



2021 BUDGET

December 16, 2020

2021 BUDGET BY THE NUMBERS

2021 Operating and Capital Budget

2021 OPERATING BUDGET (\$ thousands)

Operating Revenues	3,661,987
Grant & Other Income	58,674
Total Revenues and Income	3,720,661
Power Supply Costs	1,545,928
Delivery Costs	775,938
PILOTs, Taxes & Fees	569,716
Interest Payments	373,004
Debt Reduction & OPEB	456,074
Operating Budget	3,720,661
Fixed Obligation Coverage	
LIPA Debt Plus Leases	1.35x
LIPA & UDSA Debt Plus Leases	1.22x

Note: The Operating Budget shown is based on revenue requirements. Taxes on power supply have been reclassified to PILOTs, Taxes, and Fees.

2021 CAPITAL BUDGET (\$ thousands)

Capital Projects	669,507
FEMA & PSEG Long Island Storm Hardening	94,414
Capital Budget	763,921
Funding from Operating Budget	192,330
FEMA Grant	21,973
Debt Issued to Fund Projects	549,617
Funding Sources	763,921
Percent of Capital Projects Funded from Debt	
Including FEMA Projects	72%
Excluding FEMA Projects	74%

INVESTMENTS FOR THE FUTURE

BEING CLEAN

- **\$99M** for utility-scale renewables
- **\$87M** for energy efficiency programs
- **\$23M** for residential and commercial solar
- **\$9M** utility 2.0 programs
- **\$6M** new LED lighting

IMPROVING RELIABILITY

- **\$196M** to repair circuits, replace poles and transformers, trim trees across the service territory
- **\$70M** for “Power On” – the second phase of storm hardening
- **\$764M** total Capital budget

OUR CUSTOMERS

- **\$65M** to expedite the deployment of smart meters to improve customer experience
- **\$17.6M** in annual funding for bill discounts to assist low- and moderate-income customers

RELIABILITY INVESTMENTS = REAL RESULTS

Customers with Power Outages



35%

Customers with >4 Outages Per Year



72%

Customers with “Flicker” Interruptions

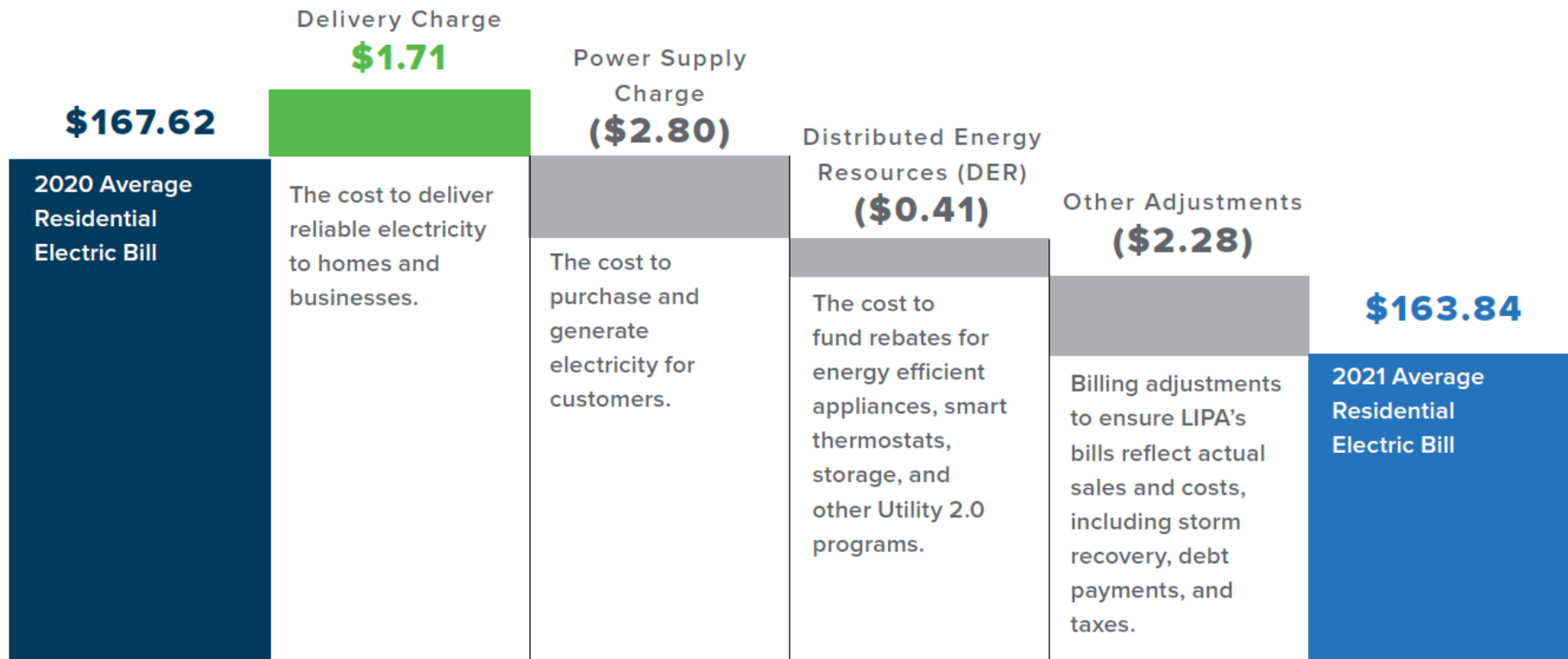


47%

National Utilities Ranking for Reliability

TOP 25%

ELECTRIC BILLS TO DECREASE



2021 BUDGET MAINTAINS FISCAL SUSTAINABILITY

- LIPA has achieved four credit rating upgrades since 2013
- Operating Budget targets 1.35x fixed obligation coverage

Financial Policy

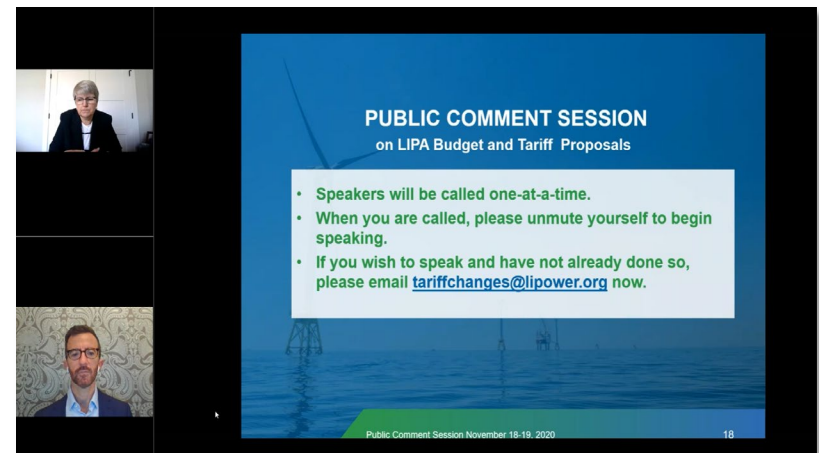


LIPA's Credit Rating Upgrades

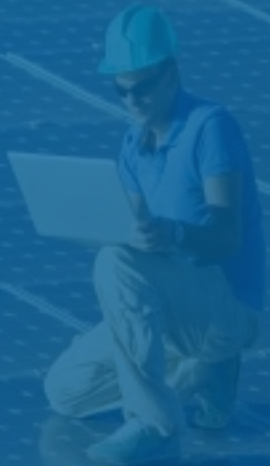
	2013 Ratings (Outlook)	2019 Ratings (Outlook)
Moody's Investors Service	Baa1 (Negative)	A2 (Stable)
Standard and Poor's	A- (Negative)	A (Stable)
Fitch Ratings	A- (Negative)	A (Stable)

2021 BUDGET PUBLIC COMMENTS

- ✓ Due to COVID-19, LIPA held two virtual public comment sessions via GoTo Meeting on November 18 and 19
- ✓ Written comments via email were also accepted
- ✓ There were no comments from the public on the 2021 Proposed Budget made during the virtual sessions or via email



Screenshots from the virtual session and public comment portions on November 18, 2020



QUESTIONS?

BOARD AGENDA SUMMARY SHEET

Committee or Board: Board	Date: December 4, 2020	Board Meeting Date: December 16, 2020
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For All Board Voting Items:

Title of Agenda Item: Approval of LIPA's 2021 Budget and Amendment of 2020 Budget

Consent Agenda: ☐ Yes ☒ No

Accompanying Presentation: ☒ Yes ☐ No

Recommendation from Committee: ☐ N/A ☒ F&A; ☐ GP&P; ☐ Oversight & Clean Energy

LIPA Presenter: LIPA Executive Committee

PSEG Long Island Presenter: N/A

For Finance Approval Items Only:

Budget ☒; **Plan of Finance** ☐; **Tariff Changes** ☐; **Other** ☐ (describe below)

Requested Action:	The Board is requested to adopt a Resolution: (i) approving the proposed 2021 Operating and Capital Budgets (the "Budget") which sets forth the revenue, grant, other income, and expenditure forecasts for the year ending December 31, 2021; (ii) amending the 2020 Operating and Capital Budgets; and (iii) establishing a regulatory asset related to the deferral of costs related to Tropical Storm Isaias for which restoration costs have been incurred but Federal Emergency Management Agency ("FEMA") grant agreements have not yet been executed.
Summary: (include proposed amendments to Board Policies, if applicable)	<p>The proposed 2021 Budget totals \$4.485 billion, including an Operating Budget of \$3.721 billion and a Capital Budget of \$764 million (attached as Exhibit "B"). The proposed 2021 Operating Budget funds delivery and power supply costs, taxes and debt service. The Capital Budget funds long-life infrastructure investments such as transmission, substations, poles and wires. In addition, the Operating and Capital Budgets fund investments in various information technology projects, services, and commodities needed to support system operations.</p> <p>The proposed 2021 Budget seeks to achieve a fixed rate obligation coverage of 1.35x, which is consistent with the Board's Policy on Debt and Access to the Credit Markets (the "Financial Policy"), as amended, which seeks to reduce LIPA's borrowing and interest cost and maintain the LIPA's credit ratings at a minimum of A2/A/A.</p> <p>The monthly electric bill for the average residential customer is projected to be \$163.84 in 2021, which is \$3.78 per month or 2.3% below the 2020 level of \$167.62. The primary drivers of the projected decrease are lower Power Supply Costs and credits resulting from the Revenue Decoupling Mechanism, partially offset by increases in infrastructure investments, storm restoration costs, operating expenses due to inflation, and energy efficiency investments, as described in greater detail in the Budget.</p>

FOR CONSIDERATION

December 16, 2020

TO: The Board of Trustees

FROM: Thomas Falcone

SUBJECT: Approval of the LIPA's 2021 Budget and Amendment of 2020 Budget

Requested Action

The Board of Trustees (the "Board") of the Long Island Power Authority ("LIPA") is requested to adopt a Resolution: (i) approving the proposed 2021 Operating and Capital Budgets (the "Budget") which sets forth the revenue, grant, other income, and expenditure forecasts for the year ending December 31, 2021; (ii) amending the 2020 Operating and Capital Budgets; and (iii) establishing a regulatory asset related to the deferral of costs related to Tropical Storm Isaias for which restoration costs have been incurred but Federal Emergency Management Agency ("FEMA") grant agreements have not yet been executed, as described below and specified in **Exhibit "A"**.

Background on 2021 Operating and Capital Budgets

The proposed 2021 Budget totals \$4.485 billion, including an Operating Budget of \$3.721 billion and a Capital Budget of \$764 million (attached as **Exhibit "B"**). The proposed 2021 Operating Budget funds delivery and power supply costs, taxes and debt service. The Capital Budget funds long-life infrastructure investments such as transmission, substations, poles and wires. In addition, the Operating and Capital Budgets fund investments in various information technology projects, services, and commodities needed to support system operations.

The proposed 2021 Budget seeks to achieve a fixed rate obligation coverage of 1.35x, which is consistent with the Board's Policy on Debt and Access to the Credit Markets (the "Financial Policy"), as amended, which seeks to reduce LIPA's borrowing and interest cost and maintain the LIPA's credit ratings at a minimum of A2/A/A.

The monthly electric bill for the average residential customer is projected to be \$163.84 in 2021, which is \$3.78 per month or 2.3% below the 2020 level of \$167.62. The primary drivers of the projected decrease are lower Power Supply Costs and credits resulting from the Revenue Decoupling Mechanism, partially offset by increases in infrastructure investments, storm restoration costs, operating expenses due to inflation, and energy efficiency investments, as described in greater detail in the Budget.

For 2021, staff projects LIPA will fund 72% of the \$764 million Capital Budget from debt issues, inclusive of FEMA projects. The Board's Financial Policy calls for generating sufficient cash flow from revenues to maintain the issuance of new debt as a percentage of capital spending at 64% or less as measured on a three-year rolling average. Due to the timing of the Smart Meter project as

well as the need to minimize the rate impact to customers who are struggling financially due to the COVID-19 pandemic, the percent of capital spending funded from debt will temporarily exceed the Board policy. In addition, the Board received a recommendation from LIPA's Financial Advisor, Public Financial Management, at its November 18, 2020 meeting to increase the coverage ratio starting in 2022 to generate additional cash flow from revenues in order to achieve the target set forth in the Board's Financial Policy for the percent of capital funded from debt in future years. Staff will monitor this ratio and recommend appropriate adjustments to either increase the cash flow or reduce capital spending if this percentage remains above the target in future budgets.

Changes from the Proposed Budget

The 2021 Budget presented herein includes a minor adjustment to the Proposed Budget presented to the Trustees on November 18, 2020. The 2021 Budget was updated to reflect the final Department of Public Service (the "DPS") Utility 2.0 Program recommendations, which recommended an update to the development schedule and budget for the Commercial and Industrial Demand Management Pilot. This resulted in a minor reduction to the 2021 Operating and Capital Budgets for the Utility 2.0 Program by \$92,000 and \$2 million, respectively.

Annual Budget and Rate Updates

Under the New York Public Authorities Law as amended by the LIPA Reform Act (P.A.L. § 1020 et seq.), LIPA and PSEG Long Island are required to submit a proposed rate increase to the New York DPS for review if it would increase the rates and charges by an amount that would increase LIPA's annual revenues by more than 2.5% of the total annual revenues. The proposed budget and associated rate adjustments (attached as **Exhibit "C"**) would increase LIPA's 2021 revenues by less than this threshold. The delivery rate adjustments will be effectuated through a pro rata increase to all Service Classifications and rate components.

Allocation of Intra-Year Power Supply Capacity Costs

In December 2015, the Trustees approved a regulatory asset to allow for a greater share of the recovery of certain fixed generation capacity costs in the Power Supply Charge ("PSC") from customers during the summer months consistent with when the generation capacity is needed rather than recovering these fixed costs equally through the year. Staff believes this accurately reflects cost causation in electric rates. The December 2015 approval by the Trustees specified that the schedule of deferrals and amortization of such costs in future years would be presented in future budgets. There is no net impact on an annual basis from the reallocation of these costs within the year, with allocations by month from plus \$33 million to minus \$22 million, as shown in the table below.

Allocation of Intra-Year Power Supply Capacity Costs (\$ millions)	
January	(\$11.460)
February	(\$21.530)
March	(\$18.670)
April	(\$11.660)
May	\$1.150
June	\$7.960
July	\$24.920
August	\$32.560
September	\$17.200
October	(\$10.910)
November	(\$8.670)
December	(\$0.890)
Total	(\$0.000)

2021 Utility 2.0 Plan

The 2021 Proposed Budget includes \$96 million (including the carryover) in Capital funding and \$13 million in Operating funding for Utility 2.0 initiatives. The amounts budgeted for Utility 2.0 plan initiatives reflect programmatic and budgetary adjustments recommended by the DPS in its recommendation to the LIPA Board regarding the Utility 2.0 Plan (attached as **Exhibit “D”**). Initiatives funded by the Utility 2.0 Program include the previously approved full deployment of Smart Meters, expanded customer outreach and information initiatives to increase customer awareness of programs to reduce energy usage, an on-bill financing pilot, advanced hosting capacity maps, a DER visibility platform, a new process for assessing non-wires alternatives, and support for beneficial electrification such as electric vehicle make ready initiatives and a heat pump pilot program.

Pursuant to the DPS recommendation, PSEG Long Island tracks all Utility 2.0 project costs and reconciles these costs within the Utility 2.0 Program funding levels on an annual basis. Further, DPS recommends that budget variances be addressed exclusively as part of future Utility 2.0 filings. As a result, LIPA follows regulatory accounting treatment to properly align Utility 2.0 Program revenue recognition with the timing of expenses.

2021 Energy Efficiency Plan

The 2021 Proposed Budget includes \$87 million in Operating Revenue for initiatives proposed in the PSEG Long Island’s 2021 Energy Efficiency and Renewable Plan. The proposed funding of the Energy Efficiency and Renewable Plan is consistent with the DPS recommendation (attached as **Exhibit “D”**).

LIPA Information Technology

The Proposed Operating and Capital Budgets include \$13 million for Information Technology (“IT”)

professional services and commodities that are expected to be procured off the contracts negotiated by the New York State Office of the General Services (NYS-OGS) and Federal Supply Schedules (General Service Administration, GSA).

IT professional services include management support and expert assistance outside the scope of service for LIPA's current IT consulting services contracts. These services would be billed on a fixed hourly labor rate or at a fixed-cost, as applicable, on an as-needed basis to support various IT system implementation initiatives as well as operational and oversight support functions. Over the next three years, such professional services anticipated includes system design and architecture to support LIPA IT infrastructure upgrades, data analytics, a data warehouse, advanced analytics, an enterprise document and record management system, intranet, website, time and attendance initiatives, system integration and implementation of IT helpdesk, inventory management, enterprise resource planning system (ERP), rate case management, financial management and modeling, Human Resource management, cloud migration, cybersecurity planning and implementation, IT strategic planning, business process improvement initiatives related to various IT systems implementations, quality assurance of various IT initiatives within LIPA, independent verification and validation of IT system implementations managed by PSEG Long Island, and Oversight Support.

Commodities to be procured include hardware, software licenses, software, applications, cloud services, cybersecurity and systems monitoring and management subscription services, system and data center hosting, telephony, telecom, audiovisual, video conferencing support and services on an as-needed basis in the ordinary course of business and continued maintenance of the existing hardware and software.

Amendment of the 2020 Operating and Capital Budgets

PSEG Long Island's 2020 approved Operating Budget is being reduced by \$10 million due to the underrun in the 2020 Utility 2.0 Operating Budget. This underrun was identified in the July 2020 Utility 2.0 Filing.

PSEG Long Island is reducing its approved 2020 Capital Budget by \$18 million. This reflects the carryover of \$28 million in Capital projects from 2020 to 2021, including \$11 million associated with various Transmission and Distribution projects and \$14 million associated with Information Technology projects. The reduction is offset by an increase of \$10 million in the 2020 Utility 2.0 Capital Budget associated with the acceleration of Smart Meter installations.

Regulatory Accounting for Tariff Amendments

LIPA is proposing to amend its Tariff to include in its Delivery Service Adjustment additional mechanisms for costs related to Board approved Non-storm Emergency Events and budget variances related to Bad Debt Expenses and Service Provider Pension and Other Post-Employment Benefits. The budget resolution requests approval of regulatory accounting treatment to implement the tariff changes and ensure a proper alignment of revenue recognition and the timing of expenses.

Regulatory Accounting for the Deferral of Costs Related to Tropical Storm Isaias

Governmental Accounting Standard Board Statement No. 33, *Accounting and Financial Reporting for Nonexchange Transactions* establishes accounting guidance for grants. Additional guidance requires LIPA have a signed grant agreement in order to recognize grant income related to Tropical Storm Isaias as a receivable from FEMA. As LIPA has not yet entered into such an agreement, grant income cannot be recognized at this time.

LIPA is afforded the ability to defer current costs to future periods to align cost recognition with the period of recovery from customers under GASB Statement No. 62, *Codification of Accounting and Financial Reporting guidance contained in pre-November 30, 1989 FASB and AICPA pronouncements*. Accordingly, staff is seeking Board approval for the deferral for future recovery of the portion of Tropical Storm Isaias costs anticipated to be reimbursed by FEMA. LIPA anticipates receiving grant reimbursement, although the amounts are estimates and cannot reasonably be determined until completion of the grant application process.

Public Comment on the 2021 Operating and Capital Budgets

LIPA held two virtual public comment sessions regarding the 2021 Budget. The first session occurred on Wednesday, November 18, 2020 and the second session occurred on Thursday, November 19, 2020. No public comments were received at these sessions regarding the 2021 Operating and Capital Budgets. LIPA also accepted written comments. To date, no written comments have been received.

Public Comment on the Utility 2.0 and Energy Efficiency Plan

The DPS solicited public comments on PSEG Long Island's Utility 2.0 and Energy Efficiency Plan.¹ These comments have also been reviewed by LIPA and PSEG Long Island, and the following comment summaries and responses are for consideration by the LIPA Board.

The Natural Resources Defense Council ("NRDC") submitted comments in support of all of the initiatives proposed in the Plan, with one exception. The NRDC stated that the proposed DER Visibility Platform, a tool for remote monitoring of DERs, would increase costs and reduce benefits for customers with DERs.

Response: LIPA and PSEG Long Island appreciate the NRDC's support of the Utility 2.0 and Energy Efficiency Plan. Regarding the DER Visibility Platform, as proposed in the Utility 2.0 Plan, the Platform will enable a deeper understanding of the generation characteristics of DERs located in the most saturated areas of Long Island's grid. At this stage, the Platform is not intended (and will not have the capability) to remotely control or curtail individual DERs. DER control functionality may be proposed in subsequent Utility 2.0 filings. However, whether or not control functionality is ultimately added, the DER Visibility Platform will enable greater (not lesser) penetration of DERs, because visibility into actual DER output will allow PSEG Long Island distribution operators to ensure the

¹ Public comments were filed in Matter No. 14-01299, and are available at:
<http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=45709>

safety and reliability of the electric system with DERs integrated on the circuits under different system conditions, ultimately increasing the hosting capacity of constrained feeders. Additionally, the proposed DER Visibility Platform will support New York State's Accelerated Renewable Energy Growth and Community Benefit Act's purpose of prioritizing the planning, investment and responsible development of grid infrastructure, allowing for renewable energy to be delivered to where it is needed in the State to meet CLCPA targets. The proposed DER Visibility Platform directly supports the Renewable Energy Growth Act by enabling greater penetration of DERs without compromising the safety and reliability of Long Island's electric grid.

