligence anticipated activities.

Staff made recommendations regarding the program's compliance with HEFPA in its review of previous Utility 2.0 proposals. In accordance with those recommendations, PSEG LI adequately addressed HEFPA compliance by designing the pilot so that the program would not automatically disconnecting customers upon non-payment, thereby, addressing a major HEFPA concern. Specifically, customers whose balances reach $0 and do not add funds to their accounts will be given a five-day grace period and then reverted to a post pay account. Normal

collection actions with HEFPA protections will follow. PSEG LI does not intend to charge customers a fee if they revert to a post-pay account.

PSEG LI states that approximately $7.8M of the requested funding is for IT integration and upgrades, representing a majority of the $14.23M funding requested. PSEG LI's BCA analysis assumed a behavioral energy consumption reduction rate of 8.58%. In addition, PSEG LI identified net avoided carbon emissions, reduced truck rolls for disconnects, and reduced paper billing as the primary benefit streams of this program.

The avoided O&M consists of reduced paper billing and reduced number of truck rolls required for disconnects. Both of these benefits are not solely attributed to the FlexPay program, and thus should not be counted as benefits of the program. Electronic billing is already available to customers and the 64% rate can be achieved through continued outreach or incentives to promote electronic billing. Reduced truck rolls for disconnect and reconnect are made possible by AMI rather than FlexPay, and the benefit was already accounted for in support of the AMI program. The essential HEFPA protections regarding non-termination of customers would not enable the automatic disconnect benefit to be attributable to FlexPay. These considerations reduce the benefits to $17.98M which reduces the BCA to 0.76.

Avoided energy usage and CO2 savings that PSEG LI attributes to the proposal are based the premise that the FlexPay will have a conservation benefit. Staff notes that the 8.58% reduction amount was based on a sample of 74 customers, from utilities outside New York State (NYS), for whom 12 months of usage history prior to and after joining the Prepaid study was available. These studies had a confidence level of approximately 68% of actual savings between 7.7% and 9.4%. It should be noted, these studies were based on a termination-based program absent the HEFPA protections required of PSEG LI.

The Department received comments from the National Resource Defense Council which supports the program based on its energy efficiency goals, but states that more study is needed to determine whether the results cited by other companies can be achieved by PSEG LI.

Staff determined that the assumed 8.58% energy savings target assumed by PSEG LI is inconsistent with the program PSEG LI proposes to offer, which includes the required customer protections. In "Examining Potential for Prepay as an Energy Efficiency Program in Minnesota", the study points out that a 2% conservation benefit is more likely conservation benefit for a no shutoff program.[26] Incorporating the 2% value into PSEG LI's BCA lowers the Avoided Energy to $2.3M and Net Avoided CO2 to $1.8M. This change, along with modification to Avoided O&M reduces the BCA result to 0.17. Staff recognizes that PSEG LI also evaluated Duke Energy Carolinas' Prepaid Advantage Pilot but notes that Duke's program does not offer the customer protections afforded by HEFPA, and therefore that savings data does not appear to be comparable.

PSEG LI also assumed customers make 2.5 payments per month, however, results from pre-pay programs, such as that at Duke Energy, show that customers average 3 payments per month. Since there are prepay vendor fees of approximate $1.50 per transaction associated with each payment, this would increase the cost to customers, and dilute any savings. For customers who have arrears, the proposed payment structure of 75% allocated to current usage and 25% to pay off arrears, would help customers pay off their debt. PSEG LI also stated that an initial $75 minimum payment is being considered, and an arrears threshold is proposed at

[26] Conservation Applied Research and Development (CARD), Examining Potential for Prepay as an Energy Efficiency Program in Minnesota, Final Report, https://www.cards.commerce.state.mn.us/CARDS/security/search.do?documentId=%7BF29970F3-1148-4889-9715-8C92E05F0A7F%7D (last visited October 11, 2020), pp. 1, 9, 44.

$1,500. Both parameters would be confirmed during the detailed design phase pending program approval. While PSEG LI notes there will not be additional enrolling/unenrolling fees for customers., all customers will be subject, as is the case today, to the transaction fees if payments are made through a non-PSEG LI payment location (e.g., convenience stores). PSEG LI does not intend to charge customers an equipment fee if they choose to participate in FlexPay.

Staff also reviewed customer eligibility in the FlexPay pilot. PSEG LI stated the program is intended for Rate 180 residential customers. These customers must have an AMI meter. Participating customers must agree to text/email communications from PSEG LI. Further, customers on the Household Assistance Program are also eligible. Customers who require medical devices, participate in net metering or solar programs, or who receive financial assistance from third-party payments, are not eligible. Staff notes that this could exclude a significant portion of their customer base, consisting of those customers who may be on fixed incomes and do not or cannot utilize digital communication methods.

The Company compares the FlexPay program to a prepay cell phone plan which allows users to control their spending. PSEG LI contends that the mere knowledge of customers' remaining balances will motivate them to control their spending, which PSEG LI refers to as the gaming effect, and which PSEG LI expects would result in consistent bill savings and energy conservation. PSEG LI points out that the studies show, as part of this gaming effect, that customers sometimes elect to turn off their service for a short period of time before adding funds to their account. Staff notes that PSEG LI's reliance on this gaming effect is based on the prepay programs referred to above that do not have customer protections as required by HEFPA. This gaming effect theory may be disproven when customers realize there may be no incentive, nor any difference from standard billing when transitioning from FlexPay to a tradition post-pay account. Customers will have the option to revert to a post pay account and continue paying at the same rate, however, Staff notes that this program would not eliminate bill volatility and could potentially create confusion for customers who may mistakenly assume they are adding enough funds for their monthly electric needs. Effectively educating customers on these topics is an essential aspect of customer research and outreach to ensure full transparency of the program's features, potential benefits, potential detriments and customer interest.

In support of the pilot, PSEG LI states that customers have a hard time relating usage to dollars spent and have asked for better visibility on how their appliance and lifestyle decisions affect their bill. Staff notes that the Company did not provide supporting documentation regarding PSEG LI customers' feedback or interests, and that no customer research was budgeted for or conducted. PSEG LI states that its customer research approach is consistent with Customer Engagement and customer centric program design foundational plan for Rate Modernization in the 2018 Utility 2.0 Plan. PSEG LI states that prior to the launch of FlexPay, it will conduct customer research to validate the program design and optimize customer communication and engagement experience. However, the 2018 Utility 2.0 proposal also extenuates the point that as part program design and development "[r]esearch and segmentation will be used to identify those customer segments within the overall customer base that show a propensity to participate." This points to the importance of conducting customer research before implementation to determine customer interest and need. Staff emphasizes the importance of additional research before committing to a $14.23M investment. Staff notes that additional customer outreach to recruit participants for the pilot can and is expected to be done in the implementation phase, however, PSEG LI must conduct customer research prior to this outreach to appropriately identify actual customer needs, customers segments who can or should participate, and learn what potential solutions are informed by customer's feedback. Staff also notes that PSEG LI has reduced its AMI outreach efforts in accordance

with the need evidenced by customer feedback. Financial data shows 76.2% underspending for AMI outreach in 2019, and 72.6% underspending thus far for 2020.

Appropriate customer research can also inform PSEG LI analyses of whether more cost-effective alternatives exist to test its hypotheses. Staff engaged with PSEG LI to determine why a prototype with a smaller target group and/or a not fully integrated technology solution was not considered to meet the goals of the FlexPay pilot. The Company stated that a non-integrated solution would not be a useful test from the functional and process flow perspective and that its systems of record for both master and transactional data are CIS and MDM. Those systems integrate the prepay engine platform, back-end utility systems, and customer channels. In these respects, the IT solution is indistinguishable from a full-scale solution for the total LIPA and PSEG LI customer population.

PSEG LI did not adequately demonstrate that it conducted a critical analysis of its existing systems with which to achieve the FlexPay project goals. Programs such as the Next Generation Insights program, AMI Enabled Capabilities program, the Home Energy Management program, and other energy usage alert programs may constitute lower cost, lower risk alternatives to the large investment in the FlexPay pilot. Elements of the FlexPay pilot, such as usage alerts in kWh and dollars, are already being offered through the Next Generation Insights pilot. In the PSEG LI's 2019 Utility 2.0 Plan, the Company highlighted the features being tested, including budget alerts, bill projection, and high usage notifications.[27] The hypotheses being tested in Next Generation Insights pilot include measuring the success of the customer engagement goals through digital mediums including text alerts, and percentage reduction in high bill calls. The results and findings from the Next Generation Insights pilot should be used to determine if behavior modification is possible through programs that offer customers, education about energy conservation and alerts about their usage and billing. The Next Generation Insights pilot is scheduled to be implemented in third quarter 2020 to approximately 100,000 AMI customers. This analysis is significant in view of the small number of total participants expected in the program through 2022, and more so as the total enrollment is expected to reach only 61,000 customers by 2040.

Moreover, PSEG LI did not conduct a comparative analysis of the FlexPay proposal to evaluate whether it meets the identified needs of reduced energy usage and other consumer benefits as the most cost-effective and low risk solution. PSEG LI's IT solution for FlexPay may not have any transitional benefit should the pilot's hypothesis prove to be false and the program not transitioned from a pilot to a fully implemented program. Moreover, PSEG LI did not adequately demonstrate that it considered whether it could commit FlexPay's IT infrastructure to other programs and that it would be unable to do so until it has implemented the pilot.

Staff consulted with IT experts to gain general insight into existing prepay programs. Staff discussed program goals, implementation challenges, licensing fees, benefits and costs. Staff's inquiries revealed that repay programs are not widely accepted or adopted in the United States utility market mainly because the cost is socialized among all ratepayers and not solely among participants. There are fixed costs including set up fees (implementation) and IT upgrades to ensure the vendor's system can integrate with a utility's CIS system. These fixed costs can, and often do, exacerbate the overall cost of a prepay program regardless of the number of participants. Most pilots cannot be accurately tested without full integration of the system which reflects the three necessary components of the program, including consumption, CIS, and messaging functions. These aspects are critical in considering whether PSEG LI has adequately compared the proposed IT solution with a minimal, viable, integrative product that

[27] Matter 14-01299, supra, 2019 PSEG LI Utility 2.0 Annual Update (filed June 29, 2019) p. 22.

can be used on a small scale to assess ability to achieve the purposes of a prepay program as a pilot.

Staff does not recommend the adoption of this program.

Commercial and Industrial Demand Management

PSEG LI proposes a commercial and industrial (C&I) customer demand alert pilot. The pilot will test whether real-time demand alerts encourage customers to better manage their energy costs, thereby, reducing demand charges. The proposed solution would reconfigure an existing demand manager application that runs on AMI meters and allow it to send demand alerts through a mobile app or text/SMS message, notifying customers of their proximity to preset energy usage thresholds. The proposed pilot will include up to 1,000 C&I customers across different sampling strata, which will launch in 2021 and be assessed through 2022. PSEG LI proposes five metrics for pilot success, four measured by a decrease in demand and one measured through a customer satisfaction survey.[28] PSEG LI seeks $2.17M in funding through 2022, including $1.97M for Capital, and $0.20M for O&M. No BCA was developed because PSEG LI considers the initiative to be a pilot/demonstration project anticipated to be cost-effective once fully deployed. While Staff recommends that the C&I demand alert pilot be adopted, it recommends that PSEG LI defer the $2.17M in funding until 2022, after PSEG LI has completed the necessary Meter Data Management System (MDMS) and command center upgrades, consistent with Staff's recommendation contained herein.

Staff's review determined that the implementation of the C&I demand alert pilot is interdependent with the completion and successful implementation of the MDMS and command center upgrade, which are planned for early 2021.[29] Upon additional review by PSEG LI, it has deferred the upgrade to MDMS to beyond 2021 and will not develop the final schedule nor act on whether to upgrade the command center until Q4 of 2020 for 2021.[30] PSEG LI states that it will need the latest versions of the MDMS and the command center for complete communication functionality and real-time data visibility and reliability of the C&I demand alerts.[31] PSEG LI has utilized a vendor that has developed and implemented a solution usable for the C&I demand alert pilot.

NRDC, in its comments, supports the C&I Demand Alert Pilot to help customers reduce energy use at key times for the system. NRDC suggests that the program should alert customers to the reduction achieved in environmental and greenhouse gas emission impacts, due to energy usage reduction that results from the program, because many C&I customers can use this data when reporting on corporate sustainability goals.

Staff recommends that PSEG LI confirm that interdependencies with the MDMS and the control center upgrade will be effectuated, before moving forward with the pilot. Additionally, Staff recommends that PSEG LI extend its research on AMI demand alerts to include evaluation of applicable experience of other utilities. Currently, the demand alerts pilot is focused on alerting commercial customers on rate 280, 281, and 285 to the risk of being rolled over into another rate class, exceeding rate-defined demand thresholds, or the potential to switch to another rate class. PSEG LI currently has no plan in place, as part of this pilot, to determine whether there is a financial advantage for a customer to be switched to a different rate class, so whether this will be beneficial to customers is uncertain. Staff recommends that PSEG LI consider performing bill analyses to determine whether it is financially beneficial for customers

[28] Matter 14-01299, supra, PSEG LI Utility 2.0 2020 Annual Update (filed June 30, 2020), p. 28.
[29] Id.
[30] PSEG LI's Response to Information Request DPS-20134.
[31] Matter 14-01299, supra, PSEG LI Utility 2.0 2020 Annual Update (filed June 30, 2020), p. 28.

to change rate classes in furtherance of the goals of this pilot. If customers cannot reduce their usage through the alert pilot, the bill analysis may reveal that another rate may provide financial benefits based on the customer's higher usage. Conversely, if a customer can significantly reduce its usage, another rate class based on that reduced consumption may be financially beneficial.

Staff also recommends that PSEG LI expand or amend its pilot success metrics to move beyond quantifying success in terms of kW consumption, and in addition, to measure customer behavior, decision-making, and causality. PSEG LI has already engaged and worked with these vendors on previous contracts, and therefore, PSEG LI should be able to reduce the Risk and Contingency (R&C) funding applied to the final projected cost. Further, the budget for the C&I demand pilot, contains R&C funding in excess of PSEG LI's defined methodology. PSEG LI calculated R&C at 50%, in the amount of $643,769. Staff recommends the budget for this program be adjusted to lower the R&C to 35%, to reflect the appropriate stage of PSEG LI cost estimation process. Staff recalculated R&C at 35% in the amount of $450,638, in alignment with PSEG LI new R&C processes. Therefore, the budget should accordingly be reduced by $193,131.

Staff recommends that the pilot be adopted in accordance with the foregoing recommendation.

On-Bill Financing Plan

PSEG LI proposes a two-year On-Bill financing pilot program to enable residential customers to invest in distributed energy resource and EE products/services, primarily focused on heat pumps, with loans repaid through customers' electric bills. Though similar to the NYSERDA Green Jobs-Green New York (GJGNY) program, PSEG LI would utilize $10.0M of LIPA capital and provide lower-than-market interest rates, which could be as low as 0%. PSEG LI also plans to provide customers greater flexibility in the form of blended options of rebates and financing rates. The purpose of the program is to facilitate the State's policy objective of beneficiation electrification. PSEG LI would manage all parts of the loan program itself or engage a third-party loan originator. The funding sought is $2.94M over five years, including $1.12M in capital funding to support IT upgrades, and $1.82M in O&M, mostly for third party support for program design. The requested funding would not establish a loan fund. The reported BCA results in a Benefit-to-Cost Ratio (BCR) of 0.71. Staff recommends that the on-bill financing program be adopted as proposed to facilitate additional saturation of heat-pumps and renewable energy resources in the service territory.

Staff's review indicates that PSEG LI's ability to offer financing for energy efficiency products and collect payments through on-bill charges is supported both by the PSL statutory language regarding cost recovery and termination, as well as enabling legislation that was adopted to establish the Green Jobs-Green New York program. PSEG LI anticipates a participation increase of 13% in the Home Comfort program as a result of the financing option, as compared with rebates alone. PSEG LI anticipates that the proposed On-bill Financing program will facilitate the installation of approximately 1,000 heat pumps, in conjunction with its Home Comfort Program.

PSEG LI proposes to offer reduced interest rate loans or incentives, or a combination of the two, at the discretion of the customer, for the purchase and installation of heat pumps, for a financing term of up to 18 years. PSEG LI currently offers a discounted electric rate of 15%, from October to May, for customers with whole-house heat pumps. Through 2019, there were approximately 950 whole home heat pumps installed within the PSEG LI territory, therefore, in consideration of the goal of 30,000 installed by 2025, further incentives are warranted. PSEG LI expects that in each year of the pilot it will facilitate installation of 500 heat pumps through the

On-Bill Financing option. If the pilot is successful, PSEG LI may consider expanding the Program following the initial 2-year pilot phase, to include the LMI and Multi-family sector and possibly the commercial sector.

PSEG LI intends to provide customers with flexibility in the form of blended options for rebates and financing rates, an aspect of NYSERDA's program that is not currently available because NYSERDA's interest rates are based on market rates, and incentives are provided by the servicing utility, rather than by NYSERDA. Currently NYSERDA can offer non-LMI eligible customers rates of 6.99% for its On-Bill financing program. Customers who are not in good standing with PSEG LI, have a Deferred Payment Agreement (DPA), or are enrolled in On-Bill Recovery through a NYSERDA project are not eligible to participate in the On-Bill Financing Program offered by PSEG LI.[32]

In 2019, the Department recommended that PSEG LI receive $0.25M to investigate the feasibility and authorization requirements for its own On-Bill Financing program. However, PSEG LI stated that the costs to develop the On-Bill Financing program were not separated from the overall costs associated with developing the 2020 Utility 2.0 Plan.[33] Therefore, how the $0.25M approved in 2019 to develop this program was spent is not identified. The Company further asserts that all costs associated with the program, including additional expenses resulting from operational and financial risks such as application and closing loan processing, funding loans, and collection efforts, interest rate changes, and other administrative costs, will be collected from all ratepayers. The Company stated that the IT infrastructure investment could be leveraged to include the financing of measures in addition to heat pumps, such as EV chargers, solar photovoltaic (PV), or energy storage.

PSEG LI states that LIPA plans to issue a bond to finance the $10M program and that participant interest rates will be fixed, with rates dependent upon the interest rate LIPA secures when issuing the bond.[34] The Company also states that the length of the loan will not exceed the average useful life of the heat pump system. Principal and interest payments received from customers will be used to service the bond issued to raise capital for the pilot. It therefore appears that not all customers are expected to qualify for/choose zero-percent interest. Staff notes, that LIPA and PSEG LI should further consider the appropriate interest rate to be charged, which may be higher than zero percent, in order to increase the benefit/cost result of the pilot, noting however, the program should offer rates at or below that of NYSERDA's GJGNY program.

PSEG LI stated that it will not require participating customers to secure the loan with collateral. PSEG LI noted that a lien will not be placed on the customers' homes and/or other property in order to secure the financing. However, a declaration of the loan will be filed in the applicable municipal recording office. A third-party title company will review the borrower's most recent property tax bill to determine the ownership of the property prior to approving the loan. The title company will file a Uniform Commercial Code-1 Finance Statement (UCC-1) with the Department of State and the applicable County to provide notice to others of the loan obligation. This procedure mirrors the existing rules for NYSERDA's GJGNY Program.[35]

Since loan payments will be part of the customers' monthly PSEG LI bill, customers will pay both the financing and electric bill monthly. Participating customers on bi-monthly billing will be changed to monthly billing. Customers will make levelized payments of principal and interest

[32] PSEG LI's Response to Information Request DPS-20117.
[33] PSEG LI's Response to Information Request DPS-20119.
[34] PSEG LI's Response to Information Request DPS-20016.
[35] A UCC-1 is a legal form that a creditor files to give notice that it has or may have an interest in the personal property of a debtor.

and will be permitted to repay principal without penalty. PSEG LI will not receive additional compensation, incentives, or commissions for meeting and/or exceeding program targets. PSEG LI also states the utility service charges will be prioritized, and paid first, before on-bill financing installment charges. PSEG LI can terminate service for failure to pay on-bill financing installment charges and fees in the same manner as for failure to pay electric service charges. PSEG LI may terminate electric service based on a customer's failure to pay for any service rendered, including on-bill charges for clean energy services, however, PSEG LI must offer a DPA for on-bill financing installment charges arrears in the same manner as arrears on utility electric service charges. DPAs and termination will be administered in accordance with HEFPA protections.

PSEG LI did not identify specific criteria required to qualify for zero percent interest financing. It did, however, explain that the total incentive would be the same for each participating customer, when taking into account the interest rate and/or rebate the customer receives. Customers will be able to choose a lower interest rate or higher upfront rebate, which can be evaluated using a loan calculator tool that will be provided to the customer. Customers will identify their incentive preference in the application. PSEG LI identified the maximum amount an individual customer may finance as $25,000. PSEG LI determined that the average cost for air and ground source heat pump installations for whole house solutions with required integrated controls would be $10-13k per system. Therefore, providing $25,000 could enable customers to finance installation of two systems.

Customers will also have the option of financing eligible measures other than heat pumps through the On-Bill financing Program, upon validation by energy audit. It is not a requirement of the loan to illustrate fuel-neutrality and approved program implementation contractors must sign a contractor participation agreement for eligibility to offer the loan and rebate.

Two public comments were received regarding the On-Bill Financing pilot. BPCA supports zero-percent interest on-bill financing, as does the NRDC. NRDC asserts that the pilot should test whether the program can significantly increase residential use of heat pumps and provide a scalable model for building electrification. NRDC agrees that upfront capital costs are a major obstacle to more widespread residential installation of heat pump technology, and urges PSEG LI to consider extension and expansion of the pilot to significantly increase the number of heat pump installations and the level of funding involved. NRDC cautions that the pilot program will require heightened oversight and consumer protections. NRDC states that the specific heat pumps (and any future equipment) offered under the program should be subject to scrutiny by LIPA and the Commission. Additionally, sales practices and loan criteria should be monitored to ensure that access to flexible financing does not lead to undue pressure to purchase equipment that customers cannot afford. Further, NRDC asserts that the pilot may warrant heightened protections for electric service terminations, and that customers should not lose access to essential services if they can afford their energy bill but not the monthly payment for the heat pump.