The New York Battery and Energy Storage Technology Consortium ("NY-BEST") submitted comments stating that while NY-BEST is supportive of many of the components of the 2020 Utility 2.0 Plan, it believes the Plan takes "a narrow, incremental and conservative approach and fails to provide a clear path to the future which aligns with and supports the State's goals." NY-BEST recommended that LIPA and PSEG Long Island adopt more aggressive energy storage deployment goals and examine opportunities including peaker replacements and T&D deferment.

Response: The Utility 2.0 Plan is not intended to be the only initiative to meet the State's CLCPA goals, rather there are a number of actions and programs, of which the Utility 2.0 Plan is a subset. LIPA remains committed to meeting at least its share of State goals for energy storage. LIPA and PSEG Long Island intend to issue a storage RFP in the first quarter of 2021, which will offer a comprehensive analysis of actual proposals. LIPA and PSEG Long Island are committed to deploying as much storage as is beneficial to our customers using the actual proposals of the RFP.

In addition, we continue to analyze all capital construction projects for non-wire alternative solutions, with a particular focus on storage. Similarly, we continue to investigate storage as part of a potential solution for existing fossil generation displacement in load pockets as witnessed by our recent RFI for relief solutions on the North Fork. Where feasible and cost effective, we envision pursuing these storage opportunities and expect that as prices continue to drop more and more of these opportunities will materialize and be capable of providing cost effective alternative solutions. We also note that LIPA and PSEG Long Island launched a behind the meter storage offering as part of its Dynamic Load Management program, and presently has interconnection applications for approximately 440 behind the meter battery installations.

Bloom Energy, a company that markets fuel cells, submitted comments stating that the Utility 2.0 Plan should place much greater emphasis on the potential for distributed generation to be used as a tool to improve system resiliency and customer reliability. Bloom objects to the cancellation of previously existing incentives for fuel cells and combined heat and power in November 2019 and the lack of newly proposed incentives for these resources in the 2020 Utility 2.0 Plan.

Response: LIPA and PSEG Long Island put a high emphasis on resiliency and have undertaken numerous initiatives since hurricane Sandy to improve overall reliability and resiliency of the electric grid. We also remain committed to leveraging the value of

distributed energy resources as discussed throughout PSEG Long Island's filed Utility 2.0 plan. However, LIPA and PSEG Long Island are also committed to the State policy goals of reducing carbon by focusing on renewable energy and promoting beneficial electrification of existing fossil-based consumer activities. We believe that the elimination of ratepayer funded incentives for fossil-fuel powered resources is consistent with the CLCPA mandates and parallel actions taken by NYSERDA, which eliminated incentives for fossil-fuel powered DERs in the rest of New York's utilities.

The New York Power Authority ("NYPA") submitted comments supporting PSEG Long Island's proposal to establish a make-ready infrastructure program for electric vehicle chargers, with recommended changes. Specifically, NYPA recommends that the proposed timeline and funding for this program should be accelerated, that a single point of contact (or ombudsperson) be identified and EV charger hosting capacity maps be developed to streamline the interconnection process for electric vehicle charging stations, and that a fleet advisory service be developed. NYPA also recommended a change in LIPA's VDER tariff to value the capacity component of the value stack using summer and winter strip installed capacity prices instead of spot market prices. The City of New York also submitted comments urging the acceleration of PSEG Long Island's proposed EV make-ready program. The City notes that the make-ready budget proposed in the 2020 Utility 2.0 Plan is small relative to the make-ready budget ordered by the Public Service Commission for Consolidated Edison of nearly \$300 million over five years.

Response: LIPA and PSEG Long Island remain committed to the overall goals of the EV Make Ready order and have commence work on an EV Make Ready Study, as described in the Utility 2.0 Plan. The study, which is planned for the 1st quarter of 2021, will establish a timeline for full deployment of make-ready infrastructure and a fleet advisory service consistent with statewide deployment goals. This timeline will be included in the 2021 Utility 2.0 filing for public review and comment. We note that the 2020 Utility 2.0 Plan included only the 2021 make-ready budget, and the total five-year make-ready budget (to be proposed upon completion of the study) will be significantly larger. In the meantime, LIPA and PSEG Long Island remain committed to working with the industry on any EV Make Ready projects that materialize during 2021 and have incentives available to support such projects. LIPA agrees with NYPA that a single point of contact (or ombudsman) should be established for interconnection of EV chargers and that defined and measurable interconnection timelines should be in place and monitored. LIPA directs PSEG Long Island to develop a single point of contact for EV charger interconnection, as well as an EV charger interconnection developer satisfaction survey, which will enable LIPA and PSEG Long Island to assess the timeliness and effectiveness of the EV charger interconnection process. LIPA and PSEG Long Island do not believe that end-use specific hosting capacity maps are cost-justified at this time but will continue to assess this recommendation for potential inclusion in future Utility 2.0 Plans. LIPA and PSEG Long Island believe the current VDER pricing is appropriate because the capacity spot market prices are more reflective of actual capacity costs on Long Island.

Edgewise Energy submitted comments stating that PSEG Long Island should launch a continuous marketing campaign to raise awareness and educate residential ratepayers about community distributed generation ("CDG") opportunities beginning in early Q1 2021.

Response: LIPA and PSEG Long Island intend to develop a webpage to educate customers on CDG and connect them with potential opportunities and work with developers to consider other marketing approaches as appropriate. We believe it is important to ensure that sufficient CDG capacity is in place to meet customer demand before any broad-based marketing campaign, such as that proposed by Edgewise, is launched, so that customer inquiries generated by such a marketing campaign are capable of being directed to an in service CDG project in a timely manner.

The Sierra Club submitted comment in support of PSEG Long Island's proposal to develop a make-ready infrastructure program and fleet electrification plan and urges timely deployment of the proposal. The Sierra Club urges PSEG Long Island to ensure that its Energy Efficiency Plans and electric vehicle programs are capable of meeting Long Island's share of the State's energy efficiency and electric vehicle goals.

Response: LIPA and PSEG Long Island remain committed to meeting New York's CLCPA targets and other policy goals, including targets for energy efficiency and beneficial electrification. We believe that Long Island is on track to meet its energy efficiency and EV charger deployment goals, and we will continue to assess and adjust plans as needed to ensure the targets are met.

The New York Solar Energy Industry Association ("NYSEIA") submitted comments stating that Long Island's allocated share of New York's 6 gigawatts distributed solar goal should serve as a minimum target, that PSEG Long Island and LIPA should establish a roadmap for compliance with the CLCPA's 2030 and 2040 mandates, and that PSEG Long Island and LIPA should increase their investments in incentives and distribution infrastructure in support of distributed solar and community solar.

Response: LIPA and PSEG Long Island have been leaders in the promotion and development of distributed solar photovoltaics. We are evaluating the CLCPA and developing our long-range approaches for meeting such goals, in coordination with the CLCPA working groups established for this purpose. LIPA's next integrated resource plan, currently in development, will incorporate the State's 70% by 2030 and 100% by 2040 mandates and will set forth the most cost-effective pathway to meeting them. With respect to distributed solar targets, LIPA and PSEG Long Island are on target to exceed Long Island's share of the 2025 mandate. We note that the Utility 2.0 filing is an annual filing, and as the working groups and committees supporting the CLCPA continue to issue guidance, we expect our annual filings to set forth expanded plans on approaches which balance and optimize achievement of NYS goals with maintaining affordable and reliable energy delivery to our customers.

Recommendation

Based upon the foregoing, I recommend approval of the above requested action by adoption of a resolution in the form of the draft resolution attached hereto.

Attachments

<u>Exhibit “A”</u>	Resolution
<u>Exhibit “B”</u>	Proposed 2021 Operating and Capital Budgets
<u>Exhibit “C”</u>	Tariff redline reflecting rate adjustments
<u>Exhibit “D”</u>	DPS Utility 2.0 and Energy Efficiency Plan Recommendation

APPROVAL OF THE 2021 OPERATING AND CAPITAL BUDGETS AND AMENDMENT OF THE 2020 BUDGETS

WHEREAS, the Long Island Power Authority (“LIPA”), through its wholly owned subsidiary, the Long Island Lighting Company d/b/a LIPA, owns the electric transmission and distribution system serving the counties of Nassau and Suffolk and a small portion of the County of Queens known as the Rockaways; and

WHEREAS, the Board of Trustees (the “Board”) is required to approve annual budgets for LIPA’s operations and for capital improvements; and

WHEREAS, the proposed 2021 Budget incorporates Operating and Capital Budgets for the operation and maintenance of the transmission and distribution system, customer services, business services and energy efficiency and renewable energy programs which are predicated on improving storm response and restoration, customer satisfaction, reliability and storm hardening; and

WHEREAS, the proposed Operating and Capital Budgets include \$13 million for Information Technology (“IT”) professional services and commodities that are expected to be procured off the contracts negotiated by the New York State Office of the General Services (“NYS-OGS”) and Federal Supply Schedules; and

WHEREAS, the resolution is being adopted in accordance with the requirements of section 1.150-2 of the applicable Treasury Regulations, as evidence of LIPA’s intent to finance certain of its capital expenditures through the issuance of debt; and

WHEREAS, under the New York Public Authorities Law as amended by the LIPA Reform Act (P.A.L. § 1020 et seq.), LIPA and PSEG Long Island are required to submit a proposed rate increase to the New York State Department of Public Service for review if it would increase the rates and charges by an amount that would increase LIPA’s annual revenues by more than 2.5% of total annual revenues. The proposed Budget and associated rate adjustments would increase LIPA’s 2021 revenues by less than this threshold. Therefore, the proposed Budget contains rate updates consistent with the LIPA’s Mission, Board Policies, and the LIPA Reform Act; and

WHEREAS, LIPA presented its proposed 2021 Operating and Capital Budgets to the Board of Trustees on November 18, 2020 and held two public comment sessions one on November 18, 2020 and one on November 19, 2020; and

WHEREAS, the memorandum accompanying this resolution includes a schedule of deferrals and amortization of certain generation capacity costs within the months of the year to affect the more accurate reflection of cost causation in electric rates within each month of the year; and

WHEREAS, LIPA’s financial statements are prepared in accordance with generally accepted accounting principles as prescribed by the Governmental Accounting Standard Board (“GASB”); and LIPA is subject to existing GASB No. 62, which outlines regulatory accounting for entities or operations which are rate regulated and allows LIPA to defer for future recovery reimbursable costs

related to Tropical Storm Isaias to the recovery period subsequent to completion of the FEMA grant process; and

WHEREAS, the Finance and Audit Committee (the “Committee”) of the Board of Trustees recommended approval of the 2021 Operating and Capital Budgets and associated rate adjustments.

NOW, THEREFORE, BE IT RESOLVED, that consistent with the accompanying memorandum, the Board of Trustees hereby approves the 2021 Operating and Capital Budgets and associated rate adjustments, which are attached hereto; and

BE IT FURTHER RESOLVED, that the Board hereby approves amendment to LIPA’s 2020 Capital Budget to reduce expenditures by approximately \$18 million and defer approximately \$28 million to 2021; and

BE IT FURTHER RESOLVED, that the Board hereby approves amendment to LIPA’s 2020 Operating Budget to reduce expenditures by \$10 million associated with Utility 2.0 Plan initiatives; and

BE IT FURTHER RESOLVED, that the Board hereby approves the establishment of a regulatory accounting treatment to ensure a proper alignment of revenue and costs associated with the Utility 2.0 Plan initiatives; and

BE IT FURTHER RESOLVED, that the Board hereby approves LIPA’s regulatory accounting treatment to ensure proper alignment of revenue and costs associated with the proposed tariff changes to include in its Delivery Service Adjustment additional mechanisms for costs related to Board approved Non-storm Emergency Events and budget variances related to Bad Debt Expenses and Service Provider Pension and Other Post-Employment Benefits; and

BE IT FURTHER RESOLVED, that the Board hereby approves the establishment of a regulatory asset related to the deferral of costs related to Tropical Storm Isaias for which restoration costs have been incurred but Federal Emergency Management Agency grant agreements have not yet been executed; and

BE IT FURTHER RESOLVED, that the Board hereby approves LIPA’s finance the requirements of the 2021 and 2022 Capital Budgets, as adjusted from time to time, through a combination of internally-generated funds and the issuance of LIPA tax-exempt or taxable debt and authorizes the Chief Executive Officer or his designers to evidence such intent by appropriate certifications; and

BE IT FURTHER RESOLVED, the Chief Executive Officer or his designee be, and hereby is, authorized to execute and effect agreements to engage IT professional services and commodities consistent with the accompanying memorandum; and

BE IT FURTHER RESOLVED, that the Board hereby authorizes the Chief Executive Officer and his designees to carry out all actions deemed necessary or convenient to implement this resolution.

Dated: December 16, 2020



Powering Long Island's Energy Future

2021 Budget





customers
1,023,221
residential
116,560
commercial

2020 peak demand

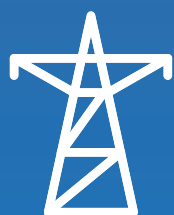
5,269
megawatts

energy requirements

20,104,072
megawatt hours

generating capacity

5,757
megawatts



distribution system

9,000
miles overhead

5,000
miles underground

189,000
transformers

transmission system

1,400
miles

substations

30 **152**
transmission distribution

2021 budget

\$3,720,661,000
OPERATING

\$763,921,000
CAPITAL

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SECTION II

LIPA's 2021 Budget

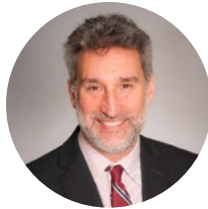
MISSION STATEMENT

LIPA is a not-for-profit public utility with a mission to enable clean, reliable, and affordable electric service for our customers on Long Island and the Rockaways.

BOARD OF TRUSTEES



Ralph V. Suozzi
Chairman of the Board



Mark Fischl
Vice Chairman of the Board,
Chair, Oversight & Clean
Energy Committee



Elkan Abramowitz
Chair, Governance,
Planning, & Personnel
Committee



Sheldon L. Cohen
Chair, Finance & Audit
Committee



Drew Biondo
Trustee



Mathew C. Cordaro, Ph.D.
Trustee



Peter J. Gollon, Ph.D.
Trustee



Lauren Harris
Trustee



Ali Mohammed
Trustee

GOVERNANCE MODEL

The Long Island Power Authority is governed by a local Board of Trustees. The Board supervises, regulates, and sets policy for LIPA. The Board consists of nine Trustees, five of whom are appointed by the Governor, two by the Temporary President of the State Senate, and two by the Speaker of the State Assembly.

The Trustees serve for staggered four-year terms. The LIPA Reform Act of 2013 requires that all Trustees reside on Long Island or in the Rockaways and have relevant utility, corporate board, or financial experience. Trustees are not compensated for their service.

STRATEGIC DIRECTION BY THE BOARD

The Board has defined LIPA's mission as enabling clean, reliable, and affordable electric service for our customers. The Board has adopted a series of policies related to LIPA's mission, operations, and governance. For each Board Policy, the Board has specified required performance reports by management that allow the Board to monitor the Authority's performance relative to its policies.

For more information about the Board's Policies, please visit lipower.org/mission.

EXECUTIVE MANAGEMENT



Thomas Falcone
Chief Executive Officer



Anna Chacko
General Counsel



Mujib Lodhi
Chief Information Officer and
Senior Vice President of
Customer Experience



Tamela Monroe
Chief Financial Officer



Bobbi O'Connor
Chief Administrative
Officer, Secretary to the
Board of Trustees



Rick Shansky
Senior Vice President,
Operations Oversight



Kenneth Kane
Senior Advisor
for Oversight



Justin Bell
Vice President, Public
Policy and Regulatory
Affairs



Michael Deering
Vice President,
External Affairs



James Miskiewicz
Deputy General Counsel



Kathleen Mitterway
Vice President, Audit



Donna Mongiardo
Vice President,
Controller



Barbara Ann Dillon
Director of Human
Resources and Administration



Jennifer Hayen
Director of
Communications



Thomas Locascio
Director of
External Affairs

OUR VISION: CLEAN, LEAN, AND CUSTOMER-FIRST

An electric utility for Long Island and the Rockaways
that is focused on our customers' needs, providing
clean, reliable energy, at the least possible cost.



SECTION 1

BUDGET MESSAGE

BUDGET MESSAGE

Dear Customer-Owners and Stakeholders,

Each year, LIPA's Budget Message covers the major topics affecting service to our customer-owners, including our performance, oversight of our vendors, and plans for delivering value to consumers during the coming year.

As we prepare LIPA's Budget for 2021, the world continues to manage through a health crisis that affects our customers, employees, and the economy. Our thoughts go first to those most affected by COVID-19 and our front-line workers who have been providing essential services throughout the pandemic.

Despite these challenging times, LIPA remains focused on our Board of Trustees' Vision for a Clean, Lean, and Customer-First electric utility for Long Island and the Rockaways. The Board expects LIPA and PSEG Long Island to deliver exceptional results, including:

- **Outstanding customer satisfaction**, as measured by a third party, among the top 25 percent of electric utilities in the country by 2022;
- A **highly reliable electric grid** that is within the top 25 percent of peer electric utilities – equivalent to fewer than one power outage a year per customer or 99.99 percent reliability;
- Meeting **New York's aggressive climate goals**, including 70 percent renewable energy by 2030 and a carbon-free electric grid by 2040; and
- Providing **electric service at the lowest possible cost**, with rates that are comparable to or below our neighboring utilities in the New York City metropolitan area.

Those familiar with the troubled history of electric service on Long Island know how ambitious these targets remain. Most significantly, **PSEG Long Island missed the mark in its response to Tropical Storm Isaias in August 2020**. However, we are learning lessons from that storm and continue to advance on each of the Board's expectations, as I will describe below.



Thomas Falcone
Chief Executive Officer

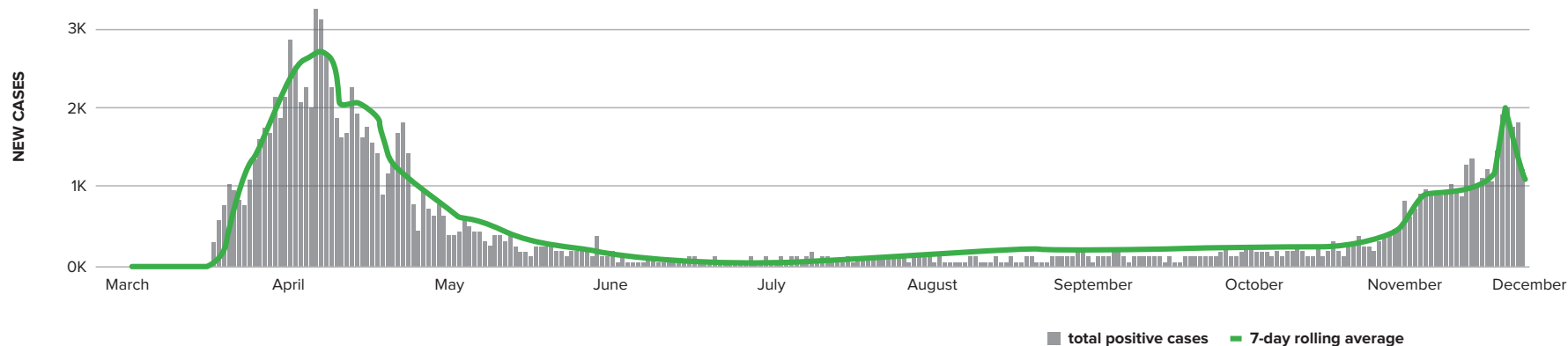
IMPACT OF THE COVID-19 PANDEMIC ON LONG ISLAND AND THE ROCKAWAYS

The New York metropolitan area was hit hard by COVID-19 at the beginning of the pandemic and continues to feel its effects, with more than 123,000¹ confirmed cases on Long Island to date. Under the leadership of Governor Andrew M. Cuomo and his *New York State on Pause* executive order, all non-essential businesses were closed on March 22, 2020, and new infections peaked in early April, as shown in Figure 1. This Pause reduced the new infection rate by 97 percent between March 22 and May 26, and despite the recent upturn, infection rates remain below pre-Pause levels.

The pandemic and business closures have had a significant economic impact throughout our region, including on electric sales. The unemployment rate on Long Island increased from 3.8 percent in February to over 16 percent in April.² Commercial electric sales were off by as much as 18 percent on a weather-normalized basis in April and May, compared to the prior year. Offsetting those declines, residential electric sales increased by as much as eight percent during the peak period when businesses were closed and customers remained at home.

FIGURE 1

COVID-19 Infection Rate on Long Island



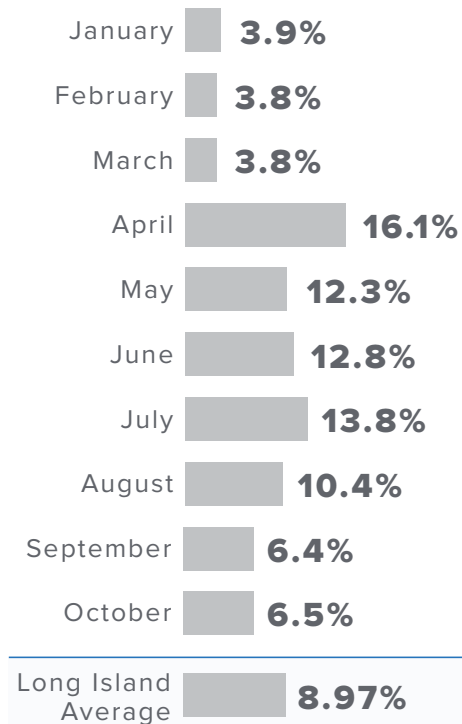
¹ Suffolk and Nassau County Departments of Health and New York State

² New York State Department of Labor

With nonessential businesses re-opening in phases between May 27 and July 8, unemployment and electric sales have started to revert to trend (see Figures 2 and 3), although this will likely take several years.