Staff recommends approval of the On-Bill Financing pilot program to facilitate additional saturation of heat-pumps in the service territory and other measures to decrease fossil fuel usage. Staff recommends that PSEG LI track the number of applications, total loans, total heat pump installations, participants in each interest rate bracket, accounts in good standing versus bad standing/default, and the number of applications denied. Staff also recommends PSEG LI continue to develop and implement a strategic outreach and education plan to increase awareness of the program and its benefits.

Conservation Voltage Reduction (CVR) Program

PSEG LI proposes implementing CVR at three targeted substations, Baldwin, Far Rockaway, and Valley Stream, in order to optimize voltage on target distribution circuits/feeders and achieve energy savings. The selection of the target substations is based on the penetration of AMI and LMI in the surrounding areas. PSEG LI also identified and selected seventeen additional substations for CVR deployment for 2022-2025, however, funding for those locations is not requested at this time. The CVR program is intended to lower voltage without adversely impacting customers' electric service to create energy saving for lowering the customers' bills. The program will involve upgrading and relocating existing capacitor banks, installing new voltage control capacitor banks, voltage regulators, and advance monitoring system. PSEG LI is requesting $1.03M; with $0.94M for Capex and $0.09M for O&M, for 2021 only. The reported BCA results in a BCR of 3.06. The Department recommends that the CVR program be adopted as proposed.

AMI penetration has provided PSEG LI the ability to accurately measure transformer load and determine where the voltage can be reduced to achieve energy savings. During 2019 and 2020, PSEG LI successfully conducted CVR field trials at the North Bellmore substation. The trials showed that North Bellmore experienced substandard voltage on the targeted circuits during the summer period, so the company was able to adjust common mode voltage (CMV) settings to improve the voltage on the circuits during the off-peak period. The study also showed that with minimal investment, a one-volt reduction will create 1.02% of energy savings. This is equivalent to $23.66 of savings on the average customer's annual bill if the CVR is implemented year-round.

Staff recommends that PSEG LI should take the necessary steps to achieve energy savings on both off-peak and peak period where possible. Staff also recommends that PSEG LI file quarterly progress reports for the 2021 CVR program. The report should include but not be limited to the following items related to the 2021 CVR program: description of issues faced by each target substation before or after implementing CVR program; description of the solutions or corrective actions be taken to resolve the issues identified; provide the status of upgrading & relocating existing capacitor banks, and installing new voltage control capacitor banks, voltage regulators, and advance monitoring systems for each target substation, if any; and provide the estimated and actual energy savings for each substation resulting from implementing Volt/VAR Optimization (VVO) and/or CVR, including translating energy savings in term of dollar amount savings on customer bills.

PSEG LI should also provide a report of the status of 2020 CVR program currently being implemented in Patchogue when available, as well as develop a plan for the feasibility of implementing VVO/CVR on a permanent basis in additional target locations, based on the results of the current program.

Staff recommends the CVR program be adopted as proposed.

Distributed Energy Resource (DER) Visibility

PSEG LI proposes to deploy a Distributed Energy Resource Management System (DERMS) operational platform to allow distribution system operators to effectively manage increasing levels of DERs on the grid. The current application includes DER that are required to be connected on PSEG LI's Supervisory Control and Data Acquisition (SCADA) network (i.e., solar PV with nameplate capacity over 1 MW). PSEG LI is seeking $8.21M in funding, which includes Capital funding of $7.92M and $0.29M in O&M through 2025. PSEG LI did not develop a BCA because the program is characterized as an enabling initiative. The Department

recommends the DER Visibility program be adopted consistent with the recommendations contained herein.

DERMS is a relatively new technology that can provide a wide array of capabilities for utilities as the traditional infrastructure model is replaced by one that is influenced heavily by DERs. PSEG LI's current interconnection review process has been used to ensure safe installation of DERs on the grid to date. To maintain safe and reliable service, PSEG LI and other utilities need to anticipate and avoid technical complications that can arise due to high levels of DER penetration. In this regard, PSEG LI has identified load masking as a potential risk that can lead to thermal overload and equipment failures under certain scenarios if DERs are not properly managed.

PSEG LI provided detailed cost breakdowns and vendor quotes to support the expenditures associated with the program and compared those with costs for different implementation options. PSEG LI also provided detailed technical information on the platform, and a market guide performed in 2019 by Gartner, an IT consultant, reviewing the vendors currently providing this type of platform. Several companies are developing versions of DERMS technology, each with their own advantages and potential challenges. PSEG LI is proposing to implement a product by Open Systems International, Inc. (OSII). Staff has reviewed market analyses and confirmed that OSII is among the leading developers of DERMS solutions with an extensive history in energy management systems.

NRDC submitted public comments expressing opposition to the DER Visibility project, stating concern regarding the utility controlling customer owned DER assets. While the Commission has not yet fully defined guidelines for all scenarios that may arise with respect to DER operation, Staff notes that DPS's support of a DERMS platform pertains only to its benefits for reliability. Staff recognizes that PSEG LI should align with future Commission orders that address the issue of utilities controlling customer owned DER resources. NRDC also states that the platform will reduce benefits for interconnecting DER customers by introducing new costs, while simultaneously curtailing DER production as part of PSEG LI's control over customer-owned systems. According to PSEG LI, no additional hardware will be required at DER sites for the DERMS platform. Therefore, all associated costs are funded in this Utility 2.0 program, and no new costs will be introduced for existing or new DERs installed on the system. Finally, NRDC asserts that smart inverters, when configured as needed, can provide similar capabilities as the proposed DERMS platform.

Staff agrees that smart inverters offer advanced capabilities, and supports utilizing these assets as DERs continue to grow on the system, however, smart inverters are not the only solution required to address all system requirements. Solely depending on smart inverters to address system needs could create technical difficulties including but not limited to data overload with no system to aggregate, manage, and make the data useful operators, and less precise set points for operation parameters which will lead to inefficiencies. Utilizing software platforms like DERMS can enable operators to maximize the functionality of devices such as smart inverters, as well as provide additional benefits. While Staff supports the current DERMS solution as outlined above, Staff encourages PSEG LI to explore beneficial applications for smart inverters.

Staff recommends the DER Visibility Platform be adopted as proposed to address system needs, consistent with the following modifications. Staff recommends approval in the funding for 2021 to purchase the core system and to provide an appropriate number of developer-required licenses to support the level of DER currently installed, but Staff does not recommend PSEG LI commit to the proposed capital costs in 2022 through 2025. PSEG LI proposes capital expenditures in years 2022 through 2025 based on current forecasts of the

number of licenses needed to support expected DER growth. The five-year forecasts are preliminary and will likely vary, therefore, staff recommends PSEG LI utilize the annual Utility 2.0 filing to forecast the number of licenses needed each subsequent year, and to request the associated capital funding to support the forecast for the upcoming year. Additionally, the internet technology (IT) Labor and other capital costs associated with years 2022 through 2025 should be updated and forecasted in the same manner as licenses. Staff also notes that problems may arise in new technologies due to both the complexity and immaturity of the products, which often leads to investments not living up to full expectations. Staff's recommendation addresses this concern by allowing for the functionality of the system to be demonstrated prior to committing multiple years of funding. Staff also recommends approval of O&M costs for maintenance of the system as proposed by PSEG LI in 2021 through 2025.

The funding requested to implement the DERMS platform is based on vendor quotes for the products and services being provided by OSII, additional costs attributed to PSEG LI for in house labor and IT infrastructure to enable implementation, and a 50% R&C adder to the total cost. The scope of work required is well understood at this phase in project planning and there is low potential of cost volatility associated with signed purchase orders from a vendor. Therefore, Staff recommends reducing the proposed R&C costs in 2021 for the purchase and implementation of the core system and license components of the DER Visibility project from 50% to 20%. Staff's recommended adjustments result in proposed 2021 capital expenditures in the amount of $3.95M to support purchase and implementation of the system. PSEG LI should be allowed additional capital investments in years 2022 through 2025 when system functionality has been demonstrated, however, the magnitude of these investments should be determined in future filings updated annually, when DER forecasts are better understood. As such, the Department recommends the DER Visibility program consistent with the recommendations discussed above.

Hosting Capacity Maps Stage 3

PSEG LI proposes development of Stage 3 hosting capacity maps in 2021, expanding upon its development of Stage 1 and 2 hosting capacity maps scheduled to be completed by the end of 2020. These maps support DER integration and market growth by guiding developers to favorable interconnection locations. Stage 3 hosting capacity maps will provide location-specific information on the amount of DER that can be accommodated at certain nodes of a given feeder. The Stage 3 map will be able to display more granular, nodal information than Stage 2, which displays only feeder-level information. The Stage 3 development process will align with the Joint Utilities' Hosting Capacity Roadmap.[36] A third-party developer will be contracted to develop the Stage 3 Maps throughout 2021. PSEG LI is seeking $3.54M over five years, which includes $1.70M in capital costs in 2021 to complete Stage 3 and $1.84M in ongoing O&M including third-party support between 2021 and 2025. No BCA was developed because PSEG LI characterizes the program as an enabling initiative. Staff recommends that the Hosting Capacity Map Stage 3 project be adopted as proposed.

Hosting capacity maps are interactive heat maps whose colors indicate different levels of available capacity, making it easier to identify interconnection locations best able to accommodate the DER without the need for system upgrades. The maps help achieve more expedient and cost-effective interconnection of DER such as solar photovoltaics and electric vehicle chargers, thereby contributing to the achievement of statewide clean energy goals. In the DSIP Implementation Order, the Commission recognized that the availability of hosting

[36] Case 16-M-0411, In the Matter of Distributed System Implementation Plans, Order on Distributed System Implementation Plan Filings (issued March 9, 2017).

capacity data was one of the most fundamental elements needed for enabling DER development, and required that the IOUs complete a hosting capacity analysis for all circuits at and above 12 kV.[37] PSEG LI 's locational value study, completed in 2019, was the first step toward aligning with this requirement.

New York's Joint Utilities adopted and implemented a hosting capacity roadmap, which consists of four stages to address four specific aspects of capacity mapping: 1) distribution indicators, 2) hosting capacity evaluations, 3) advanced hosting capacity evaluations; and 4) integrated DER value assessments. PSEG LI leveraged its recently completed locational value study to develop Stage 1 and 2 of hosting capacity maps (scheduled for completion by the end of 2020) and is proposing to continue along the roadmap implemented by the Joint Utilities. The hosting capacity project also aligns with several REV objectives including enabling new energy markets, ensuring fuel and resource diversity, improving system-wide efficiency, and enhancing system reliability and resilience.

Staff's review determined that PSEG LI's request of $3.54M to complete Stage 3 of the hosting capacity maps is consistent with the vendors' estimates and the costs incurred by the Joint Utilities, and is reasonable in view of the size of the utility and the scope of work.

In its public comments, NYPA supports PSEG LI's development of DER hosting capacity maps, however, reiterate its 2019 recommendation that PSEG LI create load capacity maps specific to identifying sites for DCFC, with resolution to the feeder level.[38] NYPA believes this is warranted to spur more cost-effective and time-efficient deployment of DCFC infrastructure. NYPA also suggests dedicating employees as single points of contact for charging station developers, and rather than the traditional load letter process, where utilities entertain applications generally, and no one specific manager is assigned to a developer.

Staff recommends the Hosting Capacity Maps Stage 3 program be adopted as proposed, as these maps are critical to project developers. PSEG LI should continue to align with the Joint Utilities regarding hosting capacity map development. PSEG LI's currently participates in the Market Design and Integration working group, and Staff encourages participation in other Joint Utility working groups to keep apprised of IOU best practices.

Public Comments on Utility 2.0

As stated above, Comments on the Utility 2.0 Plan, inclusive of the EEDR Plan, were received from ten organizations or individuals. This summary of the comments received will supplement the more specific discussion of certain comments above.

Edgewise Energy and NYSEIA suggested that more efforts on community distributed generation are necessary. They suggest that PSEG LI launch a marketing campaign to educate residential ratepayers about the opportunity to participate in CDG projects, and that this option should be featured within the proposed Enhanced Marketplace. NYPA and Bloom Energy suggest that CDG may be being undervalued in Value of Distributed Energy Resources (VDER) calculations.

Bloom Energy states that PSEG LI is not recognizing the potential and multiple values that energy storage and microgrids bring, such as a means of resiliency during storms. Bloom states that storage is being undervalued because the PSEG LI VDER tariff provides no value for storm resiliency and BTM storage receive no compensation from the VDER program. Incentives for combined heat and power (CHP) and fuel cells should be resumed. Bloom

[37] Id., pp. 10-15.
[38] Matter 14-01299, supra, Comments of the New York Power Authority (filed August 28, 2019), pp 2-4.

Energy also suggests that PSEG LI could adopt a CDG tariff that allows customers to subscribe to microgrid service, and that PSEG LI should provide support in its NWA initiatives for microgrids targeted at critical facilities in load pockets.

NY-BEST suggests that PSEG LI's target of 188 MW storage target is too low, and that a higher deployment level of 1 GW or greater by 2030 is needed to achieve state goals. NY BEST encourages PSEG LI and LIPA to conduct a storage potential analysis similar to the NYSERDA Statewide Energy Storage Roadmap. NY-BEST also suggests PSEG LI and LIPA complete an analysis of the fossil-fueled peaker fleet on Long Island, and how storage can be used to replace these generators. Further, NY BEST is concerned that the Utility 2.0 Plan does not consider how to integrate storage with the State's plans to deploy 9,000 MW of offshore wind by 2035.

NRDC supports the On-Bill Financing pilot but expresses concern for consumer protections in cases of nonpayment of monthly finance payments. NRDC would like further updates on the 2019 Next Generation Insights and Energy Concierge programs. NRDC strongly supports the partnership with municipalities, as introducing energy efficiency and renewable energy efforts with developers in early stages of projects can influence the building design and permitting processes toward a smaller energy footprint building design.

NYSEIA notes that behind the meter solar installations on Long Island have declined 15% since 2016. LIPA's 750MW allocated share of New York's CLCPA-mandated solar target should serve as a minimum and suggests that LIPA and PSEG LI set a more aggressive goal for solar deployments. NYSEIA contends that PSEG LI and LIPA must establish a roadmap for compliance with CLCPA mandates, which outlines the specific contributions of solar and off-shore wind. NYSEIA suggests that PSEG LI and LIPA should conduct a comprehensive study identifying distribution and transmission upgrades needed to avoid hosting constraints, and PSEG LI/LIPA should conduct outreach to raise awareness about Community Solar. NYSEIA recommends that the Community Storage model should encourage behind-the-meter (BtM) storage. NYSEIA supports the inclusion of solar PV, storage, and Community Distributed Generation products in the Enhanced Marketplace, as long as the program is aimed at providing leads to a competitive market and PSEG LI and LIPA will not own the devices, saying that PSEG LI should fairly pair inquiries for DER and EE products and services with qualified merchants and contractors. Additional NYSEIA comments regarding the Community Credit are included in the EEDR section below.

As discussed above, four commenters support a more aggressive timeline and sufficient funding to meet Statewide EV and charging goals. NYC and NRDC suggest that PSEG LI should fund a medium and heavy-duty vehicle make-ready program and include support for multi-unit dwellings in its EV programs. NYPA and NYC suggest that PSEG LI should accelerate production of Load Capacity Maps showing suitable sites for DCFC interconnection and increase timeliness for interconnection requests. NYC suggests that PSEG LI should consider TOU rates for EV drivers and expresses concerns about resiliency preparedness to protect equipment against storms.

Utility 2.0 Budgeting and Funding 2020

Staff reviewed PSEG LI support for the cost estimates of the nine programs proposed in the 2020 Utility 2.0 Plan by obtaining third party vendor quotes and internal analyses PSEG LI performed. Staff notes that in 2018, based on the 2016 NorthStar's Management Operations Audit, PSEG LI implemented a revised Risk & Contingency (R&C) approach to move from a flat

rate approach to a more granular phased approach to determine the R&C that should be allocated based on specific stages of the costs planning for capital projects.

Staff recommends that, in accordance with its internal methodology, PSEG LI evaluate R&C for all implemented projects to ensure that R&C of each implemented recommendation is in alignment with that of the proposal. Staff noted in the recommendations discussed above, instances where the R&C that PSEG LI allocated to projects exceeded that which was appropriate based on the updated capital project estimation methodology. In these instances, Staff accordingly recommended adjustments.

Staff stresses the importance of PSEG LI continuing to ensure that costs are reasonable in order to protect ratepayers, especially where PSEG LI is employing third-party outside services. Staff recommends that PSEG LI continue to track project costs and benefits and reconcile these figures on an annual basis as part of each annual Utility 2.0 filing. Staff recommends that all program costs should be updated in accordance with actual cost as appropriate and that the need for any funding above approved levels be fully supported. Ratepayers should receive full financial as well as other benefits obtained by PSEG LI as a result of approved Utility 2.0 programs. To facilitate maximization of these benefits, Staff recommends, in accordance with prior Utility 2.0 Recommendations, that any overfunding or underspending be applied exclusively to future Utility 2.0 funding requests, or be passed back to customers.

Additional Funding for Previously Approved Programs

AMI Core

In 2019, $7.53M was approved for the years 2019-2022, to support Meter Pans, Meter Inventory Management System (MIMS), Command Center, MDMS (meter data management system), and Radio Frequency FTE costs. The 2019 annual budget for these items totaled $1.02M. In 2019, PSEG LI incurred $1.18M in expense in total as compared with a budget of $1.02M, constituting an overrun of $0.16M. PSEG LI is requesting an additional $1.97M for AMI, of which, $0.66M relates to additional Radio Frequency full-time-equivalents (FTEs) and $0.74M related to MDMS. Staff recommends that this be approved as appropriate for the continued development of AMI.

AMI Capabilities

In 2019, DPS recommended approval of and the LIPA Board approved $1.65M to support the C&I Portal and Outage Management System integration with AMI through 2022. Of the $1.65M, PSEG LI allocated $0.3M yearly to support Customer Engagement IT for a total of $1.14M and $0.30M to 2019 with $0.07M allocated for the remaining three years to support OMS integration with AMI. This resulted in an annual budget for 2019 in the amount of $0.59M.

In 2019, PSEG LI incurred $0.26M in expense related to the Outage Management System and reserved the remaining $0.04M for the reduction of future costs. The Customer Engagement IT program incurred no costs and the balance of funds was deferred to the 2020 budget. PSEG LI seeks an additional $3.27M for O&M costs related to C&I subscription costs and OMS stress testing for AMI integration. Staff recommends that the additional funding and other budget modifications be adopted regarding AMI Capabilities.

Utility Scale Storage:

In 2018, PSEG LI proposed, and funding was approved for a 2.5MW/12.5MWh battery energy storage system at the Miller Place location. Based on load studies, PSEG LI identified two additional storage projects, one in Sayville at 3MW/18MWh, and one in Centereach at 5MW/30MWh. PSEG LI intended to propose those projects this year, however, to ease the

burden on ratepayers caused by the COVID-19 pandemic, it decided to postpone these projects to 2022. Currently, neither the Sayville project nor the Centereach project have a favorable Societal Cost Test Benefit-to-Cost Ratio. The Sayville project has a BCR of 0.65, and the Centereach project has a BCR of 0.76. Although the projects are deferred to 2022, PSEG LI is requesting $180,000 to issue RFPs for the Sayville and Centereach projects. The Company has also proposed an increase to the Miller Place budget due to higher than expected project costs, increasing capital expenditures by $5.83M, and increasing O&M expenditures by $0.34M. These updated budget numbers reflect the costs contained in RFP responses the Company received for the Miller Place project.

PSEG LI's proposals for Utility Scale Storage are consistent with the Commission's guidance in the December 2018 Energy Storage Order and the State's goals under the CLCPA.[39] In addition to driving storage penetration on Long Island, PSEG LI intends to use utility scale storage installations to defer traditional infrastructure upgrades. Staff finds that the Company's proposal to postpone the Sayville and Centereach storage projects until the 2021 Utility 2.0 filing is reasonable, given the current COVID-19 pandemic and its associated economic effects, and preliminary BCAs for both projects result in BCRs of less than one.

Staff recommends continuing with the Miller Place Project as PSEG LI proposed. PSEG LI has considered the comparative costs of pursuing the traditional T&D infrastructure project. Further, while PSEG LI has sufficiently justified the multiple benefits associated with the Miller Place project, and the potential for its BCA results to be near or over 1.0, PSEG LI should continue to develop processes to forecast and quantify the full range of benefits of its Utility Scale Storage projects going forward. PSEG LI should continue to work with Staff to enhance its BCAs as they relate to storage projects. PSEG LI should pay particular attention to the accurate quantification of benefits wherein cost estimation of deferred traditional T&D projects becomes especially important. PSEG LI should also use knowledge gained from the Miller Place RFP and other storage RFPs to inform future BCAs as applicable.

While the Miller Place Storage project should go forward, Staff recommends reducing the project's R&C costs in accordance with appropriate methodology, and in view of the decreasing risks now that PSEG LI has received proposals and is in the final stages of selecting a winning bidder. PSEG LI proposes R&C costs of 32% for the battery unit in both 2021 and 2022. PSEG LI also proposes R&C costs of 30% for the interconnection work in 2022. Staff recommends reducing these R&C costs to 15% consistent with PSEG LI's internal methodology regarding R&C costs.