FIGURE 2

Unemployment Rate on Long Island during 2020

**FIGURE 3**

Weather Adjusted Electric Sales: March-November 2020

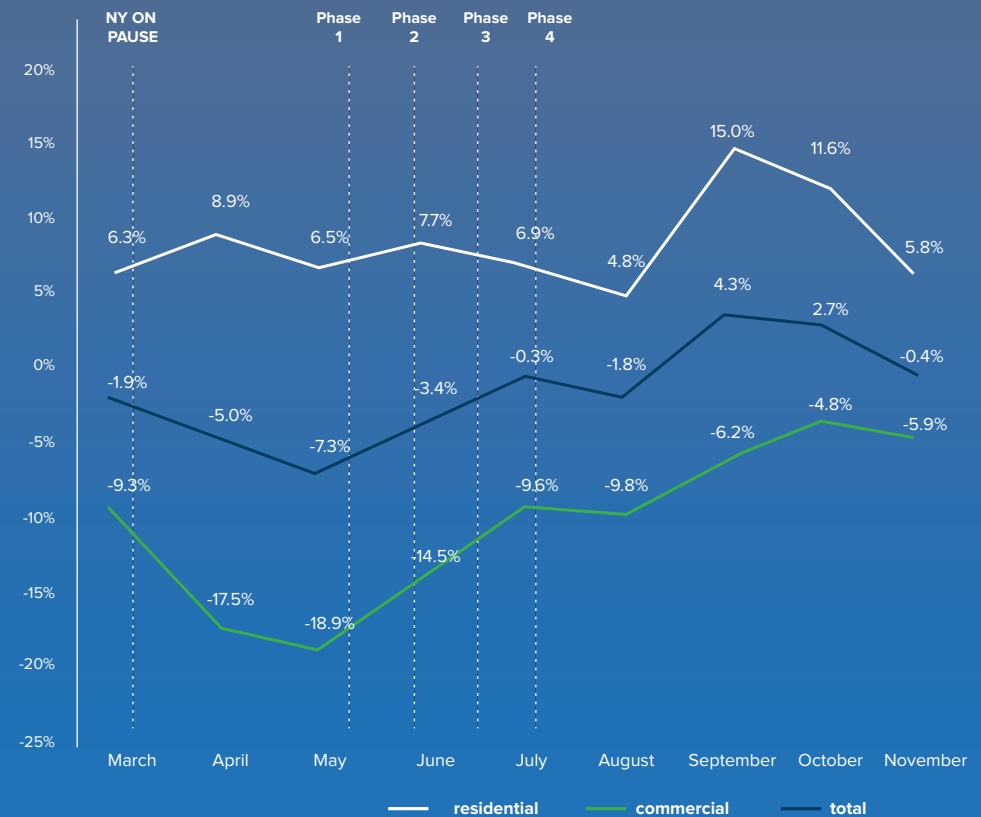
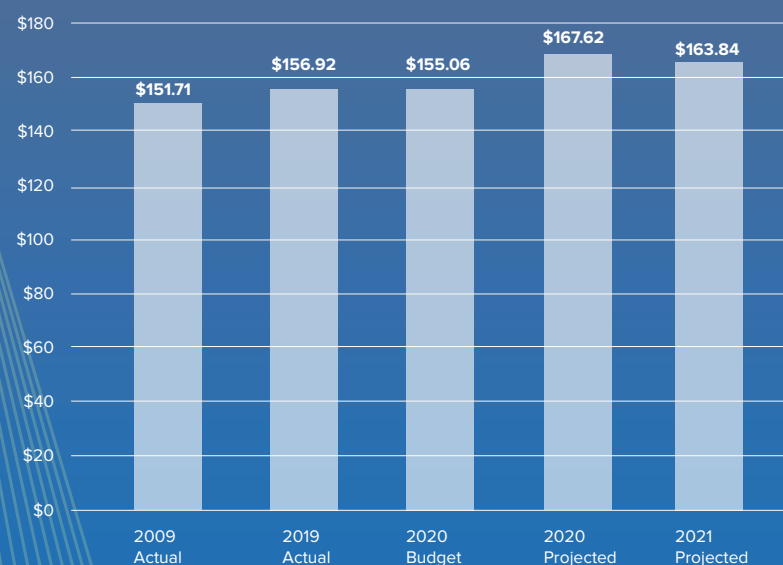


FIGURE 4

Average Electric Bills Remained Roughly Flat from 2009-2019



³ 2020 Projected includes actual residential bills through the 3rd quarter of 2020 and projected through the 4th quarter of 2020. The difference between 2020 Budget and 2020 Projected bills is due to increased customer usage during the pandemic and a hotter than normal summer.

The pandemic will continue to challenge LIPA and our customers in 2021, particularly in delivering on the Board's aggressive goals to provide a cleaner, more reliable, customer-focused utility to our customer-owners, while controlling the impact of costs on residential customer bills. Thus far, **we have successfully accomplished the Board's goals while holding the average residential customer bill to a roughly three percent increase between 2009 and 2019** — far below the rate of inflation — as shown in Figure 4.

However, with increased customer usage during the pandemic and a hotter than normal summer, residential electric bills have been higher in 2020, reaching an average of \$168 per month, compared to LIPA's 2020 Budget of \$155. **We project that electric bills will decrease in 2021 to \$164 per month**, assuming continued elevated pandemic usage and typical weather.

In May, to help customers manage their rising costs, LIPA and PSEG Long Island announced several belt-tightening actions for 2021, 2022, and 2023, including:

- Deferring \$60 million of existing projects from the Capital Budget from 2021 and 2022 and deferring \$150 million of new Capital initiatives;
- Cutting \$15 million from the Operating Budget and deferring \$80 million of new operating initiatives;
- Refinancing outstanding bonds for an estimated \$70 million of present value interest savings; and
- Retiring 68 megawatts (MW) of peaking plants and 400 to 600 MW of steam generation between 2020 and 2022.

With these and other measures (see Figure 13), **the LIPA Budget will remain flat from \$3.74 billion in 2020 to \$3.72 billion in 2021.**

In addition to the numbers, there is the human element. I am incredibly proud of LIPA and PSEG Long Island's 2,500 employees. Our essential staff has continued to report in person, every day, even during the times of greatest uncertainty, demonstrating their commitment to both our customers and community, while we all have also adjusted to new ways of working together.

LIPA BOARD HELPS CUSTOMERS DURING THE PANDEMIC

The LIPA Board of Trustees has continued to meet during the pandemic. To ensure that customers impacted by the coronavirus pandemic have access to essential electricity service, the Board has:

- Suspended customer terminations and late payment charges;
- Extended the grace period for low- and moderate-income customers to renew bill discounts;
- Suspended reconnection fees for commercial customers who choose to disconnect their electric service during pauses in business activity; and
- Eased repayment terms for customers entering into deferred payment agreements.

By these actions, the Trustees have waived an estimated \$9.4 million in payment-related charges. In addition, the Trustees increased bill discounts and set targets to enroll more customers in our discount programs—growing funding for customer bill assistance to a record \$14.4 million in 2020—quadrupling the average funding level of the prior five years. **The 2021 Budget now proposes to further increase customer bill assistance to \$17.6 million.**

FIGURE 5

Long Island's Largest Storms

Storm	Outages	Damage Locations
Superstorm Sandy 2012	1.19M	37,000
Hurricane Gloria 1985	750K	18,730
Tropical Storm Isaias 2020	645K	22,986
Tropical Storm Irene 2011	523K	18,926



Tropical Storm Isaias making landfall on Northeast

Source: National Oceanic and Atmospheric Administration

LEARNING FROM PSEG LONG ISLAND'S RESPONSE TO TROPICAL STORM ISAIAS

On August 4, Tropical Storm Isaias made landfall on Long Island. The storm moved swiftly with wind gusts of up to 70 miles per hour. **The resulting damage to the electrical system caused approximately 645,000 customer outages, making it the third-most damaging storm to affect Long Island's electric grid**, as shown in Figure 5. It took PSEG Long Island five days to restore 75 percent of customers and eight days to restore 99 percent of customers.

Significantly, on the afternoon of the storm, both PSEG Long Island's Outage Management System (OMS) and telephone system failed. The OMS and its feeder systems are complex, mission-critical information technology used to report power outages, assess damage, estimate customer restoration times, dispatch trucks, and communicate with customers, as shown in Figure 6.

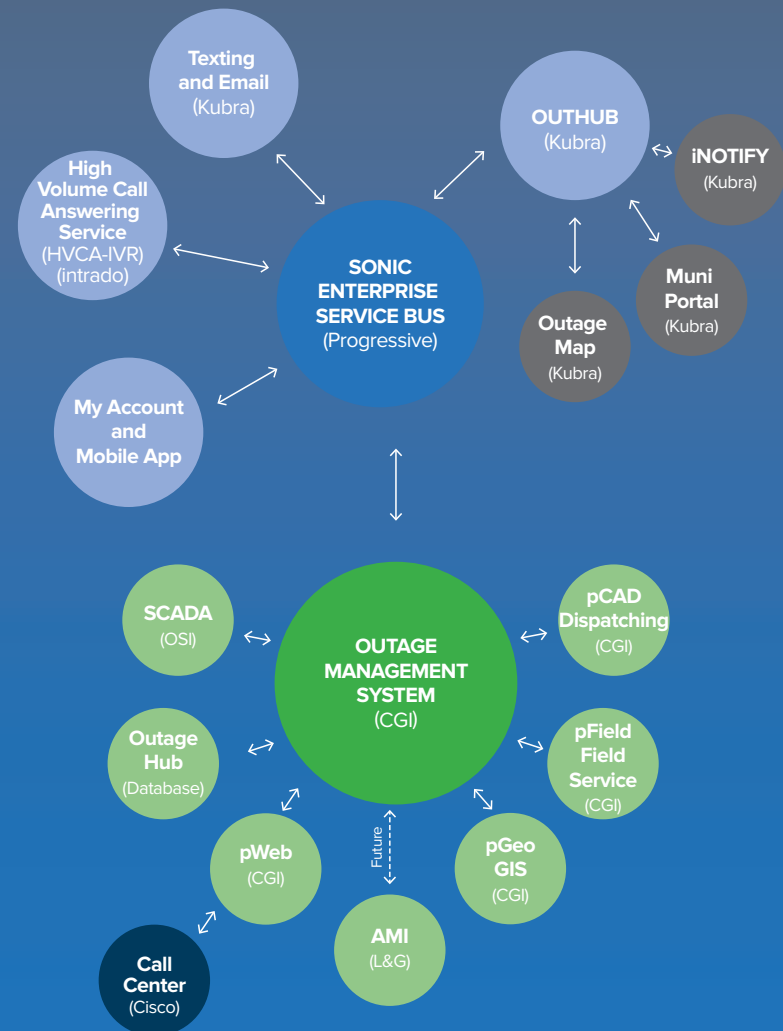
The failure of the OMS meant that customers could not communicate with PSEG Long Island via the customer website, mobile phone application, or text message. The malfunction also caused estimated restoration times to be sent to customers that were optimistic and inaccurate.

Large numbers of customers called PSEG Long Island's call center to report outages and obtain information. More than one million of those calls went unanswered, as the call center infrastructure was also overwhelmed. In short, **all of PSEG Long Island's critical technology systems and customer communication channels failed.**

On August 5, **the day after the storm landed, LIPA aggressively pursued its oversight function, formed an Isaias Task Force, and initiated an independent review of the root causes of PSEG Long Island's lapses during the storm.** The Task Force promised the LIPA Board of Trustees and the public 30- and 90-Day Reports and a final report with findings and recommendations within 180 days.

FIGURE 6

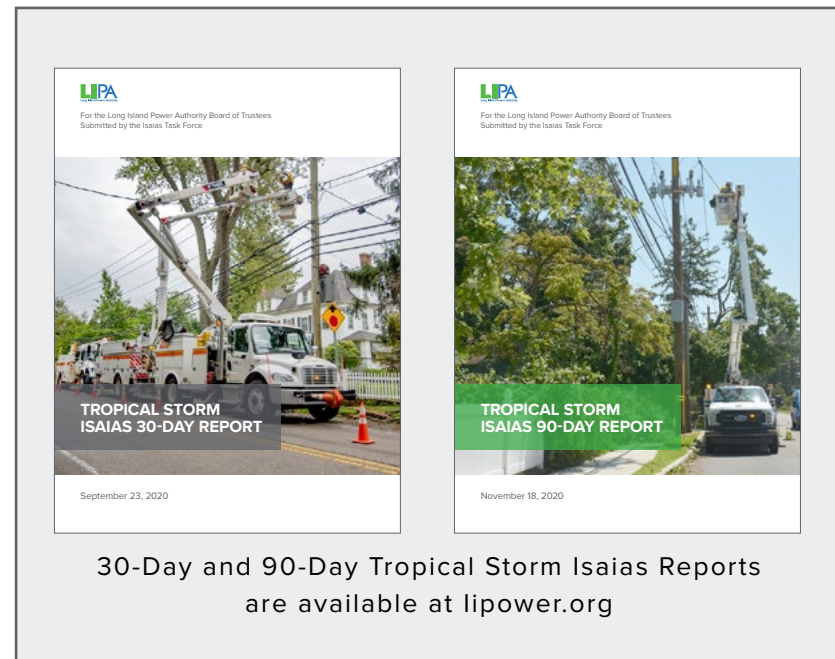
Architecture of PSEG Long Island's Outage Management System



The Task Force issued the first of its reports on September 23 and the second on November 18. Rather than repeat all of the Task Force's findings, which are publicly available, I will discuss its most important conclusion—the root cause of PSEG Long Island's problems during the storm was mismanagement. **No one can mitigate every risk, but PSEG Long Island could have prevented the information technology and communication issues experienced during this storm.**

LIPA has paid PSEG Long Island \$467 million over the last seven years to provide management services, including to implement the OMS and telephone systems that failed. The Task Force has made specific recommendations to address these failures. **For nearly half-a-billion dollars, Long Island customers deserve best-in-class service and top-notch management.**

LIPA is now seeking the organizational and contractual changes recommended by the Task Force, as well as appropriate compensation for our customers. If we cannot reach agreement on acceptable reforms, or if there is a lack of progress to implement the Task Force's recommendations, LIPA will exercise its rights to terminate the PSEG Long Island contract.



CLEAN, LEAN, CUSTOMER-FIRST

Despite the challenges of 2020, LIPA continues to advance the Board's Vision for a Clean, Lean, and Customer-First utility for Long Island and the Rockaways. Let me elaborate on what each of these mean, provide examples of what we have accomplished so far, and discuss what we have planned for 2021.

I. Our Strategy for a Changing Electric Grid: CLEAN

First, let's go over what it means for us to run our business **Clean**.

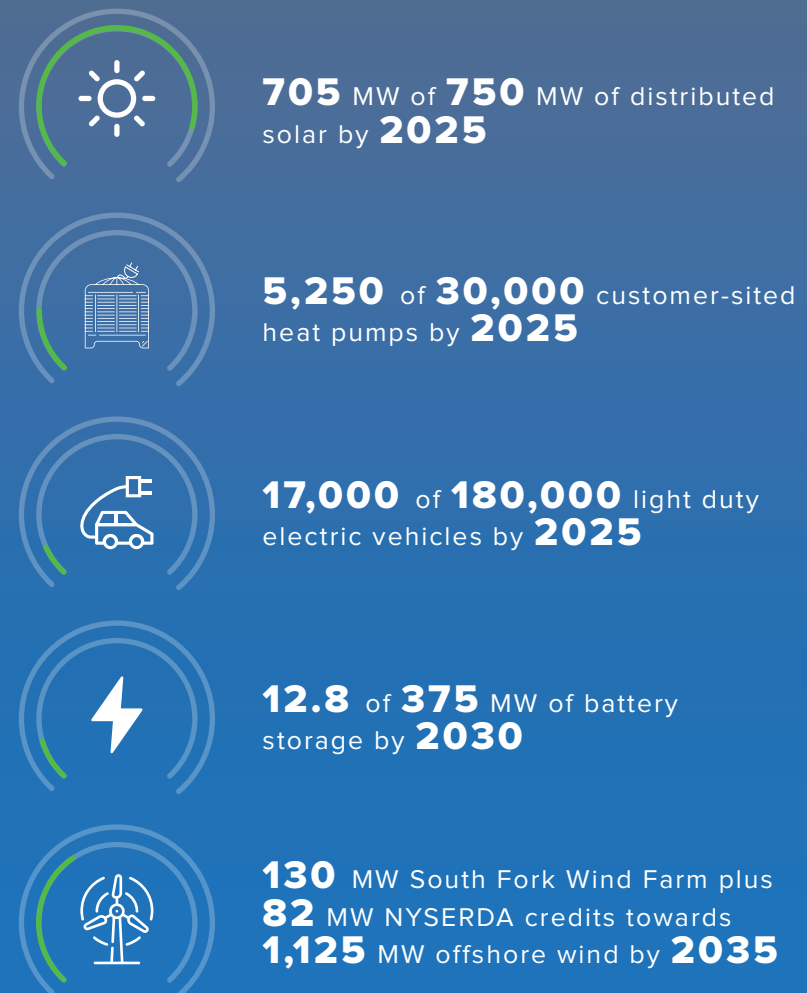
Clean means meeting New York State's aggressive climate goals and providing Long Island with 100 percent carbon-free energy by 2040. And, it means enabling other sectors of the economy, like transportation and buildings, to decarbonize through the use of electricity. To meet our share of New York's goals, LIPA will need:

- 750 MW of distributed solar by 2025;
- 30,000 customer-sited heat pumps by 2025;
- 180,000 light duty electric vehicles (EVs) by 2025;
- 375 MW of battery storage by 2030; and
- 1,125 MW of offshore wind by 2035.

Figure 7 shows LIPA's progress so far. While we are on track, we also still have a lot to accomplish.

FIGURE 7

Long Island's Clean Energy Scorecard



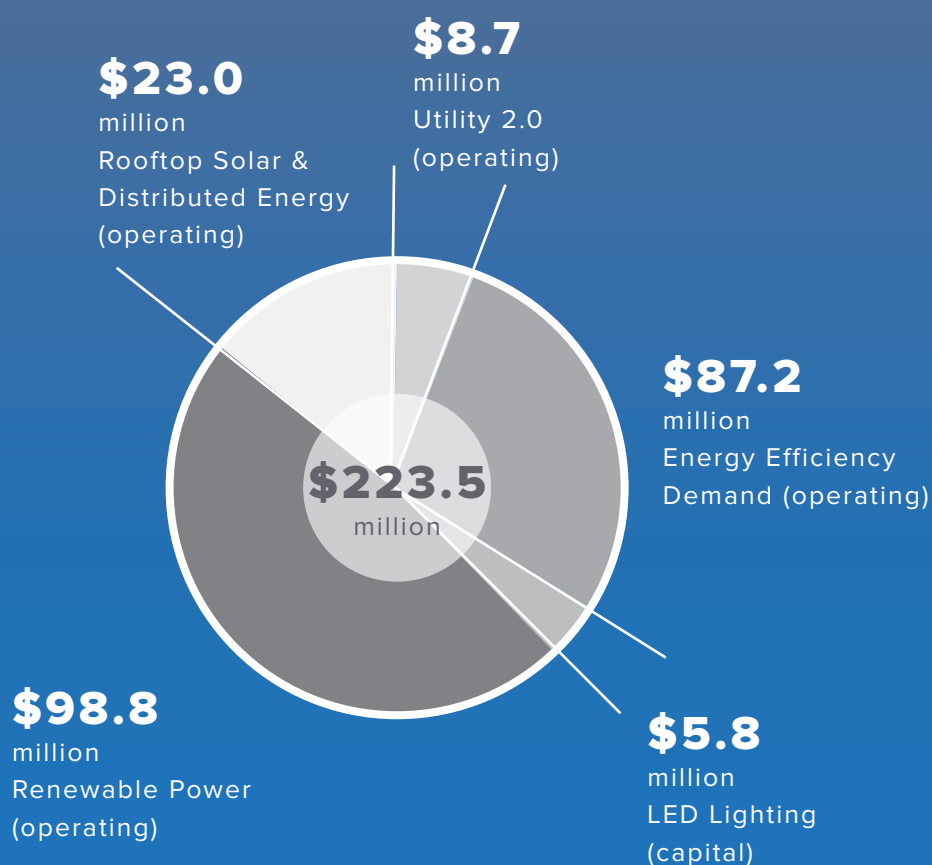
In 2020, LIPA advanced its clean energy goals by:

- Supporting the permitting of the transmission cable for New York's first offshore wind project, the 130 MW South Fork Wind Farm;
- Studying the transmission reinforcements required to support; **9,000 MW of offshore wind** on Long Island and in New York City;
- Signing a power purchase agreement for a 23 MW utility-scale solar project in Calverton;
- Soliciting 25 MW direct current (DC) of community solar projects to expand access to renewable power for low-income residents and help address climate equity;
- Retiring 68 MW of peaking units at Glenwood Landing and West Babylon in 2020 and 2021;
- **Studying the retirement of 400-600 MW of generation by 2022;**
- Enrolling 1,000 EV owners in Smart Charge off-peak charging awards;
- Rebating 900 residential smart chargers and issuing demand incentives to 115 DC fast charging ports; and
- Issuing rebates and incentives for 5,250 air source heat pumps.

In 2021, we will be:

- Updating LIPA's **Integrated Resource Plan** to determine the least cost mix of generation and transmission to ensure continued system reliability while planning for an orderly transition away from fossil fuels;
- Issuing a request for proposals for **175-200 MW of utility-scale energy storage** to help address offshore wind intermittency and ensure that LIPA meets its share of New York's storage goals;
- Working with the New York State Energy Research and Development Authority (NYSERDA), who will act as LIPA's procurement agent for **100-200 MW of Renewable Energy Credits**, to supplement LIPA's own clean energy procurements;
- Investing in **electric vehicle make-ready infrastructure** to support 24 DC fast chargers and 254 level two chargers;
- Offering 1,000+ rebates for residential EV smart chargers and enrolling up to 245 new DC fast charging ports in demand incentives;
- Enrolling another 1,000+ EV owners in Smart Charge off-peak charging rewards;
- Supporting over 5,000 new heat pumps through rebates and incentives; and
- Adding new capability for customers to finance heat pumps on their utility bill.

FIGURE 8
2021 Budget for Clean Energy Programs and
Distributed Energy Resources



The 2021 Budget continues LIPA's investment in clean and distributed energy programs with record funding, as shown in Figure 8. Our Clean Energy Budget includes:

- **\$99 million for utility-scale renewable purchases**, including energy from solar farms in Calverton, Kings Park, Riverhead, Shoreham, and Upton. These solar farms are among the largest located in New York state;
- **\$87 million for energy efficiency and distributed energy programs**, providing 1.1 trillion British Thermal Units of energy savings in 2021 (the equivalent of 14,000 Long Island homes);
- **\$23 million for residential and commercial solar and distributed energy systems**, with over 705 megawatts installed or 40 percent of all distributed systems in New York state. **Long Island is on track to exceed its 750 megawatt distributed solar goal for 2025** ahead of schedule;
- **\$9 million for Utility 2.0 programs**, including new EV make-ready charging infrastructure, residential EV charging rebates, EV fast charging stations, a heat pump pilot program, a distributed energy resources visibility platform, conservation voltage reduction, a commercial and industrial demand alert pilot, and an enhanced online customer marketplace for energy efficient products and services; and
- **\$6 million for new LED lighting**, as part of an \$18 million Dusk-to-Dawn program to replace conventional light fixtures for our commercial customers.

NOW OPEN: THE JONES BEACH ENERGY AND NATURE CENTER

In September 2020, **LIPA**, together with **New York State Parks, Recreation, and Historic Preservation**, opened a new **Energy and Nature Center at Jones Beach State Park**.

The center is an innovative public-private partnership that aims to further the understanding between human action, energy use, and environmental conservation and will be used for educational and training activities. The net-zero energy building sets an example of sustainable and resilient design. Through a variety of hands-on and accessible indoor and outdoor exhibits, educational programming, and public events, the center showcases ways visitors can become conscientious stewards of our environments and smart energy consumers – creating a more resilient and sustainable future.

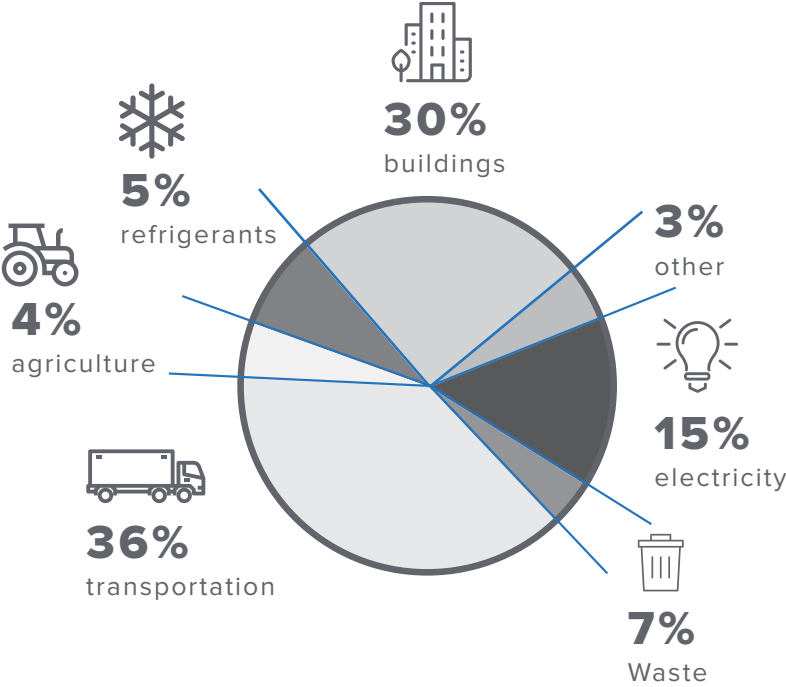
The Jones Beach Energy and Nature Center is open year-round and welcomes visitors of all ages. **Visit jonesbeachenc.org to plan your visit.**



THE ELECTRIFICATION ERA: HOME AND AUTO

The majority of New York’s carbon emissions come from transportation and the heating of buildings, as shown in Figure 9. **By encouraging cost-effective electrification of vehicles and heating, we can reduce Long Island’s carbon footprint, while getting more value out of the fixed cost of maintaining the electric grid.**

FIGURE 9
New York’s Carbon Emissions Sources⁴



⁴ New York State Department of Environmental Conservation

With LIPA’s incentives for beneficial electrification, **building a new all-electric home using a heat pump system for heating and cooling costs less than building a single-family home connected to the natural gas system.** Consumers not only reduce carbon emissions but save money, as shown in Figure 10.

LIPA’s air-source heat pump programs are part of a goal to reach 30,000 heat pump installations on Long Island by 2025.

FIGURE 10
For a Newly Constructed Single Family Home on Long Island, Electrification Saves Customers Money and Reduces Carbon Emissions

	Natural Gas	All-Electric Home
Heating and cooling	Gas furnace and central air conditioning	Cold climate heat pump
Water heater	Gas water heater	Heat pump water heater
Clothes Dryer	Gas	Heat pump
Equipment, connection, and installation costs	\$22,973	\$22,418
LIPA Rebates		\$5,950
Net cost with rebates	\$22,973	\$16,468
Upfront savings		\$6,505
Annual bill savings		\$765
Home carbon footprint (2021)		-21%
Home carbon footprint (2040)		-100%

LIPA'S ELECTRIFICATION PROGRAM HIGHLIGHTS



ELECTRIC VEHICLES

- 25 Percent **EV Overnight “Smart Charging”** Discount (continued from 2020) plus new time-of-day rate options (new in 2021)
- Complimentary infrastructure upgrades for over **275 public and workplace chargers** (new in 2021)
- **\$500 EV Residential Charger Rebates**
- Demand incentives for 245 **DC Fast Charging Stations**
- Up to \$2,000 New York State **Drive Clean Rebate**



MODERN ELECTRIC HEATING

- 15 Percent **Electric Discount** for Winter Heating
- **Heat Pump Rebates**
 - > \$2,500 to \$2,800 for Oil and Gas Heat Conversions (+ 50% for low-income households)
 - > \$3,600 for New Construction (+ 50% for low-income households)
 - > \$750 for Hot Water
 - > \$750 for Pool Heaters
- **\$8,000 Rebate for Geothermal Systems**

ELECTRIC VEHICLES

In 2021, LIPA and PSEG Long Island are adding to the existing suite of EV incentives and rebates. The newly added programs will include complimentary “make-ready” infrastructure upgrades for over 275 public and workplace chargers and new time-of-day rate options. Four of the new time-of-day options will be available to residential customers, one will be available to small commercial customers, and all five of the new options will feature **low overnight rates that are ideal for EV charging.**



LONG ISLAND LEADS THE STATE IN ROOFTOP SOLAR

Long Island is on track to exceed its 750 MW distributed solar goal by 2025, with the most robust rooftop solar market in the state.

FIGURE 11
Long Island Leads New York in Distributed Solar Energy

While Long Island accounts for only 12.5 percent of all electric energy produced in New York State, we are the state's top producer of clean, distributed solar energy.



In 2019, LIPA and NextEra Energy Resources LLC opened the Kings Park Solar Project located on Old Northport Road. This four-megawatt facility powers over 1,000 homes.

FIGURE 12
Long Island Distributed Solar Installed Capacity

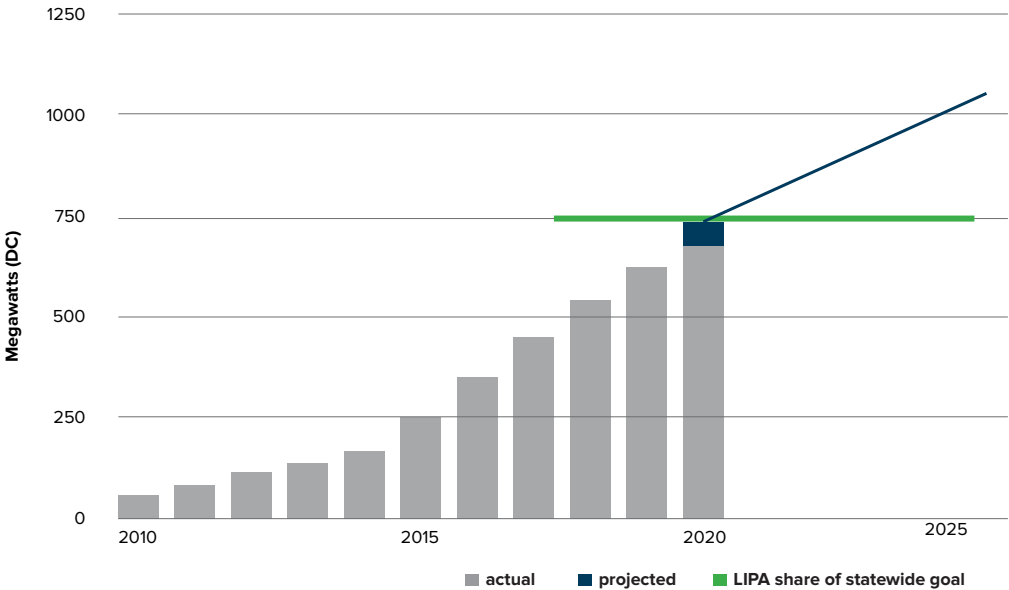


FIGURE 13

\$718 Million Customer Savings in 2021 from Operating Lean

	Millions
Discontinuing investment in combined cycle plants	\$353
LIPA Reform Act 2% Tax Cap	\$213
Refinancing existing debt	\$30
Renegotiating expiring power purchase agreements	\$48
Investing in cost-effective energy efficiency	\$19
Power plant property tax savings	\$13
Reduction to gas transportation costs	\$12
Smart Meter savings	\$11
Operating savings and improved productivity	\$10
Power plant pension and retirement savings	\$8
Power plant retirements	\$1
Total	\$718

II. ACHIEVING A BALANCE BETWEEN COST AND SERVICE: LEAN

Next up, Lean: What does it mean to operate **Lean**?

Operating Lean means achieving a balance between cost and service to get the most out of every dollar. It means reducing cost in areas that provide less value to customers while investing in customer-facing initiatives.

As described on page 9, to help customers manage their costs, LIPA and PSEG Long Island announced several belt-tightening actions for 2021, 2022, and 2023. These measures build on the many actions LIPA has taken since the LIPA Reform Act of 2013 to maintain affordability for our customers.

Figure 13 shows the savings from operating lean for the 2021 Budget.

The \$718 million in cost savings in 2021 equals 20 percent of electric bills or about \$32 per month for a typical residential customer.

Without operating lean, LIPA and PSEG Long Island would have to make a choice between sacrificing our commitment to affordability for customers or being unable to fund important investments in clean energy, customer satisfaction, and reliability of the electric grid.

LEAN ALSO MEANS ADVOCATING FOR LEANER PROPERTY TAXES ON OLDER LONG ISLAND POWER PLANTS

New York's Climate Leadership and Community Protection Act sets aggressive targets to rapidly add new, cleaner sources of energy to New York's electric grid.

Recognizing this reality, **LIPA is working to transition our most (over) taxed power plants to a more sustainable energy future.** In 2018, LIPA, the Town of Brookhaven, and the Village of Port Jefferson reached a compromise on the tax bills for the Port Jefferson Power Station.

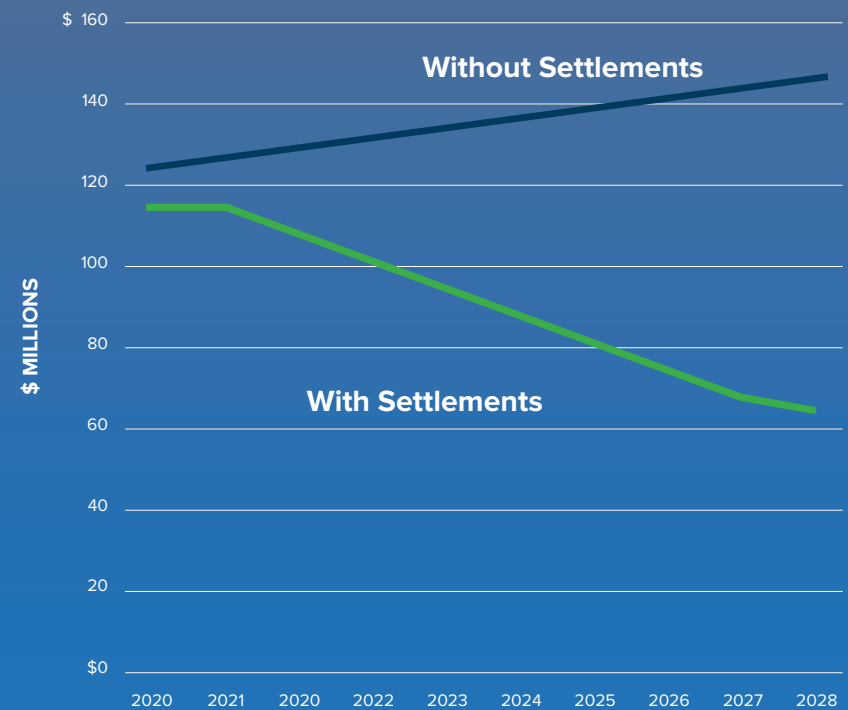
In September 2020, LIPA also reached an agreement with the Huntington Town Board and Northport-East Northport School District for the Northport Power Station.

After more than a decade of litigation, **these agreements maintain significant tax benefits for the host communities while saving LIPA's customers over \$364 million through 2028.**

But we still have one more agreement to go. In November 2019, LIPA reached a tentative settlement with Nassau County for the E.F. Barrett and Glenwood Landing power plants. The settlement is contingent on approval of a payment-in-lieu-of-tax (PILOT) agreement by the Nassau County Legislature. We have offered Nassau County the same fair settlement terms as the other power plants. Meanwhile, as described on page 15, we will be retiring 400 to 600 MW of plant capacity by 2022.

FIGURE 14

Power Plant Tax Settlements Will Save \$364 Million Through 2028¹



¹ Savings from the Port Jefferson Power Station and Northport Power Station settlements

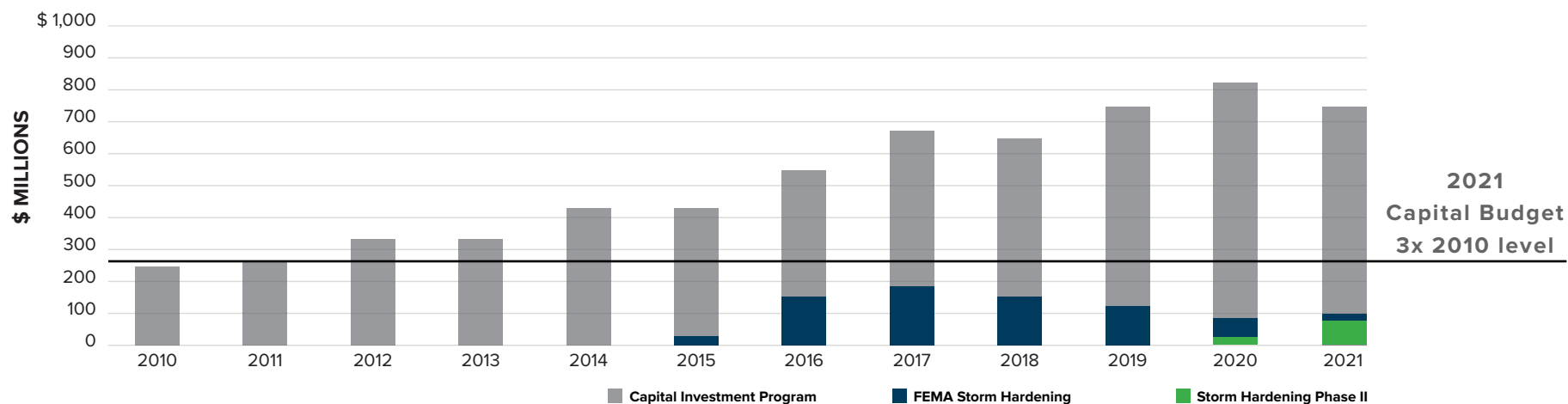
III. PUTTING CUSTOMERS FIRST

What does it mean to put Customers First? **For LIPA, Customer-First means exceeding our customers' expectations reliably and responsively.**

The LIPA Board has committed to making the investments necessary to achieve high customer satisfaction and electric grid reliability. Starting in 2016, LIPA began a record investment into Long Island's electric infrastructure: over \$4.2 billion. In fact, **LIPA's annual investment in infrastructure – the Capital Budget – has more than tripled**, reaching \$764 million for 2021, up from \$266 million a decade ago, as shown in Figure 15.

FIGURE 15

Record Investment in the Long Island Electric Grid

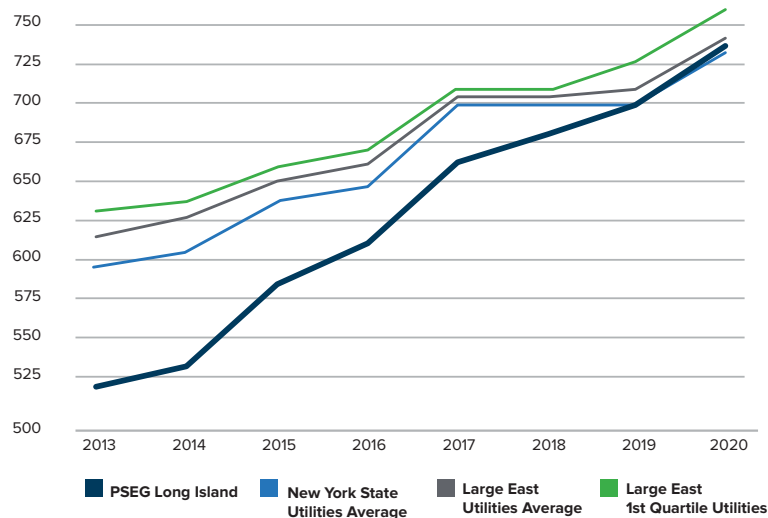


WHAT ARE THE RESULTS OF THIS INVESTMENT?

Prior to making these investments, LIPA was ranked among the lowest electric utilities in the country for customer satisfaction for nearly two decades. **Since 2013, customer satisfaction, as measured by J.D. Power, has increased by more than 216 points or 42 percent**, as shown in Figure 16. The LIPA Board has set a target to be among the top 25 percent of utilities in our region for customer satisfaction by the end of 2022, which means we still have more to do.

FIGURE 16

J.D. Power Residential Customer Satisfaction for New York State and Large East Utilities



Due to these investments, customers with power outages are down 35 percent, while customers with multiple outages are down 72 percent, as shown in Figure 17.

Momentary “flicker” outages have also improved by 47 percent and Long Island electric grid reliability is among the top 25 percent in the nation, with plans to further improve over the next five years.

FIGURE 17

\$4.2 billion Investment in Long Island's Electric Grid is Showing Results for Customers

2016 TO 2020 YEAR-TO-DATE

Customers with Power Outages:	↓ 35%
Customers with >4 Outages Per Year:	↓ 72%
Customers with Momentary Interruptions:	↓ 47%
National Utilities Ranking for Reliability:	Top 25%

What did we accomplish to put Customers First in 2020?

- Completed the last segments of the FEMA-funded storm hardening program, which has **improved the resiliency of one-third of LIPA's mainline distribution circuits**.
- Improved poor performing local distribution circuits to assure that no customers receive service that is substantially below the average for the system.
- Installed **314,000 Smart Meters**, bringing this technology to more than 745,000 of LIPA's 1.1 million customers.

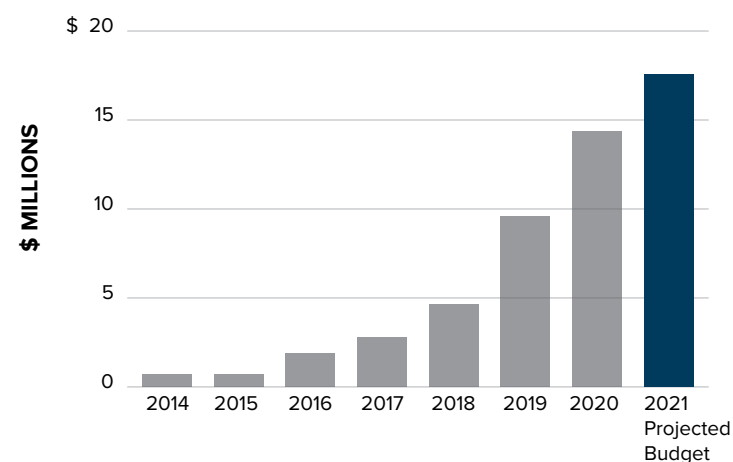
The 2021 Budget continues our investments in customer satisfaction and reliability:

- **\$196 million to enhance reliability** across Long Island, including repairing circuits that provide poor reliability, replacing poles and transformers, and trimming trees;
- **\$70 million for the Power On Storm Hardening** program for 2021; and
- **\$65 million to deploy Smart Meters** to 95 percent of customers by September 2021 and 100 percent by 2022, transforming the customer experience with new electric rate pricing plans, improved power quality, new online tools, better outage tracking, and new opportunities to manage energy use and save money.