Staff's adjustment to R&C costs results in a reduction in capital costs of $493,585 in 2021, and $754,727 in 2022. Staff also recommends disallowing funds for additional utility scale storage RFPs for the Sayville and Centereach projects being postponed, until the BCA justifies the cost of these projects. This results in a reduction in O&M costs of $180,000 in 2022. PSEG LI should propose funding for future RFPs together with any associated utility scale storage projects in future Utility 2.0 filings. Additionally, it is important to note that the increased funding request associated with O&M costs on this project will continue for the life of the project. PSEG LI should track the actual expenditures required to operate and maintain the battery to facilitate reducing ongoing costs.

[39] Case 18-E-0130, In the Matter of Energy Deployment Program, Order Establishing Energy Storage Goal and deployment Policy, (issued December 13, 2018).

Summary of 2021 Energy Efficiency and Demand Response (EEDR) Plan Programs

PSEG LI and LIPA have offered many of the programs contained in the EEDR Plan for several years. The Program budgets are for 2021 only. The overall BCA reported for the suite of programs results in a Benefit-Cost Ratio of 1.8. Staff findings and recommendations are summarized below. For all programs, Staff recommends that efficiency savings be tracked and made readily accessible in terms of both gross and net savings at site for all programs. Additionally, although the plan adopts a total MMBtu focus rather than solely kWh savings as in the past, reporting should be done is such a way so that kWh and MMBtu savings, by fuel type, align with reporting approaches of other programs operating in the State. Public comments are addressed within each respective section as appropriate.

To the extent possible, to ensure that reporting of these activities will align with reporting approaches utilized for energy efficiency programs in the rest of the state, Staff recommends the following: (1) funding and targets related to multifamily programs be tracked and reported separately from residential programs; (2) ability to report out energy savings associated with the installation of heat pumps discrete from other savings within a program, including the MMBtu reductions as well as increased kWh usage.

Additionally, Staff notes the inclusion of non-energy benefits in some BCR calculations. Staff recommends that future filings include BCR calculations that are fully consistent with the Commission Benefit Cost Framework.

EEDR Portfolio Budget and Target Summary

PSEG LI's proposed EEDR portfolio consists of incentives, rebates, and programs available to PSEG LI residential and commercial customers. The portfolio is primarily designed to help participating PSEG LI customers lower their energy usage and electric bills. PSEG LI contracted TRC Companies (formerly Lockheed Martin) to administer several EE programs to the public. The proposed 2021 energy efficiency initiatives consist of four programs for residential customers and a multi-faceted program for commercial customers. In addition, the Behavioral Initiative/HEM program will continue. In 2020, in support of New York State policy objectives, PSEG LI's offerings were expanded to include rebates and incentives for installing EE measures that supply beneficial electrification to the grid and allow customers to save on their fossil fuel-based costs.

PSEG LI's proposed 2021 budget for EEDR remains equal to 2020's budget at $88.8M. Most programs have associated MMBtu savings, but PSEG LI has also budgeted for two initiatives that will not have any MMBtu savings associated with them in 2021 (the Direct Load Management program at $1.3M, and Solar Community Adder at $1.2M). For the first time in 2021, savings from the launch of the first pay for performance partnership with NYSERDA are expected.

The following table summarizes the proposed energy efficiency savings (on a MMBtu and MWh basis), along with the associated budgets, for the residential and commercial components that comprise PSEG LI's portfolio of EE and DR programs:

Energy Efficiency and Beneficial Electrification Targets and Budgets			
Program	Savings (MMBtu)	Savings (MWh)	Program Budget ($MM)
Efficient Products	484,059	200,220	$ 18.93
Home Comfort	113,425	3,563	11.62
REAP (Low-Income)	4,532	1,672	1.40
Home Performance	28,760	2,340	5.56
Commercial Efficiency	332,125	87,151	35.05
HEM (Behavioral)	127,374	37,331	2.40
Pay for Performance	606	178	0.16
Total, Budget Components with Programmatic Savings	**1,090,881**	**332,455**	**$ 75.12**
Solar Community Adder	N/A	N/A	1.20
DLM Program	N/A	N/A	1.30
PSEG LI Labor, Outside Services, Advertising	N/A	N/A	11.18
Total, Budget Components not Associated with Programmatic Savings	**-**	**-**	**$ 13.68**
Total	**1,090,881**	**332,455**	**$ 88.80**

New Efficiency: New York

New York established a statewide energy efficiency target of 185 TBtu by 2025. The Commission's December 2018 Order in Case 18-M-0084 developed an incremental annual target for the State's utilities of 31 TBtu toward the achievement of the 185 TBtu goal. Of the incremental 31 TBtu, LIPA was allocated a proportional share of increased EE savings of at least 3 TBtu over the 2019 – 2025 time period. Given PSEG LI's historic performance, a total savings target of 7.85 TBtu over that period is expected.

Subsequent to the Commission's Order in Case 18-M-0084, PSEG LI expanded its EEDR Plan in 2020 to include rebates and incentives for installing EE measures that supply beneficial electrification to the grid and enable customers to save on their fossil fuel-based costs – essentially adopting a focus on total MMBtu savings rather than with kWh savings that previous plans targeted.

As part of its overall goal of reducing greenhouse gas emissions by 40% by 2030, New York State established a new statewide energy efficiency strategy in the New Efficiency: New York (NENY) Order that was issued in 2018.[40] In the Order, New York State establishes savings targets on an energy basis (Btu) for New York State as a whole, as well as specifically for Long Island, and establishes estimated reductions in forecasted sales by 2025 that would result from the actions described in the Order. NENY established fuel-neutral targets to accommodate beneficial electrification of buildings, since increased electrification in the building and transportation sectors is necessary to achieve the State's carbon reduction goals.

[40] Case 18-M-0084, In the Matter of a Comprehensive Energy Efficiency Initiative, Order Authorizing Utility Energy Efficiency and Building Electrification Portfolios Through 2025 (issued January 16, 2020).

To align with NENY, PSEG LI's 2021 goals are 1,091,882 MMBtu total savings and 332,455 MWh of energy efficiency savings and are reflected on a gross, at site, basis.

The 2021 EEDR Plan focuses on continuing to deliver EE savings programs to residential and commercial customers, while expanding efforts to include beneficial electrification initiatives. Adopting fuel-neutral savings targets enables PSEG LI to aggregate efficiency achievements across electricity, natural gas, and delivered fuels such as oil and propane, which in turn requires a shift toward investments in non-lighting opportunities, especially an expanded focus on heat pumps and other beneficial electrification opportunities.

The 2021 EEDR Plan includes $5.3M in spending in 2021 dedicated to LMI programming, representing 21% of the non-commercial portfolio budget for rebates and incentives. Public Service Law §66-p(6), enacted as part of the CLCPA, requires that the Commission ensure that, where practicable, at least 20% of investments in residential energy efficiency, including multi-family housing, be invested in a manner that will benefit disadvantaged communities, as defined pursuant to Environmental Conservation Law (ECL) §75-0101 (5), including low- to moderate-income customers. Staff finds that the allocations proposed for LMI in the Plan for 2021 are consistent with this requirement. Staff further notes ECL §75-0117 requires that state agencies, authorities and entities, in consultation with the environmental justice working group and the climate action council, shall, to the extent practicable, invest or direct available and relevant programmatic resources in a manner designed to achieve a goal for disadvantaged communities to receive 40% of overall benefits of spending on clean energy and energy efficiency programs, projects or investments in the areas of housing, workforce development, pollution reduction, low income energy assistance, energy, transportation and economic development, provided however, that disadvantaged communities shall receive no less than 35% of the overall benefits of spending on clean energy and energy efficiency programs, projects or investments. Staff recommends that PSEG-LI/LIPA work with Staff, NYSERDA and IOUs to address how these programs will need to evolve to meet the CLCPA requirements for the benefits of investments flowing to Disadvantaged Communities, when identified.

2021 Programs

Energy Efficient Products (EEP) Program

This program is intended to increase use of energy efficient products by providing rebates or incentives primarily for ENERGY STAR-certified lighting & appliances. The program educates customers about the benefits of EE products through a variety of marketing channels. This is a continuation of a program that PSEG LI has been administering since 2014 and LIPA had been operating since 2000. From 2016 to 2019, the program achieved 140% of its targeted savings and expended 129% of its program budget. The program's proposed 2021 budget is $18.9M of O&M with proposed 2021 annual savings targets of 484,059 MMBtu including 200,220 MWh. The proposed budget comprises 21% of the total annual portfolio budget and its proposed savings target comprises 44% of the total portfolio savings target for 2021. The reported BCA results in a BCR of 2.34.

Most New York State IOUs and NYSERDA offer comparable programs and have generally achieved savings targets to-date with relatively low unit costs. Over 2016-2019, PSEG LI's EEP Program performed at a comparatively low unit cost of $31.36 expended per MMBtu-equivalent of EE savings achieved (i.e., acquired). For 2021, PSEG LI proposes that the EEP

Program will operate at a slightly higher unit cost of $39.11 per MMBtu-equivalent of savings in part due to a decreased reliance on lighting measures.[41]

This program conforms to DPS policy and aligns with IOU/NYSERDA offerings. The low unit cost and proposed abundance of potential savings make this program appealing, but a large percentage of the projected savings continues to come from lighting measures. The EEP Program budget equals 25% of the total 2021 budget with associated programmatic savings, while 66% of the EEP program budget is associated with lighting. PSEG LI has indicated that programmatic changes would be continuously considered against, and influenced by, observed conditions related to customer participation and market conditions. The program's metrics for success appear reasonable although long-term success of the program may be an issue due to overreliance on lighting measures. PSEG LI has indicated that it intends to mitigate and address the issue by continuing to promote and incentivize beneficial electrification equipment.

The filing reflects a lack of identifiable program activity in the multifamily sector. PSEG LI has indicated that, while the program is open to all customers without consideration of type of housing in which such customers reside, there is not a segregation of sub-budgets and goals based upon anticipated participant housing scenarios. Similarly, the products and services within the EEP program are not apportioned to sub-sections of customers such as the LMI sector, and therefore, the savings associated with this effort are not included as part of the calculation of LMI spending.

A component of the EEP program is the Residential Appliance Recycling Program (RARP), with 4,268 MMBtu-equivalents of targeted savings in 2021 and a correspondingly proposed sub-component budget of $0.15M, for a proposed sub-component unit cost of $35.15/MMBtu-equivalent. Some products of the RARP are in fact available to customers beyond the residential sector, to small commercial customers. The RARP's reported BCRs for 2021 are: societal cost test (SCT): 0.9, utility cost test (UCT): 0.8, and rate impact measure (RIM): 0.2. The BCRs of the RARP would be more of a concern if it were a stand-alone program rather than a component of the EEP Program. Considering its comparatively low budget and unit costs, the RARP's BCRs do not appear to be obstacle to the program's success.

The BPCA commented on the EEP program, suggesting that heat pump measures would make more sense as a component of the Home Comfort program rather than the EEP Program. BPCA commented that the EEP program's requirement that rebates go back to the customer is an impediment to contractors promoting and installing those items, and that if contractors were able to directly take the rebate while still passing the savings to the homeowner, it would encourage contractors to include heat pump water heaters in their sales and marketing.