ASSISTING OUR LOW- AND MODERATE-INCOME CUSTOMERS

The LIPA Board of Trustees is committed to assisting our income-eligible customers with bill affordability. In recent years, the Board has increased annual funding for bill discounts from \$0.6 million in 2014 to \$17.6 million in 2021, as shown in Figure 18. In addition to offering bigger discounts, the Board has also prioritized expanded outreach to increase customer participation. **Customer participation has nearly tripled** from 14,500 customers in 2014 to over 41,250 today.

FIGURE 18
Funding for Low-Income Customer Discounts



A SOLAR COMMUNITIES SUCCESS STORY

In 2020, the LIPA Board instituted a new program called Solar Communities to deliver **clean energy to low- and moderate-income households** underserved in the rooftop solar market. Solar Communities is supplied by a competitive feed-in-tariff. Though still in the first phase of a multi-phase bidding process, the results are promising. PSEG Long Island received 47 applications totaling nearly 61 megawatts alternating current (AC), and the weighted average price of applications awarded was much lower than our tariff-based community solar program, saving all customers money. **The resulting solar projects will provide clean energy and bill savings to 3,000-5,000 low- and moderate-income customers.**



PSEG LONG ISLAND HELPS SMALL BUSINESSES DURING PANDEMIC

PSEG Long Island launched a new grant program for up to \$5,000 for Chambers of Commerce and Business Improvement Districts to buy tables, chairs, umbrellas, and portable heaters to enable outdoor commerce and dining during the pandemic. To date, PSEG Long Island has made **\$100,000 in grants to 20 organizations** and more applications are in progress.

A second new program – Small Business First – helps small businesses upgrade the lighting in their facilities to lower operating costs. PSEG Long Island committed \$1.8 million to this program, **reducing operating costs for over 1,000 small Long Island businesses.**



Time Flies Ceramic Studio in Seaford



Reyes Deli in Copiague



SECTION 2

BUDGET BY THE NUMBERS

BUDGET BY THE NUMBERS

The 2021 Budget consists of an Operating Budget of \$3.72 billion and a Capital Budget of \$764 million, as shown in Figure 19. The Operating Budget funds delivery and power supply costs, energy efficiency and distributed energy programs, taxes, and debt service. The Capital Budget funds long-life infrastructure investments—such as transmission circuits, substations, poles and wires—as well as information technology, vehicle fleet, and other assets.

FIGURE 19

2021 Operating and Capital Budget

2021 OPERATING BUDGET (\$ thousands)

Operating Revenues	3,661,987
Grant & Other Income	58,674
Total Revenues and Income	3,720,661
Power Supply Costs	1,545,928
Delivery Costs	775,938
PILOTs, Taxes & Fees	569,716
Interest Payments	373,004
Debt Reduction & OPEB	456,074
Operating Budget	3,720,661
Fixed Obligation Coverage	
LIPA Debt Plus Leases	1.35x
LIPA & UDSA Debt Plus Leases	1.22x

2021 CAPITAL BUDGET (\$ thousands)

Capital Projects	669,507
FEMA & PSEG Long Island Storm Hardening	94,414
Capital Budget	763,921
Funding from Operating Budget	192,330
FEMA Grant	21,973
Debt Issued to Fund Projects	549,617
Funding Sources	763,921
Percent of Capital Projects Funded from Debt	
Including FEMA Projects	72%
Excluding FEMA Projects	74%

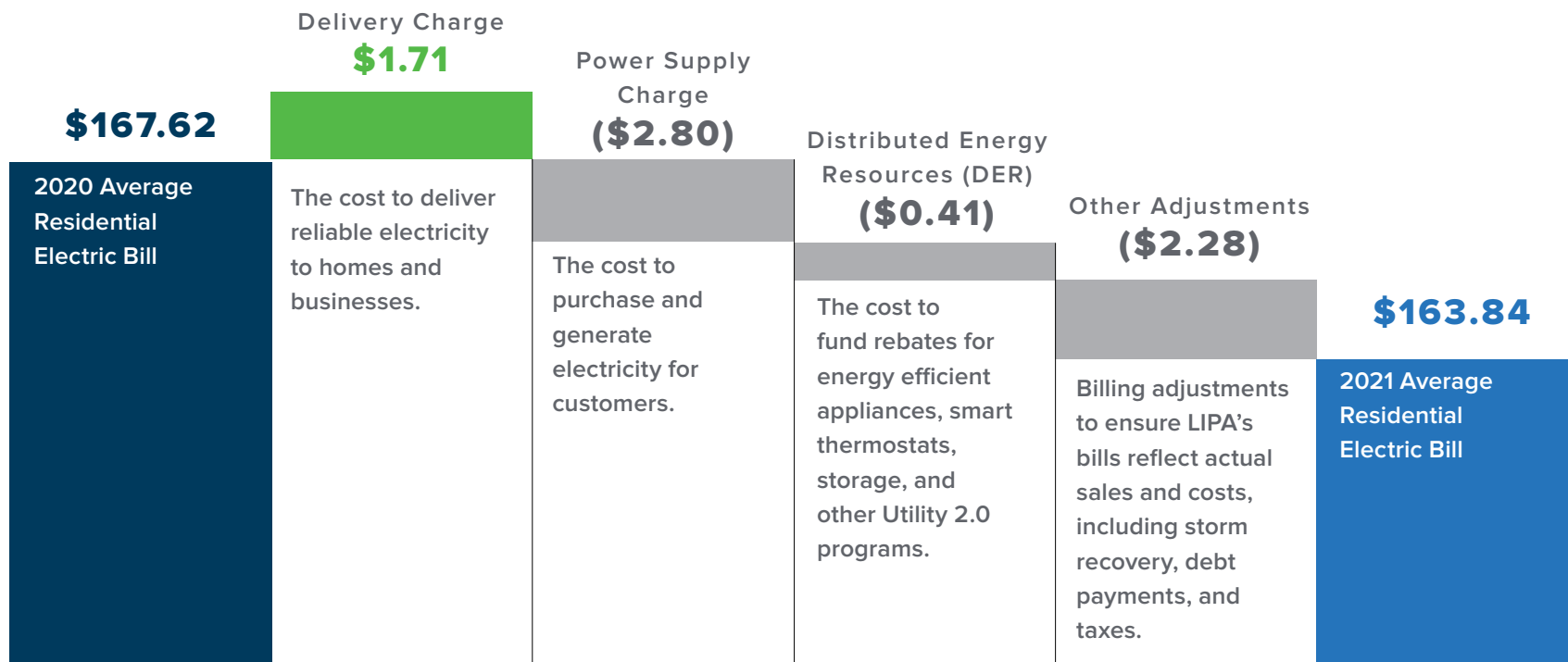
Note: The Operating Budget shown is based on revenue requirements. Taxes on power supply have been reclassified to PILOTs, Taxes, and Fees.

ELECTRIC BILLS FOR 2021

Figure 20 shows the 2021 Budget in terms of an average residential customer bill. **Electric bills are forecast to decrease by \$3.78 per month in 2021 or 2.3 percent from their 2020 level.** The electric bill is made up of several components, including Delivery Charges, Power Supply Charges, and the Distributed Energy Resources (DER) Charge. For the average residential customer, the Delivery Charge will increase by \$1.71 per month, while the Power Supply Charge will decline by \$2.80 and the DER Charge will decrease by \$0.41. Reconciliations for sales, storms, and other items will decline by \$2.28.

FIGURE 20

Average Residential Customer Electric Bill to Slightly Decline from 2020 to 2021



CHANGES IN THE 2021 OPERATING BUDGET

The 2021 Operating Budget includes Operating Revenues from customers of **\$3.7 billion**, a decrease of **\$4.9 million** from 2020.

Changes, shown in Figure 21, include:

Debt Payments & Cash Contribution to Capital Projects (Coverage):

Debt payments fund borrowings for critical infrastructure projects to keep the electric grid safe and reliable for customers. Maintaining proper coverage levels allows LIPA to fund critical infrastructure projects with prudent amounts of cash flow, instead of relying entirely upon debt. This reduces cost to customers over time. Debt payments and Coverage will increase by \$22.9 million from 2020 to 2021.

Contractual Cost Increases: PSEG Long Island's budget funds the cost to maintain and operate LIPA's Transmission and Distribution

(T&D) system. The budget increases by \$11.1 million or 2.0 percent to reflect increases in non-wage costs.

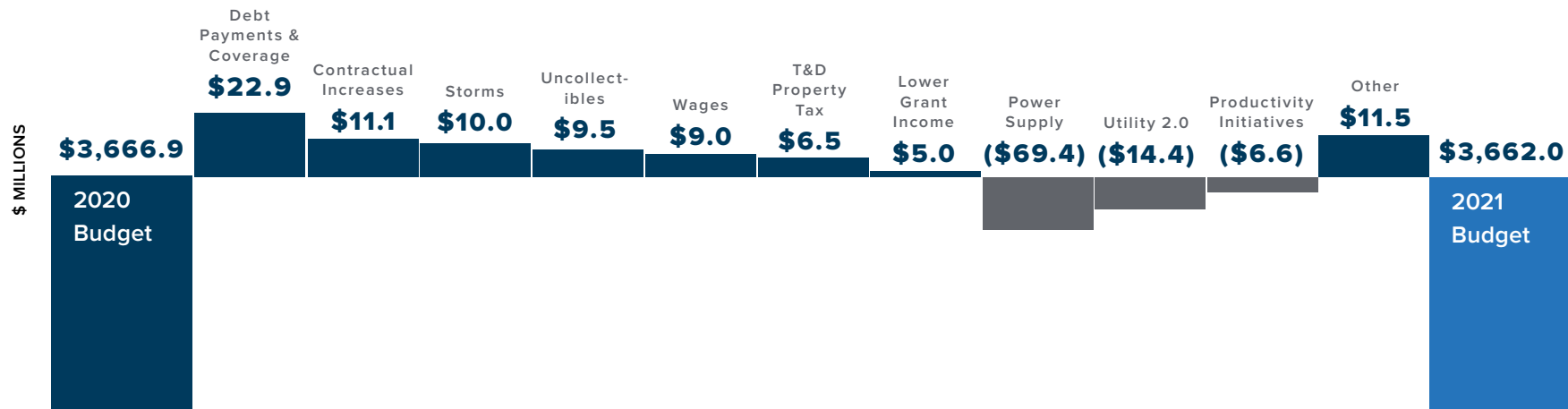
Storms: LIPA's storm budget funds the preparation, response, and repairs necessary to keep lights on after storms. The 2021 storm budget of \$70 million reflects an increase of \$10 million over the prior year level in order to align with the historic five-year average of storm costs.

Uncollectibles: LIPA is projecting a \$9.5 million increase in the Uncollectible expense as a result of the COVID-19 pandemic. The budget assumes a write-off rate equal to that experienced during the 2008 financial crisis.

Wages: PSEG Long Island's contractual wage increases are forecast to cost \$9 million more in 2021.

FIGURE 21

2021 Operating Revenues from Customers



CHANGES IN THE 2021 OPERATING BUDGET (continued)

T&D System Property Taxes: LIPA's T&D system is subject to PILOT payments to local municipalities. LIPA customers pay the costs of these property-based taxes. The LIPA Reform Act capped PILOT increases on LIPA's T&D system to two percent per year to reduce the burden on customers of past runaway increases. 2021 T&D system property taxes will increase by \$6.5 million or two percent.

Grant Income: 2021 Grant Income has been reduced by \$5 million in anticipation of a lower Regional Greenhouse Gas Initiative grant from NYSERDA. This grant supports Long Island energy efficiency programs.

Power Supply Charge: The Power Supply Charge is the cost to purchase or generate electricity for customers. There is a projected reduction of power supply costs of \$69.4 million, driven by lower fuel prices and the expiration of certain purchased power agreements.

Utility 2.0: Utility 2.0 funding supports programs designed to promote energy efficiency and beneficial electrification. The 2021 Utility 2.0 budget is based on the July 2020 filing and is \$14.4 million lower than the prior year.

Productivity Initiatives: PSEG Long Island is reducing its operating budget by \$9.9 million through efficiency and strategic procurement initiatives offset by a reinvestment of \$3.3 million in new initiatives, including funding for the Jones Beach Energy and Nature Center, support costs for a new two-way radio network, and resources to prepare for the implementation of New York's Clean Energy Standard.



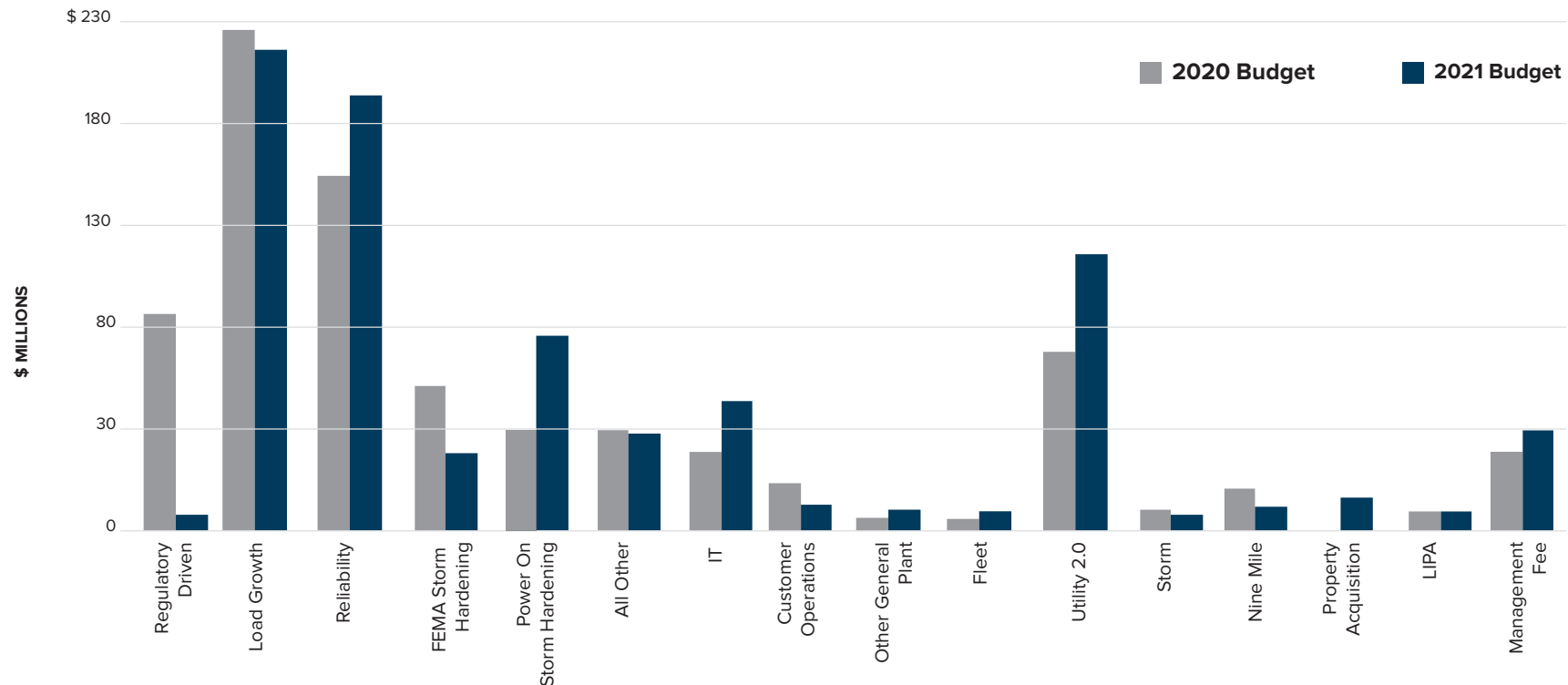
Rooftop Solar on a residential home in Suffolk County, Long Island

CHANGES IN THE 2021 CAPITAL BUDGET

Figure 22 shows the \$764 million 2021 Capital Budget as compared to the \$802 million 2020 Budget. **The Capital Budget is decreasing by \$38 million from the prior year.** The most significant change is a \$95 million decrease for regulatory driven projects due to the completion of the Western Nassau Transmission Project. Reliability-related capital spending is projected to increase by \$33 million as a result of **increased investment in distribution-related pole and circuit improvement projects**, as well as a new circuit for Fire Island and switchgear replacement in East Garden City. The Federal Emergency Management Agency (FEMA) storm hardening program, which began in 2015, was largely completed in 2020 with the rebuild of 1,025 miles of distribution circuits, the installation of 894 smart switches to minimize outages on the electric grid, and the elevation of six substations to prevent flooding under storm conditions. FEMA storm hardening will decline by \$34 million in 2021. **The 2021 Budget also invests \$70 million in a second phase of LIPA's storm hardening called Power On.** The work of building a more resilient grid remains a LIPA priority. Utility 2.0 Capital spending will increase by \$19 million as a result of the accelerated implementation of Smart Meters.

FIGURE 22

\$766 Million 2021 Capital Budget as Compared to the 2020 Budget



THE BOARD'S FINANCIAL POLICIES CONTINUE TO SAVE OUR CUSTOMERS MONEY

Utilities invest in long-life infrastructure each year to maintain the reliability and resiliency of the electric grid. Capital investments are financed through a combination of debt and customer funds. The cost of debt is largely influenced by credit ratings determined by independent rating agencies.

In 2015, the LIPA Board of Trustees adopted a new financial policy called “Debt and Access to the Credit Markets,” which uses the public power model shown in Figure 23. **The public power model ensures that a fiscally sound portion of infrastructure projects are funded by customer rates each year**, while the balance is funded by debt and paid for by customers over the life of the infrastructure.

FIGURE 23
LIPA’s Financial Policy: Build Equity to Lower Costs



LIPA simply has too much debt – which was the direct result of LIPA purchasing the Long Island Lighting Company entirely with debt in 1998. Today, LIPA’s debt-to-asset ratio is 98 percent. **The Board’s policy will result in LIPA having a capital structure that is approximately 70 percent debt and 30 percent customer funds by 2028.**

In a year when just about all the news was bad, LIPA’s financial policy worked as intended. Early in 2020, when the financial markets were stressed over the potential impacts of the pandemic and borrowing became expensive, LIPA was able to maintain operations without paying exorbitantly high interest rates. LIPA was also able to continue to borrow long-term debt at the lowest interest rates in its history in 2020, due to **LIPA’s four credit rating upgrades since 2013**, as shown in Figure 24.

FIGURE 24
LIPA Continues to Receive Credit Rating Upgrades

	2013 Ratings (Outlook)	2019 Ratings (Outlook)
Moody’s Investors Service	Baa1 (Negative)	A2 (Stable)
Standard and Poor’s	A- (Negative)	A (Stable)
Fitch Ratings	A- (Negative)	A (Stable)

DIVERSITY AND INCLUSION

In May 2019, the **LIPA Board of Trustees adopted a Diversity and Inclusion Policy** that demonstrates LIPA's commitment to a workplace and society that values people from all backgrounds and personal characteristics. One of the ways LIPA demonstrates its commitment is by encouraging participation by Minority and Women Owned Business Enterprises (MWBE) and Service-Disabled Veteran-Owned Businesses in procurements by LIPA and PSEG Long Island.

New York State issues a report card scoring how well state agencies and public authorities include MWBE suppliers in their procurements. For 2019, **LIPA received the highest possible rating, an A+, for our engagement and support of MWBE suppliers.**



A PSEG Long Island employee inspects a newly installed Smart Meter.

CONCLUSION

This past year taught us a lot. While we continue to make significant progress towards the Board's vision for a Clean, Lean, and Customer-First utility for our customer-owners, we also have important work to do to address the shortcomings in PSEG Long Island's response to Tropical Storm Isaias.

Our first thought in everything we do is the best interests of our customers. The 2021 Budget funds their priorities while keeping residential electric bills flat.

I would like to thank the employees of LIPA and PSEG Long Island for their efforts and dedication to our customers this past year and for all that they will do in 2021 to deliver for customers first.

Thomas Falcone
Chief Executive Officer

December 16, 2020

LIPA CEO, Thomas Falcone, Tours PSEG Long Island's Out-of-State Crew Processing Center on August 5, 2020, at Bethpage State Park.



SECTION II

2021 BUDGET

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

Revenue Requirements

LIPA's annual revenue requirements are budgeted to remain relatively flat from 2020 to 2021 at \$3.7 billion. Increases in debt service (including fixed obligation coverage), operating costs (due to inflation), higher anticipated write offs of customer charges due to the financial impacts of COVID-19 pandemic, and property tax assessments are being offset by decreases in power supply charges. These costs are further detailed on the following pages.

LIPA's revenue requirements are calculated in accordance with the practices of large public power utilities in the United States (the Public Power Model) and reflect the recovery of operating expenses in the current year plus debt and other fixed obligations, including fiscally sound levels of fixed obligation coverage.

LIPA's methodology for calculating revenue requirements and fixed obligation coverage excludes certain non-cash expenses such as depreciation and amortization (the costs of which are generally recovered in revenues through debt service payments) and the voluntary contributions to the Other Post Employment Benefits (OPEBs) Account, which are available to first make debt payments, if needed. LIPA's financial policies are further detailed in the description of debt service and fixed obligation coverage requirements.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Revenue Requirements (Thousands of Dollars)								
Description	2019		2020		2021		2022	
	Actual		Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
Operating and Managed Expenses								
PSEG Long Island Operating and Managed Expenses (a)	\$ 694,390		\$ 705,523	\$ 989,507	\$ 737,661	\$ 32,138	\$ 758,656	\$ 20,995
PILOTs - Property-Based Taxes	291,787		298,472	296,772	302,802	4,330	308,916	6,115
PILOTs - Revenue-Based Taxes	34,681		35,351	36,220	36,694	1,343	39,490	2,796
LIPA Operating Expenses	71,294		87,956	81,376	90,475	2,519	93,519	3,044
Total Operating and Managed Expenses	1,092,152		1,127,302	1,403,875	1,167,632	40,330	1,200,582	32,949
Cash Adjustments								
Other Interest Costs	23,427		26,658	30,811	29,003	2,345	29,159	156
Suffolk Property Tax Settlement (Principal)	(22,685)		(26,630)	(25,548)	(29,100)	(2,470)	(31,881)	(2,780)
Visual Benefits Assessment (Principal)	(499)		(568)	(672)	(581)	(13)	(607)	(26)
PSEG Long Island OPEB Expenses	(42,783)		(50,421)	(47,175)	(51,522)	(1,101)	(51,037)	485
Total Cash Adjustments	(42,540)		(50,961)	(42,585)	(52,199)	(1,239)	(54,365)	(2,165)
Other Income								
Other Income and Deductions	73,258		48,386	48,642	35,204	(13,182)	33,487	(1,717)
Grant Income	34,874		28,704	261,147	23,470	(5,235)	23,192	(278)
Total Other Income	108,131		77,091	309,790	58,674	(18,417)	56,679	(1,994)
Debt Service								
UDSA Debt Service	327,140		319,030	319,030	367,388	48,358	357,548	(9,841)
LIPA Debt Service	225,569		265,763	257,712	238,280	(27,484)	266,338	28,058
Coverage	239,867		237,244	217,349	223,410	(13,834)	262,825	39,414
Total Debt Service	792,576		822,038	794,090	829,078	7,041	886,710	57,631
Power Supply Charge	1,799,907		1,845,571	1,801,268	1,776,149	(69,422)	1,780,900	4,751
Total Revenue Requirements	(a) \$ 3,533,963		\$ 3,666,860	\$ 3,646,859	\$ 3,661,987	\$ (4,874)	\$ 3,757,147	\$ 95,161

Note: (a) PSEG Long Island 2020 Approved Operating and Managed Expenses have been reduced by \$10 million from \$715.5 million to \$705.5 million due to the projected underrun of the 2020 Utility 2.0 program that was identified as a refund to customers in the July 2020 Utility 2.0 filing.

Long Island Power Authority
2021 Proposed and 2022 Projected Operating and Capital Budgets

Consolidated Statement of Revenues, Expenses, and Change in Net Position

LIPA's projection of Revenues and Expenses uses the accrual basis of accounting, which results in a change in net position of \$29.0 million in 2021 and \$78.8 million in 2022. Further information on the components of Revenues and Expenses are included on supplemental pages herein.

The factors contributing to the projection of net income in 2021 include certain non-cash items, such as: amortization of non-cash regulatory assets to expense; non-cash OPEBs for PSEG Long Island (Section II Page 28); other deferred expenses (Section II Page 12); and a change in depreciation rates including an increase in depreciation associated with the early retirement of conventional meters by Smart Meters (Section II Page 12).

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Consolidated Statements of Revenues, Expenses, and Changes in Net Position
(Thousands of Dollars)

Description		2019	2020		2021		2022	
		Actual	Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
Revenues	(a)	\$ 3,533,963	\$ 3,666,860	\$ 3,646,859	\$ 3,661,987	\$ (4,874)	\$ 3,757,147	\$ 95,161
Power Supply Charge		1,799,907	1,845,571	1,801,268	1,776,149	(69,422)	1,780,900	4,751
Revenue Net of Power Supply Charge		1,734,057	1,821,289	1,845,591	1,885,837	64,549	1,976,247	90,410
PSEG Long Island Operating and Managed Expenses								
PSEG Long Island Operating Expenses	(a)	538,459	560,830	559,650	550,976	(9,853)	573,773	22,797
PSEG Long Island OPEB Expense	(b)	42,783	50,421	47,175	-	(50,421)	-	-
PSEG Long Island Managed Expenses		113,148	94,272	382,682	186,685	92,413	184,883	(1,801)
Utility Depreciation		198,212	260,288	244,363	256,145	(4,144)	287,509	31,364
Accelerated Depreciation of Conventional Meters		27,351	24,778	33,657	34,007	9,229	-	(34,007)
PILOTs - Revenue-Based Taxes		34,681	35,351	36,220	36,694	1,343	39,490	2,796
PILOTs - Property-Based Taxes		291,787	298,472	296,772	302,802	4,330	308,916	6,115
LIPA Operating Expenses		71,294	87,956	81,376	90,475	2,519	93,519	3,044
LIPA Depreciation and Amortization		136,780	137,701	136,892	137,489	(212)	138,820	1,331
Interest Expense		363,674	364,461	362,682	345,834	(18,627)	353,707	7,873
Total Expenses		1,818,169	1,914,531	2,181,467	1,941,107	26,576	1,980,618	39,510
Other Income and Deductions		73,258	57,617	54,334	44,062	(13,556)	42,403	(1,659)
Grant Income		34,874	39,156	273,328	40,241	1,085	40,752	510
Change in Net Position	(a)	\$ 24,019	\$ 3,531	\$ (8,215)	\$ 29,033	\$ 25,502	\$ 78,784	\$ 49,751

Note: (a) PSEG Long Island 2020 Approved Operating Expenses have been reduced by \$10 million from \$570.8 million to \$560.8 million due to the projected underrun of the 2020 Utility 2.0 program that was identified as a refund to customers in the July 2020 Utility 2.0 filing.

(b) Effective 2021, PSEG Long Island OPEB Expenses will be reported under the PSEG Long Island Managed Expenses and no longer be part of the PSEG Long Island Operating Expenses.

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

Sales and Revenues

Revenues are derived primarily from retail sales of electricity to residential and commercial customers. Also included are revenues from electric sales to public authorities and street lighting. In accordance with LIPA's Tariff for Electric Service (the Tariff), LIPA's Delivery Charge recovers the costs associated with maintaining and improving the transmission and distribution system and serving customers. LIPA recovers costs associated with purchasing and producing electric energy (fuel and purchased power) through the Power Supply Charge. LIPA also has various surcharges and non-electric service charges, such as those to recover costs associated with its distributed energy programs, assessments, revenue-related PILOTs, fees for pole attachments, late payment charges to customers whose bills are in arrears, and other miscellaneous service fees.

PSEG Long Island's proposed sales forecast for 2021 projects a 3.4% decline from the approved 2020 Budget. The sales decline reflects continuing weakness in the current economic outlook mainly due to the COVID-19 pandemic. In particular, commercial sales are projected to decline partially offset by increased sales to the residential customer class.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Sales and Revenues
(Thousands of Dollars)

Description	2019	2020		2021		2022	
	Actual	Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
Sales of Electricity (MWh)							
Residential Sales	9,075,913	8,664,796	9,321,094	9,159,371	494,575	8,886,135	(273,236)
Commercial Sales	9,249,787	9,491,211	8,209,580	8,379,397	(1,111,814)	8,543,087	163,690
Other Sales to Public Authorities/Street Lighting	474,911	533,826	490,887	519,540	(14,286)	519,540	-
Total Sales of Electricity (MWh)	18,800,611	18,689,834	18,021,562	18,058,308	(631,525)	17,948,762	(109,546)
Revenues by Sector							
Residential	\$ 1,875,351	\$ 1,867,458	\$ 2,018,655	\$ 1,978,392	\$ 110,935	\$ 2,059,842	\$ 81,450
Commercial	1,553,239	1,740,068	1,523,132	1,628,188	(111,881)	1,685,106	56,919
Other Public Authorities/Street Lighting	55,327	66,886	60,584	65,229	(1,657)	65,026	(203)
ESCO Revenue	41,652	12,503	10,582	5,947	(6,557)	5,894	(53)
Other Regulatory Amortizations and Deferrals	(a) (19,173)	(49,167)	14,210	(44,949)	4,217	(88,176)	(43,226)
Miscellaneous Revenues	27,567	29,111	19,695	29,180	69	29,455	275
Total Revenues	\$ 3,533,963	\$ 3,666,860	\$ 3,646,859	\$ 3,661,987	\$ (4,874)	\$ 3,757,147	\$ 95,161
Revenues by Component							
Delivery Charge (RDM Target)	\$ 1,304,409	\$ 1,375,686	\$ 1,357,512	\$ 1,431,928	\$ 56,242	\$ 1,506,299	\$ 74,371
Power Supply Charge	1,778,830	1,845,571	1,797,615	1,776,149	(69,422)	1,780,900	4,751
T&D Property Tax	(b) 291,787	298,472	296,772	302,802	4,330	308,916	6,115
Energy Efficiency and Distributed Energy (DER)	63,165	69,720	67,286	61,313	(8,407)	67,402	6,089
New York State Assessment	9,980	10,318	9,716	10,937	619	11,097	160
Suffolk Property Tax Settlement	44,877	47,336	46,253	48,197	861	49,237	1,040
Visual Benefits Assessment (VBA)	989	1,029	1,129	1,003	(27)	996	(7)
Revenue Related PILOTS	34,681	35,351	36,220	36,694	1,343	39,490	2,796
RDM Collection/(Refund)	(33,007)	(17,829)	(20,589)	(28,751)	(10,922)	18,439	47,190
DSA Collection/(Refund)	31,757	23,426	23,204	37,484	14,057	33,091	(4,393)
T&D Property Tax Collection/(Refund)	(b) (1,897)	(2,166)	(2,166)	-	2,166	-	-
Other Regulatory Amortizations and Deferrals	(a) (19,173)	(49,167)	14,210	(44,949)	4,217	(88,176)	(43,226)
Miscellaneous Revenues	27,567	29,111	19,695	29,180	69	29,455	275
Total Revenues	\$ 3,533,963	\$ 3,666,860	\$ 3,646,859	\$ 3,661,987	\$ (4,874)	\$ 3,757,147	\$ 95,161

Note: (a) PSEG Long Island 2020 Other Regulatory Amortizations and Deferrals have been reduced by \$10 million from (\$39.2) million to (\$49.2) million due to the projected underrun of the 2020 Utility 2.0 program that was identified as a refund to customers in the July 2020 Utility 2.0 filing.

(b) T&D Property Tax is a component of Delivery Charge.

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

Power Supply Cost

Power supply costs are budgeted at \$1.78 billion for 2021, a decrease of \$69.4 million as compared to the approved Budget for 2020. The decrease is mainly attributable to lower projected commodity costs, which are driven by lower projected energy sales as well as projected favorable hedge positions. The decrease is also driven by lower renewable costs due to the expiration of certain purchased power agreements.

Power supply cost projections are prepared utilizing a generation economic dispatch model that considers, among other variables, the availability and efficiency of generating resources, delivered fuel prices, and environmental regulatory requirements.

In addition to the costs for gas and oil consumed in the generation of electricity, power supply costs include the cost of emission allowances, generating unit and transmission cable capacity, costs charged by the New York, New England and PJM independent system operators (ISO), electric power wheeling, Zero Emission Credits, services received under the power supply and fuel management agreements, fuel hedging program costs, economy energy purchases, energy and Renewable Energy Credits from renewable resource as well as LIPA's 18% share of the Nine Mile Point 2 nuclear generating station, the National Grid Power Supply Agreement (PSA), and certain PILOTs.

Description	Net Change	Cause
Capacity	(\$11.5M)	Projected decrease due to the expiration of the Jamaica Bay and Bayswater contracts partially offset by higher capacity market purchases.
Purchased Power	\$60.4M	Increase in PJM Regional Transmission Expansion Plan in addition to higher costs associated with ISO energy purchases.
Commodity (gas & oil)	(\$55.4M)	Decrease in gas and oil costs mainly due to lower system sales, lower oil prices and favorable hedging positions.
Pass-through Property Taxes	\$9.3M	Projected increase in PSA property taxes and school district payments related to the property tax settlements.
Renewables	(\$48.8M)	Projected decrease due to the expiration of the Bear Swamp and Brookfield purchase power agreements.
Other	(\$23.4M)	Lower Y49 cable charges associated with 2 year contract extension and reduced need for east-end temporary generation.
Total	(\$69.4M)	

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Power Supply Charge (Thousands of Dollars)								
Description	2019 Actual	2020		2021		2022		
		Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year	
Capacity								
Capacity Charges	\$ 401,061	\$ 390,271	\$ 381,026	\$ 377,071	\$ (13,200)	\$ 375,015	\$ (2,055)	
National Grid (PSA)	246,088	256,604	254,166	258,263	1,660	261,263	3,000	
Total Capacity	647,150	646,875	635,193	635,334	(11,541)	636,279	945	
Purchased Power								
Purchased Power	361,795	385,368	364,311	445,816	60,448	449,597	3,781	
Total Purchased Power	361,795	385,368	364,311	445,816	60,448	449,597	3,781	
Commodity								
Natural Gas	239,402	226,645	247,568	176,725	(49,920)	173,193	(3,531)	
Fuel Oil	36,708	25,990	41,739	20,475	(5,515)	20,980	505	
Total Commodity	276,111	252,635	289,307	197,200	(55,435)	194,173	(3,026)	
Renewables								
Renewable Power	139,542	147,598	120,836	98,836	(48,762)	109,316	10,480	
Total Renewables	139,542	147,598	120,836	98,836	(48,762)	109,316	10,480	
Other								
Transmission	42,582	40,491	41,271	29,842	(10,648)	24,105	(5,738)	
Nine Mile Nuclear Fuel	41,793	45,619	39,676	36,914	(8,705)	36,390	(524)	
Regional Greenhouse Gas Initiative (RGGI)	19,026	21,401	16,069	22,561	1,160	24,150	1,590	
Zero Emissions Credits	36,205	51,398	47,404	50,867	(532)	51,937	1,071	
Fuel and Power Supply Management Services	20,647	20,085	19,972	20,453	369	20,831	377	
Other	811	13,210	6,205	8,105	(5,106)	8,851	747	
Total Other	161,064	192,203	170,598	168,742	(23,461)	166,264	(2,478)	
Pass Through Property Taxes								
National Grid (PSA)	200,908	210,032	210,032	218,430	8,399	213,354	(5,076)	
Fast Track Units	9,303	6,843	6,910	6,945	102	7,031	86	
Nine Mile	4,034	4,018	4,082	4,846	828	4,886	40	
Total Pass Through Property Taxes	214,245	220,893	221,024	230,221	9,328	225,271	(4,950)	
Total Power Supply Charge	\$ 1,799,907	\$ 1,845,571	\$ 1,801,268	\$ 1,776,149	\$ (69,422)	\$ 1,780,900	\$ 4,751	

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

Operating Expenses

Total Operating Expenses are budgeted at \$828.1 million in 2021 and projected at \$852.2 million in 2022.

Operating Expenses are costs associated with operating and maintaining LIPA's Transmission and Distribution system and consist of three major expense categories:

- (i) PSEG Long Island Operating Expenses (expenses which PSEG Long Island must remain within 102% of budget to earn incentive compensation);
- (ii) PSEG Long Island Managed Expenses (expenses which PSEG Long Island manages but are substantially outside of its control); and
- (iii) LIPA's Operating Expenses.

PSEG Long Island Operating Expenses include costs related to the following major areas: Transmission and Distribution, Customer Services, Business Services, Power Markets and Energy Efficiency Programs. The budget for the Energy Efficiency Programs incentivizes energy efficiency as well as beneficial electrification (e.g. electric vehicles and heat pumps), among other things. PSEG Long Island Operating Expenses for 2021 and 2022 include additional costs related to the Utility 2.0 Plan. These costs are associated with projects aimed at integrating Smart Meters and Distributed Energy Resources (DER) into LIPA's electric grid.

PSEG Long Island Managed Expenses include costs related to New York State assessments, uncollectible accounts, and storm preparation and restoration. Beginning in 2021, the Managed Expenses will include costs for Pensions and OPEBs previously reported under PSEG Long Island Operating Expenses. The 2021 budget for uncollectible accounts significantly increased over 2020 due to factors related to the COVID-19 pandemic. The budget for storm preparation and restoration costs is increasing to \$70.0 million for 2021 and 2022 to closely align with the historical five-year average.

LIPA Operating Expenses includes the PSEG Long Island management fee and costs related to LIPA staff and outside professional services, as detailed on Section II Page 30.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Operating Expenses
(Thousands of Dollars)

Description	2019 Actual	2020		2021		2022	
		Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
PSEG Long Island Operating Expenses (a)(b)	\$ 581,242	\$ 611,251	\$ 606,825	\$ 550,976	\$ (60,275)	\$ 573,773	\$ 22,797
PSEG Long Island Managed Expenses							
Uncollectible Accounts	17,609	20,835	28,512	30,362	9,527	31,426	1,064
Storm Restoration	86,549	60,000	341,843	70,000	10,000	70,000	-
NYS Assessment	9,980	10,318	9,716	10,937	619	11,097	160
Accretion of Asset Retirement Obligation	(1,265)	2,927	2,398	2,588	(339)	2,788	200
Pension (PSEG Operating Expenses) (b)	-	-	-	24,304	24,304	21,532	(2,771)
OPEB (PSEG Operating Expenses) (b)	-	-	-	48,307	48,307	47,852	(455)
Miscellaneous	275	192	214	188	(4)	188	-
Total PSEG Long Island Managed Expenses	113,148	94,272	382,682	186,685	92,413	184,883	(1,801)
Total PSEG Long Island Operating and Managed Expenses	694,390	705,523	989,507	737,661	32,138	758,656	20,995
LIPA Operating Expenses							
Management Fee (including incentive)	75,276	76,781	76,920	78,458	1,677	80,027	1,569
Capitalized Management Fee	(31,549)	(30,290)	(30,399)	(31,007)	(718)	(31,628)	(620)
LIPA Operating Costs	27,567	41,464	34,855	43,025	1,560	45,119	2,095
LIPA Operating Expenses	71,294	87,956	81,376	90,475	2,519	93,519	3,044
Total PSEG Long Island & LIPA Operating Expenses	\$ 765,684	\$ 793,479	\$ 1,070,883	\$ 828,136	\$ 34,657	\$ 852,175	\$ 24,039

Note: (a) PSEG Long Island 2020 Approved Operating Expenses have been reduced by \$10 million from \$621.2 million to \$611.2 million due to the projected underrun of the 2020 Utility 2.0 program that was identified as a refund to customers in the July 2020 Utility 2.0 filing.

(b) Pension and Other Post Employment Benefits (OPEB) have been shifted from PSEG Long Island Operating Expenses to Managed Expenses starting 2021 due to the impact of market and interest rate volatility on such expenses.

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

Depreciation and Amortization Expenses

Depreciation and Amortization Expenses are budgeted at \$427.6 million in 2021 and projected at \$426.3 million in 2022.

PSEG Long Island Managed Utility Depreciation consists of depreciation of transmission and distribution plant, information technology, and FEMA storm hardened assets.

The budgeted utility depreciation for 2021 reflects an increase of \$5.1 million and a projected decrease for 2022 of approximately \$(2.6) million. The 2021 increase is a result of accelerated depreciation on the replacement of conventional meters with Smart Meters, as well as an increase in depreciation on FEMA funded capital projects. This accelerated depreciation of conventional meters will be complete in 2021.

LIPA Depreciation and Amortization consists primarily of the amortization of the Acquisition Adjustment at \$111.4 million annually. The Acquisition Adjustment is an intangible asset resulting from the merger with the Long Island Lighting Company in 1998. Also included is the amortization of certain regulatory assets related to pension and OPEB expenses for the former National Grid and current PSEG Long Island employees that directly serve LIPA's customers. These retirement benefit expenses are a contractual obligation of LIPA and are being amortized to align the expenses to coincide with the term of employment of the workforce contracted by LIPA under the Amended and Restated Operations Services Agreement. See LIPA's audited financial statements for more information.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Depreciation and Amortization Expenses
(Thousands of Dollars)

Description	2019	2020		2021		2022	
	Actual	Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
PSEG Long Island Managed Utility Depreciation	\$ 191,547	\$ 248,675	\$ 230,829	\$ 237,509	\$ (11,166)	\$ 267,998	\$ 30,489
Accelerated Depreciation of Conventional Meters	27,351	24,778	33,657	34,007	9,229	-	(34,007)
Depreciation Expense Related to FEMA Capital Projects	6,665	11,613	13,534	18,635	7,022	19,511	876
Total PSEG Long Island Managed Utility Depreciation	225,563	285,066	278,019	290,151	5,085	287,509	(2,642)
LIPA Depreciation and Amortization							
Amortization of Acquisition Adjustment	111,374	111,375	111,517	111,375	-	111,375	-
Amortization of OPEB & Pension Deferrals	25,014	25,015	25,014	25,014	-	25,014	-
Depreciation - LIPA	392	1,312	360	1,100	(212)	2,431	1,331
Total LIPA Depreciation and Amortization	136,780	137,701	136,892	137,489	(212)	138,820	1,331
Total Depreciation and Amortization Expenses	\$ 362,344	\$ 422,768	\$ 414,911	\$ 427,641	\$ 4,874	\$ 426,329	\$ (1,312)

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

Taxes, Payments-in-Lieu of Taxes and Assessments

Payments-In-Lieu of Taxes (PILOTs) and Assessments are budgeted at \$701.7 million in 2021 and projected at \$710.4 million in 2022.

Revenue-based PILOTs are calculated using gross revenues received from the sale of electricity and other sources of revenue and are subject to true up to actual cost through a PILOT payments recovery rider.

Additionally, LIPA incurs property-based taxes and PILOTs associated with generating assets. These costs, as with all power supply costs, are reconciled to actual costs. National Grid Power Supply Agreement (PSA) related taxes are budgeted at \$218.4 million in 2021 and projected at \$213.4 million in 2022. In 2018, LIPA concluded a property tax settlement with the Village of Port Jefferson and the Town of Brookhaven. In 2020, LIPA reached a property tax settlement with the Town of Huntington and the Northport - East Northport school district. LIPA continues to challenge other property tax assessments on the PSA generation assets, which are significantly over-assessed. LIPA has also exercised its right to ramp down two National Grid units that fall under the PSA. This will result in reduction in property taxes in future years.

The property-based PILOTs related to the Fast Track Units are budgeted at \$6.9 million in 2021.

As LIPA owns 18% of the Nine Mile Point 2 nuclear power plant, it is also responsible for paying a share of the property taxes. LIPA's share of these taxes are budgeted at approximately \$4.8 million in 2021.