Staff recommends approval of this program, and that PSEG LI confer with the IOUs and NYSERDA regarding pursuit of EE savings beyond lighting measures. Staff recommends that PSEG LI reconsider the provision of incentives or rebates for battery-operated lawn care equipment and suggests that any form of 'beneficial electrification' funded through EE budgets should be reallocated for building energy efficiency. Staff also recommends the consideration of a segregation of sub-budgets and goals based upon anticipated customer participant housing scenarios to fully account for the multifamily sector, to the extent possible. Similarly, Staff recommends that an apportionment of the products and services within the EEP Program be considered with respect to sub-sections of customers, such as LMI sector customers, to the extent possible. Additionally, Staff recommends that PSEG LI consider allowing contractors to

[41] This unit cost is the second lowest of the portfolio's programs, higher only than its behavioral program.

directly receive rebates, and then directly pass the savings to the homeowner, in instances where professional installation of a measure is required, ensuring that both the homeowner and contractor do not receive an incentive for the same project.

Residential Home Comfort Program

The Residential Home Comfort program supports residential customers' adoption of energy efficient heat pump technologies. Heat pumps provide clean renewable heating and cooling, while reducing reliance on fossil fuels. PSEG LI will collaborate with contractors, distributors, and manufacturers to ensure that customers install the appropriate heat pump system. The program budget is $11.62M, with a target of 113,425 MMBtus including 3,563 MWh. PSEG LI states that about $6.1M in rebates and incentives will be distributed to customers to air-source heat pumps in 2020.[42] The promotion of air-source heat pumps will continue in 2021-2025 with a goal of adding 30,000 heat pumps by 2025. The proposed budget comprises 13% of the total annual portfolio budget; its proposed savings target comprises 10% of the total portfolio savings target for 2021. The reported BCA results in a BCR of 0.75.

In November 2019, the program was rebranded and began offering whole-house solution rebates. Rebates were made available for new construction and existing oil systems with no central air conditioning. Rebates were also available for integrated controls, and partial house rebates for customers who wanted to keep their fossil-fuel heating as a secondary source. Approximately $6.1M in rebates and incentives will be distributed to customers installing air source heat pumps in 2020. The promotion of air source heat pumps will continue through 2025 with the goal of adding 30,000 heat pumps by 2025.

The Home Comfort program supports the NENY goals and continues to seek alignment with the Joint Utilities and NYSERDA efforts to increase heat pump installations. To encourage concurrent heat pump and weatherization projects, PSEG LI expanded the Home Comfort application to include home performance with ENERGY STAR measures in 2020, and PSEG LI has phased out rebates for central air conditioning and mini-split systems that provide cooling only. Low-Income Enhanced rebates and loans provided by Energy Finance Solutions (EFS) are available for heat pumps and weatherization measures, and these are expected to remain in place through 2025. The Home Comfort outreach strategy includes multiple communication channels such as contractor word of mouth, internet keyboard searches, banners on high traffic webpages, radio, newspaper advertisements, and industry networking events and speaking engagements.

Geothermal heat pumps are offered through this program utilizing an application that accommodates both commercial and residential installations and rebates. PSEG LI also plans to increase the adoption of heat pumps and weatherization projects by partnering with a company that finances key home improvements using the money saved on energy costs by qualified single-family residential customers. Leveraging capital provided by the partnering company and/or other institutions such as the New York Green Bank, investments would be made in energy saving home improvements. Customer payments are based on the actual energy they save; if there are no energy savings the partnering company is not compensated.

The program requirements for Air Conditioning, Heating, and Refrigeration Institute (AHRI) Certification, Manual J load calculations, and refrigerant charge testing for ducted and ductless equipment, are important aspects of quality equipment installations. However, with these program quality attributes in place, it is not clear why the program provides rebates for integrated controls and the retention of fossil fuel equipment. The program requires a Manual J load calculation to be performed, which by code, should lead to appropriate Manual S sizing and

[42] Matter 14-01299, supra, PSEG LI Utility 2.0 2020 Annual Update (filed June 30, 2020), p. A-19.

equipment selection, to meet the space heating load requirements. Proper consideration of these calculations may lead to the conclusion that the fossil fuel equipment does not need to be retained; thereby alleviating environmental, reliability, and safety concerns homeowners may encounter when retaining fossil fuel equipment.

Staff recommends approval of this program but also recommends more meaningful engagement and collaboration with industry stakeholders to increase shared learning and cohesive statewide approach. This engagement and collaboration would elevate statewide consistency and standardization for the heat pump market, and should focus on multiple areas, such as: appropriate load calculations for partial load systems, standardized rebate and installation contractor applications, consumer rebate preapproval, contractor incentive process, and a standardized income eligible verification document. As recommended in the Commission's January 2020 Order, [43] LIPA should actively engage with the NYS Clean Heat Program's Joint Management Committee (JMC) to align with the Statewide Heat Pump Program. Staff recommends that, as identified through collaboration with the JMC, PSEG LI follow best practice strategies for program planning, design, and implementation. Staff recommends that integrated controls with retention of fossil fuel systems be limited to systems where a payback for full load displacement systems would not be realized by the customer.

REAP/LMI Program

PSEG LI currently offers LMI customers, incentives and rebates through various energy efficiency programs, consisting of the REAP, Home Comfort, and Home Performance w Energy Star (HPwES) Programs. REAP is PSEG LI's stand-alone LMI program which provides direct installation of specific measures. The REAP Program encourages whole-house improvements to existing homes by providing comprehensive home assessment services such as light bulbs, domestic hot water measures, power strips and education at no cost to the customer. PSEG LI's Commercial Efficiency Program will also be evolved to include an LMI component.

Total LMI spending throughout its energy efficiency programs for 2021 is proposed at $5.3M, representing about 21% of the Company's residential (non-commercial) energy efficiency spending, or 6% of the total EEDR budget for 2021. The total program cost for REAP alone is proposed at $1.4M, REAP spending represents about 2% of total energy efficiency spending for 2021 and 0.4% of estimated MMBtu savings for 2021. PSEG LI identifies the SCT results for REAP identify a BCA of 0.87, with total costs of $1.88M and total benefits estimated at $1.65M. Additionally, PSEG LI proposes LMI spending of $3.0M within HPwES and $0.85M within the Home Comfort Program, exclusive of administrative costs. Aggregating MMBtu savings projected for the LMI components of each of the three programs in 2021, REAP, Home Comfort, and HPwES, the average cost/MMBtu equates to $179/MMBtu. The table below illustrates the breakdown of budgets and savings targets by the LMI portion of each relevant program.

[43] Case 18-M-0084, supra, Order Authorizing Utility Energy Efficiency and Building Electrification Portfolios Through 2025 (issued January 16, 2020).

		EE Budget
Home Comfort	$	853,800.00
REAP	$	1,402,275.00
Home Performance	$	3,000,000.00
Total	**$**	**5,256,075**
	$	88,800,000.00
LMI % of Total EE		6%
		Residential Programs
Efficient Products	$	18,930,000
Home Comfort	$	1,162,000
REAP	$	4,532,000
Home Performance	$	556,000
Total Res	$	25,180,000
% of LMI within Res EE Spending		21%

REAP program participation has increased each year since 2016. Gross energy savings targets were achieved in previous years, as reported by the Company's independent evaluator. To achieve a fuel neutral approach, 2021 marks the first year PSEG LI has established a target in MMBtus, aligning PSEG LI with regulated utilities, and following the policy established within the Commission's 2018 New Efficiency New York Order.

PSEG LI anticipates a significant reduction in electric energy savings for 2021-2025 due to the impacts of Energy Independence and Security Act (EISA) which will modify savings potential as LED bulbs become the standard option available, due to the anticipation that upon existing bulb failure standard A19 LED bulbs would be the only choice the consumer has. PSEG LI expects that the number of LED bulbs replacing existing incandescent or halogen bulbs will accordingly be significantly be reduced.

PSEG LI has historically tracked electric savings from the REAP Program, however, it did not begin to track thermal savings until 2020. PSEG LI explained that to identify the estimated energy savings for REAP for 2021, savings were generated using savings algorithms for measures that were created based on the NYS Technical Resource Manual (TRM).[44] Where necessary, PSEG LI program-tracking data from prior years is included in the calculations. Prior to 2019, PSEG LI tracked energy savings at the point of generation, while in 2019 the methodology was converted to savings at the site of installation. Therefore, because the methodologies differ, it is not appropriate to utilize cost comparisons before 2019. It should be noted that the conversion to savings at the site is more appropriate as other Program administrators, including IOUs and NYSERDA, calculate their energy savings using the "at-the-site" methodology. PSEG LI expects that the estimated number of measures, by measure type and size, that will be installed for the program year will develop the anticipated energy savings. Staff believes the energy savings estimate methodology is consistent with other Program administrators.

[44] PSEG LI's response Information Request to DPS-20071,

In the Commission's January 2020 New Efficiency New York Order, the Commission directed the IOUs and NYSERDA to file a joint Statewide LMI Implementation Plan, by July 2020.[45] Overall, the individual measures that PSEG LI plans to offer its low-income participants, when aggregating LMI components across PSEG LI's three programs, are consistent with IOUs and NYSERDA offerings.

The BPCA submitted comments stating that the LMI plan proposed by PSEG LI should be increased. BPCA suggests modifications to the proposal to expand eligibility to moderate income homes such that income levels and incentives be provided in parallel with NYSERDA's programming for moderate income households. BPCA also suggests that PSEG LI's low income program be expanded to add additional eligible measures to include Air Source Heat Pumps and other high saving measures like hybrid heat pump water heaters.

Staff recommends approval of the REAP program. Staff's review finds that the proposed spending, savings estimates, measure offerings, and unit costs are parallel, with noted differences discussed above, to similar IOU programs. Staff suggests PSEG LI align its incentive structure as closely to NYSERDA's as practicable, to provide a consistent eligibility approach throughout the State. PSEG LI is transitioning to a fuel neutral approach to its programing; therefore, unit costs should be tracked beginning in 2020 in order to compare programs consistently on a going-forward basis. It is difficult to compare historical electric-only unit costs to the new programmatic structure given that thermal savings were not previously tracked or reported.

Home Performance with ENERGY STAR program

PSEG LI has been administering the U.S. Department of Energy's HPwES program since 2014 and is proposing to continue administering it in 2021 and beyond. The program is intended to help homeowners improve the efficiency, safety, and comfort of their homes via a comprehensive, whole-house approach, including weatherization. Through free home energy assessments to all residential customers and Home Performance Direct Install (HPDI) for electric heat customers, PSEG LI indicated it is able to market and promote the benefits of HPwES projects, weatherization, whole house heat pump solutions, smart thermostats, and controls. The program's proposed 2021 budget is $5.56M in O&M with a proposed savings target of 28,760 MMBtu-equivalents. The budget for 2021 comprises 6% of the total annual portfolio budget; its proposed savings target comprises 3% of the total portfolio savings target. The reported BCA results in a BCR of 2.69, although this figure includes non-energy benefits which is inconsistent with the PSC's BCA Framework Order.[46] From 2016 to 2019, PSEG LI's HPwES program achieved 112% of its targeted savings and expended 193% of its program budget. In 2021, PSEG LI proposes to allocate nearly 90% of its HPwES program budget to LMI customers.