The New York State Department of Public Service (DPS) Administrative Assessment recovers costs related to DPS' oversight of LIPA and PSEG Long Island's operations. This cost is \$10.9 million in 2021.

LIPA collects sales taxes on behalf of local municipalities. Those taxes are estimated at \$120.9 million in 2021 and \$125.4 million in 2022.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Taxes, Payments-in-Lieu of Taxes and Assessments
(Thousands of Dollars)

Description	2019	2020		2021		2022	
	Actual	Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
PILOTs - Revenue-Based Taxes	\$ 34,681	\$ 35,351	\$ 36,220	\$ 36,694	\$ 1,343	\$ 39,490	\$ 2,796
PILOTs - Property-Based Taxes	291,787	298,472	296,772	302,802	4,330	308,916	6,115
Property Taxes in Power Supply Charge							
National Grid (PSA) Property Taxes	200,908	210,032	210,032	218,430	8,399	213,354	(5,076)
Fast Track Units	9,303	6,843	6,910	6,945	102	7,031	86
Nine Mile PILOTs	4,034	4,018	4,082	4,846	828	4,886	40
Total Property Taxes in Power Supply Charge	214,245	220,893	221,024	230,221	9,328	225,271	(4,950)
Other Taxes and Assessments							
NYS Department of Public Service	9,980	10,318	9,716	10,937	619	11,097	160
NYS Office of Real Property Services	192	192	188	188	(4)	188	-
Total Other Taxes and Assessments	10,171	10,510	9,904	11,125	615	11,285	160
Total Taxes and Assessments Before Sales Taxes	550,884	565,226	563,920	580,841	15,616	584,963	4,121
Sales Taxes (a)	111,648	112,725	114,923	120,840	8,115	125,387	4,547
Total PILOTs, Sales, State and Local Taxes and Assessments	\$ 662,532	\$ 677,951	\$ 678,843	\$ 701,682	\$ 23,731	\$ 710,350	\$ 8,668

Note: (a) Sales tax revenue is collected by LIPA in accordance with local municipal law. Sales taxes are recorded as liabilities by LIPA as they are collected on behalf of and transferred to local government jurisdictions.

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

Other Income and Deductions

Other Income and Deductions are budgeted at \$44.1 million for 2021 and projected at \$42.4 million for 2022. The decrease is based on lower earnings on investments due to the current environment of lower interest rates.

Other Income and Deductions consists of income and interest generated from LIPA's short-term investments, including the Rate Stabilization Fund and the Construction Fund, earnings on the Nine Mile Point 2 nuclear decommissioning trust fund, earnings on the OPEB Account, carrying charges accrued on deferred balances related to the Suffolk Property Tax Settlement, and miscellaneous sources of revenues and expenses, such as income from certain customer-requested work not included in electric rates.

Projected interest rates on short-term investments are updated to prevailing interest rates annually as part of the budget process and differences between projected and actual interest rates are reconciled annually through the Delivery Service Adjustment.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Other Income and Deductions
(Thousands of Dollars)

Description	2019	2020		2021		2022	
	Actual	Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
Short-Term Investment Income	\$ 19,533	\$ 16,636	\$ 14,432	\$ 10,689	\$ (5,947)	\$ 10,776	\$ 87
Interest Income from:							
Suffolk Property Tax Settlement	22,192	20,706	20,706	19,097	(1,609)	17,357	(1,740)
Visual Benefits Assessment	490	462	457	422	(40)	389	(33)
OPEB Account	9,171	5,847	6,120	1,687	(4,160)	1,766	79
PSEG Long Island Funding Accounts	1,020	2,664	1,658	1,156	(1,508)	1,156	-
Miscellaneous Income and Deductions - LIPA	206	201	1,933	53	(148)	53	-
Miscellaneous Income and Deductions - PSEG Long Island	4,085	1,872	3,338	2,101	229	1,991	(110)
Subtotal Other Income and Deductions	\$ 56,697	\$ 48,386	\$ 48,642	\$ 35,204	\$ (13,182)	\$ 33,487	\$ (1,717)
Nuclear Decommissioning Trust Fund	16,560	9,231	5,691	8,858	(373)	8,916	58
Total Other Income and Deductions	\$ 73,258	\$ 57,617	\$ 54,334	\$ 44,062	\$ (13,556)	\$ 42,403	\$ (1,659)

Long Island Power Authority 2020 Approved and 2021 Projected Operating and Capital Budgets

Grant Income

In 2021, Grant Income consists primarily of (i) a grant of \$20.0 million from NYSERDA from Regional Greenhouse Gas Initiative (RGGI) funds to support PSEG Long Island's energy efficiency programs and (ii) subsidy payments totaling \$3.5 million from the United States Treasury equal to approximately 33% of the interest on LIPA's debt issued as Build America Bonds.

LIPA pays for RGGI allowances as part of its Power Supply Charge. This RGGI grant represents the return of a portion of those funds to support energy efficiency programs on Long Island.

In February 2014, LIPA signed a Letter of Undertaking with FEMA that provides for \$730.0 million of grant funding for storm hardening measures. To better reflect the nature of this grant it will be amortized to Grant Income in an amount equal to the incremental depreciation expense incurred as a result of the storm hardening program. This amortization is estimated at \$16.8 million in 2021 and \$17.6 million in 2022.

The 2020 projection includes the recognition of anticipated FEMA reimbursements requested for (i) Tropical Storm Isaias estimated at \$224.4 million, (ii) Winter Storm Stella estimated at \$3.3 million, and (iii) COVID-19 pandemic related costs estimated at \$4.2 million.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Grant Income
(Thousands of Dollars)

Description	2019	2020		2021		2022	
	Actual	Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
Build America Bonds Subsidy - U.S. Treasury	\$ 3,875	\$ 3,704	\$ 3,717	\$ 3,470	\$ (235)	\$ 3,192	\$ (278)
Efficiency & DER - RGGI Funding	25,000	25,000	25,000	20,000	(5,000)	20,000	-
FEMA Grant Tropical Storm Isaias	-	-	224,425	-	-	-	-
Other Grant Income	-	-	8,005	-	-	-	-
Subtotal Grant Income	28,875	28,704	261,147	23,470	(5,235)	23,192	(278)
Amortization of Deferred FEMA Grant	5,999	10,452	12,180	16,772	6,320	17,560	788
Total Grant Income	\$ 34,874	\$ 39,156	\$ 273,328	\$ 40,241	\$ 1,085	\$ 40,752	\$ 510

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

Interest Expense

Interest expense is budgeted at \$345.8 million in 2021 and projected at \$353.7 million in 2022. The budget is based on forecasted levels of outstanding debt, associated fees, and the amortization of previously deferred debt-related charges and credits. Actual interest rates on variable rate debt are updated to prevailing interest rates each year as part of the annual budget process and differences between projected and actual interest rates are reconciled annually through the Delivery Service Adjustment ensuring customers pay only actual costs.

Interest expense reflects the accrual of interest on outstanding debt in the calendar year. It can differ from interest payments made to bondholders with respect to timing, but the actual amounts will be the same over the life of the bonds.

LIPA recognizes the full value of bond issuance costs in the year of the bond sale, instead of amortizing the costs over the life of the bond.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Interest Expense
(Thousands of Dollars)

Description	2019	2020		2021		2022	
	Actual	Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
Accrued Interest Expense on Debt Securities	\$ 373,315	\$ 377,089	\$ 373,577	\$ 373,004	\$ (4,085)	\$ 384,903	\$ 11,899
Amortization of Premium	(60,841)	(64,590)	(66,253)	(71,405)	(6,815)	(74,913)	(3,508)
Interest Expense on Debt Securities (Accrued)	312,473	312,499	307,324	301,599	(10,900)	309,990	8,390
Other Interest Expense							
Amortization of Deferred Debt Issue Costs	3,017	2,917	2,905	2,724	(193)	2,542	(183)
Amortization of Deferred Defeasance Costs	28,872	25,194	25,521	15,912	(9,282)	14,543	(1,369)
Other Interest Amortizations	(6,733)	(6,857)	(6,859)	(6,990)	(133)	(5,638)	1,353
Bond Issuance Costs	2,618	4,050	2,980	3,586	(464)	3,111	(475)
Other Interest Amortizations (Accrued)	27,773	25,304	24,547	15,232	(10,072)	14,558	(674)
Interest Rate Swap Payments	15,410	18,143	23,458	23,011	4,869	23,023	11
Letter of Credit and Remarketing Fees	6,287	6,793	6,051	4,246	(2,547)	4,246	-
Interest on Customer Security Deposits	591	488	8	11	(477)	142	131
Bond Administration Costs and Bank Fees	1,139	1,235	1,294	1,735	500	1,749	14
Other Interest Costs (Cash)	23,427	26,658	30,811	29,003	2,345	29,159	156
Total Interest Expense	\$ 363,674	\$ 364,461	\$ 362,682	\$ 345,834	\$ (18,627)	\$ 353,707	\$ 7,873

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

Debt Service Requirements

Debt service consists of principal and interest payments due to bondholders. Debt service payments are reported separately for LIPA debt and UDSA debt. LIPA refinanced debt through the UDSA, resulting in a net present value savings of \$492.0 million to customers.

Consistent with the Public Power Model, LIPA also recovers “fixed obligation coverage.” Fixed obligation coverage is the portion of LIPA’s capital program funded by cash flow in each year rather than by new borrowings. Fixed obligation coverage is a ratio based on LIPA’s annual debt service payments plus the imputed payments associated with long-term obligations such as power supply contracts and office and vehicle leases.

The LIPA’s Board financial policy includes several components:

- (i) **Mid-A Ratings Target:** LIPA’s bond rating is A2 (stable), A (stable) and A (stable) (Moody’s, S&P, and Fitch, respectively). LIPA’s target is to maintain or improve these ratings.
- (ii) **Borrow Less than 64% of Capital Spending:** LIPA targets to borrow less than 64% of capital spending, with the balance funded by cash flow. This level is typical for large public power utilities and an industry best practice.
- (iii) **Fixed Obligation Coverage Target:** LIPA’s Fixed Obligation Coverage Ratio was revised in 2020 to reflect the impact of a new Governmental Accounting Standards Board (GASB) Statement No. 87 - Leases. This new standard expanded the definition of a long-term lease. Since long-term leases are a component in the Fixed Obligation Coverage Ratio, to ensure that the updated value of long-term leases results in the same level of cash flow as the prior lease standard, the coverage ratio was reduced from 1.45x to 1.35x starting in 2020. The coverage ratio remains at 1.35x in 2021 but is projected to increase to 1.40x in 2022 to reduce borrowing.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Debt Service Requirements
(Thousands of Dollars)

Description	2019	2020		2021		2022	
	Actual	Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
UDSA Debt Service							
UDSA Debt Service	\$ 327,140	\$ 319,030	\$ 319,030	\$ 367,388	\$ 48,358	\$ 357,548	\$ (9,841)
Board Policy Target Coverage Ratio on UDSA Debt Service	1.00 x	1.00 x	1.00 x	1.00 x		1.00 x	
UDSA Debt Service Plus Coverage	327,140	319,030	319,030	367,388	48,358	357,548	(9,841)
LIPA Debt Service							
LIPA Debt Service on Fixed Rate Debt	196,941	234,558	234,067	217,172	(17,387)	230,531	13,360
LIPA Debt Service on Variable Rate Debt	28,628	31,205	23,645	21,108	(10,097)	35,806	14,698
Total LIPA Debt Service	225,569	265,763	257,712	238,280	(27,484)	266,338	28,058
Board Policy Target Coverage Ratio on LIPA Debt Service	(a) 1.45 x	1.35 x	1.35 x	1.35 x		1.40 x	
LIPA Debt Service Plus Coverage	327,075	357,508	346,677	321,678	(35,830)	371,541	49,863
Long-term Obligations							
LIPA Long Term Obligations	(a) 263,457	421,481	421,472	400,035	(21,445)	399,040	(996)
Board Policy Target Coverage Ratio on Long-term Obligations	(a) 0.45 x	0.35 x	0.35 x	0.35 x		0.40 x	
LIPA Long-term Obligations Coverage	118,556	145,500	145,497	140,012	(5,487)	157,621	17,608
Revenue Net of Requirements							
Adjustment to Coverage Due to Revenue Net of Requirements		-	(17,113)	-	-	-	-
Total Debt Service and Coverage	\$ 772,771	\$ 822,038	\$ 794,090	\$ 829,078	\$ 7,041	\$ 886,709	\$ 57,631
Total Projected Debt Service and Coverage							
Total Projected Debt Service	552,709	584,793	576,742	605,668	20,875	623,885	18,217
Total Coverage	239,867	237,244	217,349	223,410	(13,834)	262,824	39,414
Projected Coverage Ratio on LIPA Obligations	(a) 1.49 x	1.35 x	1.32 x	1.35 x		1.40 x	
Projected Coverage on LIPA & UDSA Obligations	1.30 x	1.24 x	1.22 x	1.22 x		1.26 x	

Note: (a) Coverage ratio for 2020 reflects implementation of GASB Statement No. 87 for leases. A 1.35x coverage ratio in 2020 provides the same cash flow as 1.45x coverage ratio would have generated had GASB No. 87 not been adopted. A higher stated level of Long-Term Obligations requires a lower coverage ratio to generate the same cash flow.

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

Capital Expenditures

Capital Expenditures are budgeted at \$764.0 million in 2021 and are projected at \$709.5 million in 2022. The 2021 Capital Budget includes a deferral of certain 2020 Capital projects into 2021, as shown in Section II Page 43.

Transmission and Distribution projects are prioritized using a Value and Risk Evaluation protocol to determine the projects that have the highest value for system and company performance. The projects pursued will improve system reliability and resiliency and include a new Storm Hardening Distribution Circuit Program and the continuation of the Multiple Customer Outage Program to address customers with poor reliability.

In February 2014, LIPA signed a Letter of Undertaking with FEMA that provides for a \$730.0 million storm hardening initiative. As part of this program, FEMA will contribute 90% of the cost to this project. Construction is scheduled to complete at the end of the second quarter of 2021.

Information Technology projects include improvements and upgrades to systems that support Transmission and Distribution, Customer Services and IT infrastructure. Capital expenditures for Customer Services are primarily comprised of costs associated with residential and commercial meter replacement.

Capital expenditures for 2021 and 2022 include additional costs related to the Utility 2.0 Plan. These costs are associated with projects aimed at Smart Meters and integrating Distributed Energy Resources (DER) into LIPA's electric grid.

Nine Mile Point 2 Capital Expenditures relates to LIPA's share of capital expenses for the NMP2 nuclear generating station of which LIPA owns an undivided 18% interest.

The percent of the Capital Budget funded from debt will exceed LIPA's target of 64% over a three-year period in 2021 and 2022. This is due to the timing of the Smart Meter project as well as the need to minimize rate impact to customers who are struggling financially due to the COVID-19 pandemic. LIPA is currently forecasting to return to the targeted level by 2024.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Capital Expenditures (Thousands of Dollars)								
Description	2019		2020		2021		2022	
	Actual		Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
Transmission and Distribution								
Regulatory Driven	\$ 29,739		\$ 101,435	\$ 61,269	\$ 6,000	\$ (95,435)	\$ -	\$ (6,000)
Load Growth	174,527		225,520	219,949	214,349	(11,171)	202,982	(11,368)
Reliability	190,232		163,186	171,272	196,212	33,026	217,376	21,164
Storm Hardening	-		37,000	61,568	70,000	33,000	50,000	(20,000)
Economic, Salvage, Tools, Equipment & Other	52,184		39,464	41,193	27,867	(11,596)	92,218	64,351
Total Transmission and Distribution Projects	446,682		566,605	555,250	514,429	(52,176)	562,576	48,147
Other PSEG Long Island Capital Expenditures								
Information Technology	34,569		42,883	29,310	49,647	6,764	34,598	(15,049)
Customer Operations	17,709		22,181	25,188	17,282	(4,899)	14,754	(2,527)
Other General Plant	4,639		13,027	7,087	11,517	(1,510)	3,072	(8,445)
Fleet	6,413		8,875	8,875	9,719	844	7,222	(2,497)
Utility 2.0 (Includes carry over)	(a) 59,548		76,537	73,056	95,739	19,202	33,896	(61,843)
Budget Amendment to carry over projects	-		(27,668)	-	-	27,668	-	-
Total PSEG Long Island Excluding FEMA	(b) 569,561		702,439	698,765	698,332	(4,107)	656,117	(42,215)
FEMA Storm Hardening	116,363		58,665	48,822	24,414	(34,250)	-	(24,414)
Storm Capitalization	4,109		5,934	23,388	4,468	(1,466)	4,468	-
Total PSEG Long Island Capital	690,033		767,038	770,975	727,215	(39,823)	660,586	(66,629)
Nine Mile Point 2	23,254		15,760	16,288	6,910	(8,850)	25,557	18,646
Property Acquisition and Development	-		-	-	12,000	12,000	5,000	(7,000)
LIPA - Other	1,482		6,650	3,651	6,500	(150)	6,165	(335)
Capital OPEB Adjustment	(c) -		(17,715)	(17,715)	(19,711)	(1,996)	(19,395)	316
Capitalized Management Fee	31,549		30,290	30,399	31,007	718	31,628	620
Total Capital Expenditures	(b) \$ 746,317		\$ 802,022	\$ 803,597	\$ 763,921	\$ (38,102)	\$ 709,539	\$ (54,382)
Funding for Capital Expenditures								
FEMA Contribution (90% of Project Costs)	(d)		\$ 52,798	\$ 43,940	\$ 21,973	\$ (30,825)	\$ -	\$ (21,973)
Coverage from Operating Revenue								
Total Coverage			\$ 237,244	\$ 217,349	\$ 223,410	\$ (13,834)	\$ 262,825	\$ 39,414
Less Amount Projected for O&M OPEB Funding	(e)		(31,316)	(30,780)	(31,080)	236	(33,280)	(2,200)
Funding Required from New Debt			543,296	573,089	549,617	6,321	479,995	(69,623)
Total Funding for Capital Expenditures			\$ 802,022	\$ 803,597	\$ 763,921	\$ (38,102)	\$ 709,539	\$ (54,382)

Note: (a) The Approved 2020 Utility 2.0 budget of \$67.2 million has been increased to reflect the (1) \$10 million Utility 2.0 Smart Meters budget amendment acceleration from 2022 to 2020 partially offset by (2) \$0.7 million budget carry over of Utility 2.0. See reconciliation table on the next page.

(b) The Approved 2020 Capital budget of \$820.4 million has been reduced to reflect (1) \$27.7 million budget amendment carry over to 2021 and (2) \$0.7 million of U2.0 budget amendment carry over to 2021 partially offset by (3) \$10.0 million accelerated implementation of the Smart Meters.

(c) Non Cash cost of Other Post Employment Benefits (OPEB) included in capital expenses above.

(d) Amounts not yet reimbursed by FEMA; pending completion of individual projects.

(e) Projected 2021 OPEB funding is \$45.2 million, of which \$13.9 million is capital and \$31.1 million is O&M.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Capital Expenditures
(Thousands of Dollars)

Description	2019	2020		2021		2022	
	Actual	Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
Percent of Capital Funded from Debt:							
LIPA Target		64%	64%	64%		64%	
Projected Including FEMA spending and reimbursement		68%	71%	72%		68%	
Projected Excluding FEMA spending and reimbursement		72%	75%	74%		68%	
Reconciliation of Utility 2.0							
Utility 2.0 Approved 2018 Filing	\$ 59,548	\$ 63,273	\$ 61,669	\$ 63,161	\$ (112)	\$ 52,267	\$ (10,894)
Utility 2.0 AMI Acceleration 2022 to 2020	-	10,000	10,000	-	(10,000)	(10,000)	(10,000)
Utility 2.0 Smart Meters Acceleration 2022 to 2021	-	-	-	16,840	16,840	(16,840)	(33,680)
Utility 2.0 2018 Filing	59,548	73,273	71,669	80,001	6,728	25,427	(54,574)
Utility 2.0 2019 Filing	-	3,936	1,387	1,906	(2,029)	-	(1,906)
Utility 2.0 Carryover	-	(672)	-	-	672	-	-
Utility 2.0 2020 Filing	-	-	-	13,831	13,831	3,468	(10,362)
New Program Funding	-	-	-	-	-	5,000	5,000
Total Utility 2.0	\$ 59,548	\$ 76,537	\$ 73,056	\$ 95,739	\$ 19,202	\$ 33,896	\$ (61,843)

Major Projects

(Projects with a total cost greater than \$25 million)

Description	Justification	In Service Date	Cash Flow (\$millions)				
			Project To Date Expenditures through 12/31/20	2021	2022	2023 and Beyond	Total Project Cost
Western Nassau Transmission (East Garden City- Valley Stream N-1-1): Install new 138kV underground cable	New NERC reliability standard	2020	\$ 100.3	\$ 6.0	\$ -	\$ -	\$ 106.3
Two Way Radio System Replacement: Replace existing conventional radio system with new territory-wide radio system	Current system is a mix of legacy radio console, mobiles and portable radios with age of equipment ranging from 10 to 35 years old; vendors no longer support	2020	\$ 40.9	\$ 2.0	\$ -	\$ -	\$ 42.9
Round Swamp Substation: Construct new 69/13kV substation	Load growth in Old Bethpage	2021	\$ 4.6	\$ 13.7	\$ 11.8	\$ -	\$ 30.2
Riverhead - Canal: Install new 138 kV underground cable	Load growth in the South Fork	2021	\$ 51.1	\$ 22.9	\$ -	\$ -	\$ 82.5
Ruland Rd - Plainview: Install new Underground 69kV transmission line	Load growth to support the Country Pointe Development and the new Round Swamp Substation	2022	\$ 16.5	\$ 22.0	\$ 14.3	\$ -	\$ 52.8
Utility 2.0 Smart Meters: Replace existing meters with Smart Meters.	Improve operations, especially with regard to minimizing the impact of outages, and to gain valuable insight into system conditions and customer needs.	2022	\$ 115.0	\$ 65.6	\$ 13.5	\$ -	\$ 194.1
Far Rockaway: Reconductor 33kV line and install series reactor on 33kV line	Lump load additions expected within 3 years.	2022	\$ 0.7	\$ 12.3	\$ 17.7	\$ -	\$ 30.6
East Garden City: Switchgear replacement	Replace aging switchgears for improved reliability in East Garden City	2022	\$ 0.1	\$ 7.5	\$ 7.3	\$ 13.7	\$ 28.6
Navy Rd: Construct new 23/13 kV substation	Load growth in Montauk	2023	\$ 22.1	\$ 5.0	\$ 0.6	\$ 4.0	\$ 31.7
Massapequa: Establish new 69/13kV substation	Load growth in the town of Massapequa	2023	\$ 2.9	\$ 5.1	\$ 10.9	\$ 13.7	\$ 32.6
Port Jefferson: Interconnection costs to reconductor 69kV Circuit to Stonybrook Substation	Part of NYISO Class Year 2017. Increase in renewable generation deliverability.	2023	\$ 0.6	\$ 1.5	\$ 6.8	\$ 22.6	\$ 31.5
Transmission Operations Control Room Facility Replacement: Replace the existing Transmission Operations control room	Construct a new Transmission Control room to meet future expansion of the LIPA T&D system as well as continue to maintain a high level of system reliability	2023	\$ -	\$ 0.7	\$ 30.1	\$ 47.2	\$ 78.0
Fire Island Pines: Install new 23 kV circuit to Ocean Beach	Increase reliability to Fire Island	2024	\$ 1.9	\$ 0.4	\$ 12.1	\$ 31.8	\$ 46.1
Bridgehampton - Buell: Install a new 69kV underground cable	Load growth in the South Fork	2024	\$ 3.1	\$ 1.0	\$ 0.9	\$ 40.6	\$ 45.5
Southampton: Install new 138kV cable to Deerfield	Increase in projected South Fork load requirements	2027	\$ -	\$ 0.8	\$ 1.7	\$ 113.4	\$ 115.8
Syosset to Shore Road: Install new 138 kV transmission circuit	Support the deliverability of future supply resources interconnected to the LIPA system	2028	\$ 0.2	\$ -	\$ -	\$ 239.2	\$ 239.4
Total Major Projects			\$ 360.1	\$ 166.5	\$ 127.6	\$ 526.1	\$ 1,188.8

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

PSEG Long Island Operating Expenses

PSEG Long Island Operating Expenses are related to five major areas: Transmission and Distribution, Customer Services, Business Services, Power Markets and Energy Efficiency and Distributed Energy Programs. Total operating expenses are budgeted at \$551.0 million for 2021 and projected at \$573.8 million for 2022. Pension and OPEB expenses are excluded from the operating costs for these areas but are included in Utility 2.0 costs.