NYSERDA's HPwES program operated at a unit cost of $272 expended per MMBtu-equivalent of EE savings achieved in 2019. However, PSEG LI's HPwES program operated at a unit cost of $1,100/MMBtu-equivalent in 2019, and $1,161/MMBtu-equivalent over 2016 through 2019. For 2021, PSEG LI is proposing a unit cost of $193/MMBtu-equivalent for the program. While this is a large decrease from prior year program cost, the program is still projected to have the third highest unit cost of the programs in LIPA and PSEG LI's EE portfolio and operate at roughly three times the portfolio's average program unit cost. However, in light of the relatively small percentage the program's budget represents with respect to the entire portfolio budget, the small contribution to the total portfolio savings target, and particularly

[45] Id.

[46] Case 14-M-0101, Reforming the Energy Vision, Order Establishing the Benefit Cost Analysis Framework, (issued January 21, 2016).

considering the program's alignment with CLCPA goals, staff does not view the moderately high unit cost proposed for 2021 as an impediment. The unit costs proposed for 2021 show a greater cost efficiency than that achieved to-date by other program administrators for comparable programs. PSEG LI utilizes monthly key performance indicator (KPI) reports to track progress towards year-end goals and participation and spending year-to-date. PSEG LI has indicated that programmatic changes would be continuously considered against, and influenced by, observed conditions related to customer participation and market conditions. The program's metrics for success appear reasonable.

Staff identified a lack of identifiable program activity in the multifamily sector. PSEG LI has indicated that, while the program is open to all customers without consideration of type of housing in which such customers reside, there is not a segregation of sub-budgets and goals based upon anticipated participant housing scenarios.

The BPCA commented on this program, suggesting creation of a Co-Op Marketing program similar to that implemented through NYSERDA, which would provide marketing funds to contractors who have a stake in the design, outcome and costs of PSEG LI's EE goals. BPCA further suggested expanding the program to cover homeowners who have natural gas as their primary heating fuel and don't have central air conditioning. BPCA commented that, although such homeowners are eligible for a free energy audit, they are not currently eligible for the market or LMI incentives that are designed to make the work more affordable.

Staff recommends approval of the HPwES program and that PSEG LI monitor the program's spending and achieved savings, especially noting the large magnitude of the proposed increase in cost-effectiveness as compared to prior year program performance. Staff recommends that PSEG LI confer with NYSERDA and other energy efficiency program administrators regarding ways to maximize HPwES program cost efficiency. Staff also recommends consideration of a segregation of sub-budgets and goals based upon anticipated customer participant housing scenarios to fully account for the multifamily sector, to the extent possible. Additionally, Staff recommends that PSEG LI confer with NYSERDA and explore the feasibility of a Co-Op Marketing program and consider expanding the HPwES program to cover homeowners who have natural gas as their primary heating fuel.

Commercial Efficiency Program (CEP)

PSEG LI has administered the Commercial Efficiency program since 2014. The program supports nonresidential customers through rebates, incentives and technical assistance opportunities. Through collaboration and partnerships with contractors, manufacturers and distributors, PSEG LI offers commercial customers the ability to save energy through implementing comprehensive efficiency measures. Rebates are offered for lighting; HVAC, heat pumps, cool roofs, variable frequency drives, refrigeration; data centers; multi-family; pool equipment, etc. Technical Assistance rebates are available under the CEP to offset the cost of engineering and design services for qualified projects. Technical Assistance assists with Leadership in Energy and Environmental Design (LEED) certification and points, ENERGY STAR labeled buildings, rebates to offset the cost of energy engineering and design study, and whole building energy modeling. The proposed 2021 budget is $35.05M. PSEG LI's Commercial Efficiency Program will continue through 2025, with expected savings of 332,125 MMBtu including 87,151 MWh. The proposed budget comprises 39% of the total annual portfolio budget and its proposed savings target comprises 30% of the total portfolio BTU savings target for 2021. The reported BCA results in a BCR of 1.78.

In past years, the CEP lighting rebates took a prescriptive and per fixture rebate approach. In 2019, the CEP lighting accounted for 76% of program energy savings, down from 94% in 2016, due to the program placing a greater emphasis on refrigeration, custom non-

lighting measures, and combined heat and power (CHP). PSEG LI in 2020 offered a performance based interior lighting program, incentivizing customers and contractors to install energy efficient lighting equipment, which will continue to be offered through 2025.

PSEG LI states that by the end of 2020, a standalone multifamily application will be launched, which will target New Construction developments. PSEG LI anticipates including an LMI component and existing building scenarios in the multifamily program in the future. PSEG LI's program goal was adjusted from kWh to MMBtu. This more closely aligns with NYS's greenhouse gas reduction goals, and also allows for an adjustment in rebate offerings for fuel switching measures like air and ground source heat pumps.

Targets are reasonable at 87,151 MWh, on a $/MWh basis. Comparatively, in the previous year, total program energy savings target for 2020 was 96,549 MWh with a budget of $37.53M. However, the primary measure of success for the PSEG LI portfolio is achievement through MMBtu savings goals of 332,125 MMBtu at or below the budget indicated.

The Commercial Efficiency program is comparable to other utility and NYSERDA programs for this sector. The program appears to be successful and undergoes an annual evaluation by Opinion Dynamics Corporation (ODC). Partnerships with installation and implementation contractors, called Lead Partners, has improved program performance and market impacts. PSEG LI also hosts a well-attended annual Energy Efficiency Conference. PSEG LI's marketing group along with TRC provide marketing to promote the program and its offerings.

PSEG LI administers the Commercial Efficiency program to meet NYS energy goals and makes modifications throughout the year to account for market change. Program viability reviews are conducted on an as-needed basis, to respond to changes in market conditions, updated policy goals, code changes, and customer or contractor feedback. PSEG LI states that it balances the need for announcing program changes with the need to maintain contractor and customer satisfaction and avoiding unnecessary project disruptions. However, staff notes a previous contractor complaint received regarding insufficient notice of changes, therefore PSEG LI should consider how to more effectively notify third parties, including contractors, of changes to the program.

Comments from NYSEIA recommend that PSEG LI set a goal for commercial solar deployments. It notes that commercial rebates through NYSERDA's NY-Sun program have expired. NYSEIA points out that the investment in community solar of $1.20M is small in relation to the $35.0M commercial efficiency budget.

Staff recommends approval of the Commercial Efficiency program as proposed. Staff encourages PSEG LI to study the market and potentially implement additional offerings to multifamily customers. Staff does not recommend inclusion of incentives for electric lawn equipment, golf carts and forklifts, but instead recommends reallocating the budgeted funds to focus on incentivizing measures that lead to building energy use efficiency. Finally, to avoid unnecessary disruptions, Staff urges PSEG LI to avoid making programmatic changes without adequate notice to contractors.

Pay for Performance Program

In collaboration with NYSERDA and energy efficient service providers, PSEG LI proposes to launch a Pay for Performance (P4P) pilot for measurable EE savings that accrue from portfolios of residential and commercial customers that undergo EE upgrades. Select Portfolio Managers will engage with customers to implement EE solutions under a five-year contract with PSEG LI. Portfolio Managers will enroll customers and implement EE measures during a two-year Implementation Period and three-year Performance Period, during which

payments will be made for delivered energy savings. The funding requested is $161,130 for 2021. PSEG LI estimates the entire P4P pilot initiative will cost $0.72M and will have approximately 595 participants over the program's five-year term. PSEG LI estimates that the P4P program will realize EE savings of 606 MMBtus including 178 MWhs in 2021. A BCA was not developed as this program is a pilot program. The proposed P4P budget comprises 0.18% of the annual 2021 EE portfolio budget and its proposed savings target comprises 0.06% of the total portfolio savings target for 2021.

Currently, NYSERDA is in the process of launching P4P pilot programs with Consolidated Edison and National Grid. The Department anticipates that PSEG LI will leverage lessons learned from those engagements by partnering with NYSERDA to issue an RFP to competitively select one or more Portfolio Managers by the end of year 2020. This proposed P4P model shifts the focus away from individual measure savings estimates to whole building metered savings. PSEG LI states that, "[u]nder this program, a single upfront flat payment, as used in traditional EE rebate programs, is replaced with regularly occurring payments for normalized meter-measured energy savings over a defined period. Portfolio Managers can establish relationships to re-engage with their participating customers to increase the likelihood of continued savings and additional interventions."[47] PSEG LI expects that its experience with the pilot will refine the delivery, scale, and cost-effectiveness of the program.

Staff has identified an issue with PSEG LI's proposed 2021 P4P program timeline. In an information request, PSEG LI stated that, while the 2-year Implementation period is expected to begin sometime in 2021 and conclude in 2023, it anticipates that the 3-year Performance period may overlap with this time period and that incentives paid beginning as early as 2021. [48] Additionally, PSEG LI estimated that it would spend a total of $57,910 in 2021 on P4P Incentives and P4P Temporal Incentives as well as $71,500 in Evaluation Costs.[49] Staff believes that it is not prudent to assume that PSEG LI will be paying Performance Incentives and incurring Evaluation Costs in 2021 if Portfolio Manager(s) will still be in the 2-year Implementation Period which entails enrolling customers and implementing EE measures as stated above. Furthermore, once the EE measures are implemented, time must lapse for the Portfolio Manager to accumulate EE savings. After discussions with NYSERDA staff, it is anticipated that NYSERDA and PSEG LI's RFP to select a Portfolio Manager may take 11-14 months to complete. Thus, depending on when PSEG LI commences the RFP process, final negotiations and contracting with the selected Portfolio Manager(s) may not be completed by the end of 2021.

The BPCA, in its comments, does not support the pay for performance program, stating that the program creates a middleman between contractor and homeowner, and that the chosen partner may have an unfair marketing advantage.

Staff recommends approval of the proposed P4P program, as it supports innovative new business models. However, consistent with Staff's experience with NYSERDA and IOU pilot programs, Staff recommends modifications to the 2021 budget to reflect a more realistic timeline. Based on this experience, Staff does not consider it realistic for PSEG LI to plan to incur any significant level of P4P Incentives, P4P Temporal Incentives or incur Evaluation Costs for the 2021 budget year. Therefore, these three line items, which total $129,410, should be significantly reduced or removed from the proposed $161,130. The P4P modified budget for 2021 should, accordingly, be approximately $31,720.

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[47] Matter 14-01299, supra, PSEG LI Utility 2.0 2020 Annual Update (filed June 30, 2020), p A-41.
[48] PSEG LI's Response to Information Request DPS-20157.
[49] PSEG LI's Response to Information Request DPS-20100.

Solar Community Adder

PSEG LI proposes a budget of $1.2M for community adder incentives, including $200/kW for community distributed generation projects up to 750 kW in size, which will further support the local availability of community solar when coupled with recent modifications to increase the community credit as part of VDER.[50] In accordance with PSC Order, jurisdictional utilities in New York State currently allow for an adder up to 750 kw.[51] Therefore, PSEG LI's adder is consistent with State policy to support the achievement of clean energy goals. In addition to the NYSEIA comments discussed above, staff notes that NYSEIA expressed concern about the possible loss of the Community Credit for Community Solar past 2020. NYSEIA suggests that if the Community Credit is not extended in 2021, PSEG and LIPA should increase the Community Adder rebate to offset this loss. Staff notes that the addition of a community credit was adopted by the LIPA Board of Trustees in July 2019, and is not set to expire without further determination by the LIPA Board of Trustees.[52]

Dynamic Load Management

PSEG LI operates several DLM Programs, a 21-hour advance notice peak-shaving Commercial System Relief Program (CSRP) and a two-hour advance notice reliability-based Distribution Load Relief Program (DLRP). Both are aimed toward large Commercial and Industrial customers. PSEG LI also operates a Direct Load Control (DLC) Program referred to under its marketing name, "Smart Savers Program," aimed at Residential and Small Commercial customers. PSEG LI requests $1.3M in DER funding for 2021. PSEG LI forecasts a total combined expenditure of $2.8M during 2021, growing to $4.6M by 2025, equating to an approximately 10.5% compound annual growth rate. This is consistent with IOUs' experiences. The proposed budget comprises 1.5% of the total annual portfolio budget. There is no specified savings target for 2021. PSEG LI did not develop a BCA as the program includes several component programs.

These programs are consistent with the other DLM Program offerings throughout NY State. PSEG LI forecasts enrollment growing from approximately 66 MWs in 2021 to 118 MWs in 2025, a compound annual growth rate of about 12 percent. PSEG LI's growth forecast is consistent with experience of other statewide DLM Programs, which have shown that mature DLM Programs tend to grow at approximately 10% per year.

Staff recommends approving the DLM programs as proposed. However, PSEG LI states that LIPA approved long term contracts to participate in the DLM Programs for energy storage resources whether paired with solar equipment or operated on a more stand-alone basis. This may result in double-payments for the same resource through both the Net Energy Metering tariff as well as the DLM Programs. LIPA should review the Term-DLM and Auto-DLM Programs recently approved by the Commission in Case 18-E-0130 and implement consistent requirements for customers participating in both DLM Programs, and either the Value Stack Tariff or Net Energy Metering Tariff.[53] Staff also recommends that PSEG LI file its DLM

[50] Matter 14-01299, supra, PSEG LI Utility 2.0 2020 Annual Update (filed June 30, 2020), p. A-2.
[51] Case 15-E-0751, In the Matter of the Value of Distributed Energy Resources, Order Regarding Community Credit and Community Adder Allocations, (issued March 19, 2020).
[52] Approval of Tariff Amendments Relating to the Value of Distributed Energy Resources, Adopted by LIPA Board of Trustees July 24, 2019.
[53] Case 18-E-0130, In the Matter of Energy Storage Deployment Program, Order Establishing Term-Dynamic Load Management and Auto-Dynamic Load Management Program Procurements and Associated Cost-Recovery (issued September 17, 2020).

Program Annual Report on November 15 of each year in alignment with Case 14-E-0423, for Staff review, consistent with NYS' IOUs.[54] PSEG LI should include on-going BCA for its DLM Programs consistent with the BCA Framework Order and include the results of such analysis within its Annual Report. This BCA should include the values of utility-level Avoided Distribution & Transmission Costs.

Behavioral Initiative (Home Energy Management)

The HEM program was launched in 2017. HEM aims to motivate PSEG LI customers to take active control of their energy usage, via distribution of Home Energy Reports (HERs). These reports will also provide customer data for use in the Enhanced Marketplace. PSEG LI seeks $2.4M for the HEM program, which is 2.7% of the $88.8M total portfolio budget. The proposed savings are identified as 127,374 MMBtu including 37,331 MWh which is 12% of the total portfolio for 2021. The reported BCA results in a BCR of 0.89.

The level of savings targets has changed from year to year based on previous evaluation results and discussions with the Company's third-party evaluator about best practices and evaluated savings in other similar utility efforts. The proposed savings target of 37,331 MWh for 2021 is significantly reduced from the savings target of 68,547 MWh for 2020, while the budgets remain similar at $2.4M and $2.3M, respectively. The Company also reduced the average annual energy savings per HER distributed to customers in 2020 to 0.9% from 1.5% used in previous years.

Actual total expenditures for the HEM program in 2019 were $3.3M with total program energy savings reported at 31,405 MWh. The SCT ratio of the HEM program decreased from 1.5 in 2018 to 0.69 in 2019. The Company's third-party evaluator notes the lower SCT BCR can be attributed to the lower savings in 2019. For comparison, Central Hudson Gas and Electric Corporation's electric Behavioral Modification Program, part of their portfolio of programs since 2016, had a SCT BCR for 2019 of 1.05. New York IOUs that have only recently been implementing behavioral programs have BCRs in the range of PSEG LI's.

PSEG LI allocated a significantly reduced budget while increasing the savings target for 2020. The 2021 proposal maintains the reduced 2020 budget while decreasing the savings target to more closely align with the 2019 reported savings. PSEG LI's 2020 Utility 2.0 update projects a SCT BCR for the HEM program at 0.89 for 2021. The UCT and RIM Test are 0.45 and 0.12, respectively.

Because HERs reach a large portion of the population and rebates are not required, significant savings can be achieved cost-effectively. Therefore, Staff recommends approval of the HEM program. However, the inability to identify a reasonable explanation for the yearly fluctuations in administrative costs and savings targets, specifically between 2019 and 2021, raises concerns, as do the resultant 0.69 BCR for the 2019 program and the projected 0.89 for 2021. Staff recommends that PSEG LI identify strategies to increase savings while also identifying areas to reduce costs for 2021 and resolve the reasons the BCR continues to be below 1.0 for the HEM program.

EEDR Advertising

PSEG LI identified a variety of advertising/outreach strategies to increase awareness of each of the EEDR programs. The Company provided a breakdown of the various platforms used, including mass media (print, radio, TV), tactical (emails, direct mails, newsletters), and targeted (digital, social, and online Energy Analyzer). PSEG LI seeks $2.3M in funding for 2021

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

EEDR Advertising, of which $900k is allocated to support the overall energy efficiency and sustainability education and awareness of five individual programs, and the remaining $1.4M is generalized advertising in support of PSEG LI offerings. In addition, the Company's partnership with TRC includes advertising and outreach services which are embedded in the overall implementation fees. PSEG LI did not develop an advertising specific BCA, as this budget applies to the multiple EEDR Plan proposals.

Staff reviewed the Company's budget and spending trends using three years of historical data, 2017 through 2019. In 2017 and 2018, the Company underspent a total of $766,642.88 while in 2019 spending was over budget by $149,095.78. In this year's filing, PSEG LI is seeking $2.3M for the 2021 budget year, a 19.3% decrease compared to last year's $2.8M request for 2020; a 45.2% increase compared to 2019. As of June 2020, PSEG LI reports actual spending slightly over $1.0M of their $2.8M total advertising budget. Staff notes the decline or underspending this year is yet to be determined and may be due to the impact of COVID-19. Staff recommends that PSEG LI clarify in future EEDR Plans whether unspent funds are reallocated or remain available for the EEDR advertising programs.

Regarding LMI outreach, PSEG LI is seeking $0.05M in advertising funding for the REAP program to continue its outreach and education activities including partnerships with non-profits, government agencies, faith-based institutions, and public libraries. PSEG LI hosts an annual energy forum for advocates to provide them with the latest information about its LMI programs. PSEG LI intends to build larger referral potentials and relationships with community liaisons, community councils and board members, housing authorities, departments of social services, and other government organizations that serve low-income and senior citizen communities.

PSEG LI seeks $0.05M in advertising funding for its Home Performance and ENERGY STAR program which focuses on promoting home energy assessments. PSEG LI's outreach activity includes sponsoring events, such as home shows and street fairs, direct mailings, the PSEG Long Island website, and the Home Performance Partners. The Company recently launched virtual trainings to keep its contractors engaged and informed. The sessions offered education about specific program components and direct access to TRC subject matter experts.

PSEG LI seeks $0.4M in advertising funding for the Commercial Efficiency Program. The CEP team continues to focus on engaging small and medium business customers through building assessments. The team also participates in Community Partnership Program events (i.e. trade shows, business expos, and fairs) to promote the CEP and other programs.

PSEG LI seeks $0.2M in advertising funding for the Home Comfort Program. Staff notes that the promotion of air-source heat pumps will continue through 2025. To promote the program, PSEG LI purchases banners on high traffic websites, radio ads on stations airing throughout PSEG LI territory, and print ads in newspapers, and participates in industry events.

PSEG LI seeks $0.2M for the Energy Efficiency Products program to increase the purchase and use of energy efficient appliances and lighting.[55] PSEG LI states that its outreach includes increasing awareness about the rebates/incentives available for ENERGY STAR appliances and beneficial electrification equipment, and the benefits of using such products.

Staff supports continuing outreach activities for individual EEDR programs; however, a more robust advertising and outreach plan is needed to more effectively engage customers. PSEG LI has not produced cost studies to determine the cost benefit results of advertising and outreach costs for each program. PSEG LI did not demonstrate that it has explored new

[55] PSEG LI's Response to Information Request DPS-20148.

approaches to reach its target audience, and/or methodologies to measure the success of its advertising and outreach activity. It is important for PSEG LI to continually re-evaluate the most effective way to reach its target audience. The $1.4M for "generalized advertising in support of PSEG LI's offerings"[56] includes $0.15M for Earth Month activities, $0.15M for its 2021 Energy Efficiency Conference, $0.15M for Sponsorships, $0.1M for contingency, and $0.85M for awareness of energy efficiency and sustainability education.

Staff recommends that the Company's advertising budget request of $2.3M be approved for EEDR programs. Staff recommends that PSEG LI provide quarterly updates on the advertising actual expenditures and budget revisions. Staff encourages the Company to identify advertising and outreach strategies and methodologies to measure the success of its advertising activity to reduce costs and ensure that the most cost-effective activities are being selected. Staff further recommends that any underspending be applied consistent with our recommendations concerning underspending as discussed above. Staff recommends that PSEG LI provide a detailed breakdown (i.e. costs associated with events, radio, T.V., Print, etc.) of advertising spending in future EEDR filings.

EEDR Labor and Outside Services

PSEG LI seeks funding for internal labor costs and for third party vendor and consulting costs. For 2021, PSEG LI proposes $5.38M for Energy Efficiency project related labor and $2.6M for PSEG LI Energy Efficiency related outside services.[57] The Company notes that the outside services budget provides for services by a third-party evaluation contractor and services provided by a third party to develop and support the annual Utility 2.0 filing.

Staff recommends approving PESEG LI's labor costs as proposed. The costs requested are in-line with historical costs incurred. Staff notes that outside services costs fluctuate on a year to year basis, based on third-party studies contracted by PSEG LI. Staff recommends the outside service budget as requested.

[56] PSEG LI's Response to Information Request DPS-20148.

[57] PSEG LI's Response to Information Request DPS-20070. PSEG LI's budget for EEDR Advertising, Labor, and Outside Services includes General and Administrative (G&A) costs to total $11.18M.