The PSEG Long Island 2021 operating budget, excluding the Utility 2.0 Program, is increasing by \$13.6 million. This is driven by inflationary increases of \$20.1 million and new initiatives of \$3.4 million, which are offset by productivity savings of \$9.9 million. The new initiatives consist of funding for the Jones Beach Energy and Nature Center, support costs for the new two-way radio network, and resources to prepare for the implementation of New York's Clean Energy Standard.

The approved operating expenses for 2020 have been decreased by \$10.0 million due to the projected underrun of the 2020 Utility 2.0 program that was identified as a refund to customers in the July 2020 Utility 2.0 filing.

Operating expenses for 2021 of \$551.0 million may shift between various lines of business during the year.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

PSEG Long Island Operating Expenses
(Thousands of Dollars)

Description	2019	2020		2021		2022	
	Actual	Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
PSEG Long Island Operating Expenses							
Transmission & Distribution	\$ 190,585	\$ 163,941	\$ 186,099	\$ 169,871	\$ 5,930	\$ 178,012	\$ 8,140
Customer Services	128,362	105,371	110,839	109,840	4,468	115,103	5,264
Business Services	164,775	155,990	149,692	158,310	2,320	165,897	7,586
Power Markets	12,364	11,938	10,950	12,956	1,017	13,576	621
Energy Efficiency & DER	84,411	87,434	82,582	87,243	(191)	90,097	2,854
Utility 2.0 Costs	4,420	34,057	10,470	24,208	(9,849)	28,235	4,027
Utility 2.0 Savings	(3,675)	(6,858)	(6,858)	(11,452)	(4,595)	(17,148)	(5,695)
Budget Amendment (Utility 2.0) (a)	-	(10,000)	-	-	10,000	-	-
PSEG Long Island Operating Expenses (excluding Pension and OPEB)		541,875	543,774	550,976	9,101	573,773	22,797
Pension and OPEB (b)		69,377	63,051	-	(69,377)	-	-
Total PSEG Long Island Operating Expenses	581,242	611,252	606,825	550,976	(60,276)	573,773	22,797

Note: (a) The 2020 Approved Operating Expenses have been reduced by \$10 million due to the projected underrun of the 2020 Utility 2.0 budget that was identified as a refund to customers in the July 2020 filing.

(b) Pension and Other Post Employment Benefits (OPEB) were removed to allow a comparison between 2020 and 2021. The table above reflects Pension and OPEB costs as a new category in order to tie to original budget.

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

LIPA Operating Expenses

LIPA Operating Expenses are budgeted at \$90.5 million in 2021 and projected at \$93.5 million in 2022. The 2021 plan represents an increase of \$2.5 million as compared with the Approved Budget for 2020. The increase is largely driven by increased oversight functions and additional IT related costs in support of a new working environment offset by lower use of outside contractor support for Legal.

LIPA Operating Expenses include the PSEG Long Island management fee and costs related to LIPA staff and outside professional services.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

LIPA Operating Expenses
(Thousands of Dollars)

Description	2019 Actual	2020		2021		2022	
		Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
LIPA Operating Expenses							
PSEG Long Island Management Fee (a) \$	75,276	\$ 76,781	\$ 76,920	\$ 78,458	\$ 1,677	\$ 80,027	\$ 1,569
Capitalized Management Fee	(31,549)	(30,290)	(30,399)	(31,007)	(718)	(31,628)	(620)
Total Operating Management Fee	43,727	46,492	46,520	47,451	959	48,400	949
LIPA Operating Expenses							
Employee Salaries & Benefits Expenses (b)	9,860	12,804	13,109	15,043	2,239	15,495	451
Insurance	2,665	2,990	2,722	3,289	299	3,388	99
Office Rent	1,837	1,937	1,889	1,740	(197)	1,792	52
Other	637	1,519	1,046	1,470	(50)	1,514	44
Total Labor, General and Administrative	14,998	19,251	18,765	21,543	2,292	22,189	646
Engineering	153	1,000	633	950	(50)	929	(22)
Legal	4,568	8,140	5,317	6,280	(1,860)	6,468	188
Financial Services and Cash Management	1,887	3,565	1,814	2,483	(1,082)	3,357	874
Accounting Services	1,837	2,785	2,614	3,199	414	3,295	96
Information Technology	2,063	4,460	4,113	5,586	1,127	5,754	168
Risk Management	165	340	340	340	-	350	10
Grant Administration	116	200	17	200	-	260	60
Outside Services	1,779	1,724	1,243	2,444	720	2,517	73
Total Professional Services	12,569	22,213	16,090	21,482	(731)	22,931	1,448
Total LIPA Operating Expenses	\$ 71,294	\$ 87,956	\$ 81,376	\$ 90,475	\$ 2,519	\$ 93,519	\$ 3,044

Note: (a) PSEG Long Island will forgo a portion of the Management Fee to cover customer claims for food and medicine spoilage that resulted from the extended outage following Tropical Storm Isaias. PSEG Long Island's current estimate for food and medicine spoilage claims is \$6.1 million.

(b) Approximately \$1.2 million of the increase in Salary and Benefits Expenses from 2019 to 2020 is attributable to a New York State Retirement System credit and OPEB Adjustment in 2019.

Utility Debt Securitization Authority
(A Component Unit of the Long Island Power Authority)
2021 Proposed and 2022 Projected Operating and Capital Budgets

Utility Debt Securitization Authority

The LIPA Reform Act created the Utility Debt Securitization Authority (UDSA) to issue restructuring bonds in an aggregate amount not to exceed \$4.5 billion to refinance a portion of LIPA's debt at a lower cost. The issuance of Restructuring Bonds allowed LIPA to retire a portion of its outstanding indebtedness and provide savings to the Authority's customers on a net present value basis.

LIPA's Board adopted Financing Order No. 1 on October 3, 2013, Financing Orders No. 2, No. 3 and No. 4 on June 26, 2015 and Financing Order No. 5 on September 29, 2017, each authorizing the UDSA to issue Restructuring Bonds. Each financing order authorized Restructuring Bonds secured by a separate restructuring charge created pursuant to that financing order. A total of \$4.5 billion of UDSA Restructuring Bonds have been issued, with no statutory capacity remaining.

The operations of the UDSA are presented as a proprietary fund following the accrual basis of accounting in order to recognize the flow of economic resources. Revenue which is based on the UDSA's Restructuring Charge is set at an amount sufficient to recover the debt service payments and other cash operating expenses that the UDSA incurs in any given year.

The UDSA is considered a blended component unit of LIPA. The results of operations are consolidated with LIPA for financial reporting purposes.

UDSA is forecasted to end 2020 with a change in net position of \$15.7 million due to higher than expected revenues. These excess revenues are provided as a credit in the subsequent year's restructuring charge.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Utility Debt Securitization Authority
(Thousands of Dollars)

Description	2019	2020		2021		2022	
	Actual	Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
Revenues	\$ 308,807	\$ 320,482	\$ 339,416	\$ 349,589	\$ 29,107	\$ 361,539	\$ 11,949
Operating Expenses							
Uncollectible Accounts	1,407	1,850	1,672	1,790	(60)	1,742	(47)
General and Administrative Expense							
Ongoing Servicer Fee	2,065	2,250	2,250	2,250	-	2,250	-
Administration Fees	685	500	500	500	-	500	-
Bond Administration Fees	392	360	389	390	30	390	-
Directors and Officers Insurance	245	339	271	362	23	380	18
Accounting, Legal & Misc. Fees	121	205	155	155	(50)	155	-
Total General and Administrative Expense	3,508	3,654	3,565	3,657	3	3,675	18
Amortization of Restructuring Property	169,341	170,316	170,503	221,742	51,426	216,389	(5,353)
Interest Expense	196,248	192,041	192,807	187,619	(4,422)	179,694	(7,925)
Amortization of Premium	(44,779)	(45,706)	(45,706)	(45,119)	587	(42,050)	3,069
Amortization of Deferred Debt Issue Costs	2,268	2,175	2,169	2,039	(136)	1,886	(153)
Total Interest Expense	153,737	148,510	149,271	144,539	(3,971)	139,530	(5,009)
Reserve Fund Earnings	3,812	4,011	1,283	1,441	(2,569)	1,441	-
Change in Net Position	\$ (15,373)	\$ 164	\$ 15,689	\$ (20,697)	\$ (20,860)	\$ 1,644	\$ 22,341

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

Projected Borrowing Requirements and Bank Facilities

LIPA expects to generate funds from operations of \$192.3 million and \$229.5 million in 2021 and 2022, respectively. The balance of capital expenditures are funded from the issuance of debt. In total, LIPA will fund \$764.0 million of infrastructure investments in 2021 with new debt issuances of \$554.0 million or approximately 72% debt financing and 28% grant and pay-as-you-go funding.

The percent of capital funded from debt will exceed LIPA's target of 64% over a three-year period in 2021 and 2022. This is due to the timing of the Smart Meter project as well as the need to minimize the rate impact to customers who are struggling financially due to COVID-19. As noted on the Debt Service Requirements page, LIPA will be increasing the coverage ratio starting in 2022 to generate additional cash flow from revenues in order to bring the percent of capital funded from debt in line with the Board target. LIPA is currently forecasting to return to the targeted level by 2024. LIPA will continue to monitor its debt financing as a share of capital expenditures and adjust its financial policy, if warranted.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Projected Borrowing Requirements and Bank Facilities
(Thousands of Dollars)

Description	2019		2020		2021		2022	
	Actual		Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
Total Capital Expenditures	(a) \$ 746,317		\$ 802,022	\$ 803,597	\$ 763,921	\$ (38,102)	\$ 709,539	\$ (54,382)
FEMA Contribution	(104,727)		(52,798)	(43,940)	(21,973)	30,825	-	21,973
Net Capital Expenditures	641,591		749,224	759,658	741,948	(7,276)	709,539	(32,409)
Net Coverage Funding of Capital Expenditures	(239,867)		(205,928)	(186,569)	(192,330)	13,597	(229,545)	(37,214)
Projected Borrowing Requirements	401,724		543,296	573,089	549,617	6,321	479,995	(69,623)
Projected Cost of Issuance on Borrowing Requirements	2,009		4,346	4,585	4,397	51	3,840	(557)
Projected Borrowing Requirements with Cost of Issuance	(b) 403,732		547,643	577,674	554,014	6,372	483,835	(70,180)
Series 2016A - Floating Rate Notes	-		-	-	175,000	175,000	-	(175,000)
Series 2015A&B - Floating Rate Notes	-		200,000	200,000	-	(200,000)	-	-
General Revenue Notes, Series 2015	(c) -		100,000	1,000,000	-	(100,000)	200,000	200,000
Revolving Credit Agreement	200,000		-	-	-	-	200,000	200,000
Bonds Subject to Mandatory Refinancing & Bank Facilities	\$ 200,000		\$ 300,000	\$ 1,200,000	\$ 175,000	\$ (125,000)	\$ 400,000	\$ 225,000

Note: (a) This reflects a Budget Amendment to carry over specific projects in the amount of \$28.3 million from 2020 to 2021.

(b) The Projected Borrowing amount is a calculated value. Actual borrowing level may differ due to premium and other considerations.

(c) In 2020 LIPA's actual refinancing of existing credit facilities exceeded the original plan because of favorable market conditions.

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

Capital Structure

LIPA expects to fund its capital investments utilizing a combination of grants, short and long-term debt financing and pay-as-you-go funding from revenue through 2022.

After funding \$3.0 billion in infrastructure investments from 2019 through 2022, total projected debt outstanding for LIPA and UDSA will rise approximately \$799 million.

Lease Obligations will increase by \$534 million, from \$1.6 billion in 2019 to \$2.1 billion in 2022. Lease Obligations reflect the net present value of lease contracts that are considered financing arrangements under the Governmental Accounting Standards Board (GASB). The Lease Obligation in 2020 has been revised to reflect a GASB Statement No. 87 - Leases, which revised the definition of a lease obligation. As a result, lease contracts that had previously not been capitalized were reclassified as Long-term Lease Obligations in 2020. For example, under the prior GASB rule, the contract with National Grid for the operation of on-island power generation did not meet the lease capitalization criteria. Absent this change in accounting rules, Lease Obligations would have declined from \$1.6 billion in 2019 to \$1.1 billion in 2022.

Combined debt and lease balances will increase by \$1.3 billion, from \$9.9 billion at the end of 2019 to \$11.3 billion at the end of 2022. This is primarily due to GASB Statement No. 87, as described above.

LIPA's Debt to Capital Ratio remains essentially flat at 89.6% in 2019 to 90.3% in 2022. The Debt to Asset Ratio declines from 98.0% in 2019 to 92.5% in 2022. Both ratios are expected to continue to decline over time.

Long Island Power Authority
2021 Proposed and 2022 Projected Budgets

Capital Structure (Thousands of Dollars)								
Description	2019 Actual	2020		2021		2022		
		Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year	
UDSA Current Debt								
UDSA Long Term Debt Outstanding	\$ 4,008,832	\$ 3,882,775	\$ 3,882,775	\$ 3,703,356	\$ (179,419)	\$ 3,525,845	\$ (177,511)	
LIPA Current Debt								
LIPA Long Term Debt Outstanding	3,543,871	3,979,143	3,965,224	4,628,280	649,138	4,965,602	337,322	
LIPA Short Term Debt Outstanding (a)	292,000	305,900	305,000	174,093	(131,807)	174,093	-	
Total LIPA Debt Outstanding	3,835,871	4,285,043	4,270,224	4,802,373	517,330	5,139,695	337,322	
LIPA Long Term Debt To Be Issued (b)	502,425	546,013	575,955	552,366	6,353	482,395	(69,971)	
Projected UDSA Debt	4,008,832	3,882,775	3,882,775	3,703,356	(179,419)	3,525,845	(177,511)	
Projected LIPA Debt	4,338,296	4,831,055	4,846,178	5,354,739	523,683	5,622,090	267,351	
Total Projected Debt	8,347,128	8,713,830	8,728,953	9,058,095	344,264	9,147,935	89,840	
Lease Obligations (c)	1,581,061	2,815,001	2,791,111	2,457,256	(357,744)	2,115,865	(341,391)	
Total Debt and Lease Obligations	9,928,189	11,528,831	11,520,064	11,515,351	(13,480)	11,263,800	(251,551)	A
Excess of Revenues Over Expenses	24,019	3,531	(8,215)	29,033	25,502	78,784	49,751	
Net Position Before Deferred Grants	518,868	499,417	510,653	539,686	40,268	618,470	78,784	
Deferred Grants (d)	631,498	634,999	619,318	602,546	(32,452)	584,987	(17,560)	
Net Position	\$ 1,150,366	\$ 1,134,416	\$ 1,129,971	\$ 1,142,232	\$ 7,816	\$ 1,203,456	\$ 61,224	B
Debt to Capital Ratio (e)	89.6%	91.0%	91.1%	91.0%	0.0%	90.3%	-0.7%	C=A/(A+B)
Debt to Asset Ratio (e)	98.0%	97.2%	98.0%	94.9%	-2.3%	92.5%	-2.4%	

Note: (a) LIPA may need to use additional short-term debt in 2020 in anticipation of FEMA reimbursement for storm costs and storm hardening projects.

(b) Long-term debt to be issued reflects projected borrowing requirements to fund Capital Expenditures excluding carry over proceeds from the prior year and bond premium.

(c) The 2020 Long-term Lease Obligation amounts and the associated Coverage calculation reflect GASB No. 87 (Leases) implementation in January 2020. GASB 87 revised the definition of a lease obligation. As a result, lease contracts that had previously not been capitalized will be reclassified as Long-term Lease Obligations starting 2020.

(d) Deferred Grants are funds received from FEMA for a \$730.0 million storm hardening program. LIPA has deferred recognition of the grant income to align the grant receipts with the associated depreciation expense of the assets funded through the grant.

(e) Debt to Capital Ratio is calculated by taking (i) debt and capitalized leases and dividing by (ii) debt, capitalized leases, and Net Position. Debt to Asset Ratio is calculated by taking (i) total debt and capitalized leases and dividing by (ii) fixed assets and working capital.

2021 Proposed and 2022 Projected Capital and Deferred Expenditures
(Thousands of Dollars)

Transmission & Distribution	Location	Investment Description	In Service Date	Total Project Cost	Project To Date Expenditures through 12/31/20 (a)	Proposed 2021	Projected 2022
Regulatory Driven Projects							
	East Garden City	Install new circuit to Valley Stream (N-1-1)	Dec-20	106,300	100,312	6,000	-
Total Regulatory Driven Projects				\$ 106,300	\$ 100,312	\$ 6,000	\$ -
Load Growth Projects							
	Mitchel Garden	Reconductor 13kV distribution feeder	Dec-20	1,186	585	601	-
	Far Rockaway	Upgrade 14 MVA transformers to 33 MVA transformers	Jun-21	9,335	5,559	3,776	-
	Round Swamp	Construct new 69/13kV substation	Jun-21	30,176	4,645	13,728	11,803
	Roslyn	Install new 138/13 kV transformer and switchgear	Jun-21	21,876	15,644	6,232	-
	Wildwood	Upgrade 69 kV circuit to Riverhead to 138 kV	Jun-21	9,579	4,349	5,230	-
	Riverhead	Install new 138 kV circuit to Canal	Jun-21	82,550	51,061	22,918	-
	South Fork	Upgrade transmission lines from 23 kV to 33 kV	Jun-21	1,135	136	379	620
	Ronkonkoma	Install new 138/69 kV transformer and switchgear	Jun-21	19,746	7,451	9,643	-
	Stewart Manor	Upgrade distribution feeder and install step down bank	Jun-21	2,393	89	2,304	-
	Far Rockaway	Install series reactor for 33kV circuit at Far Rockaway Substation	Jun-21	2,883	779	2,103	-
	Bridgehampton	Replace the control and battery enclosure	Jun-21	3,229	248	1,742	1,239
	Rockaway Beach	Convert substation from 4kV to 13kV	Dec-21	11,303	4,220	4,967	2,115
	Far Rockaway	Install two new distribution circuits	Dec-21	7,403	1,555	4,556 *	1,292
	Amagansett	Upgrade substation from 23 kV to 33 kV	Jun-22	15,659	9,122	3,466 *	948
	Ocean Beach	Install new 4kV circuit	Jun-22	6,838	380	3,572	2,886
	Arverne	Install new 33kV circuit to Far Rockaway substation	Jun-22	30,648	665	12,329	17,655
	New South Road	Expand 69/13kV substation & distribution circuits	Jun-22	21,232	5,161	3,423 *	6,049
	Ruland Road	Install new 69 kV circuit to Plainview	Jun-22	52,850	16,549	21,982	14,318
	Brightwaters	Install new transformer and switchgear	Jun-22	20,418	355	5,459	14,603
	Rockaway Beach	Install new transformer and switchgear	Jun-22	11,272	1,254	4,481	5,536
	Southampton	Install new 13kV distribution circuit	Jun-22	5,545	323	2,628	2,593
	Brightwaters	Install new 13kV distribution circuit and switch (ATO)	Jun-22	2,350	143	1,163	1,044
	Garden City	Upgrade distribution feeder from 4kV to 13kV	Jun-22	3,510	116	802	2,592
	Rockaway Beach	Install new 33 kV circuit to Arverne	Jun-22	24,658	95	7,741	16,822
	Bridgehampton	Install new 3rd bank and switchgear	Jun-22	11,069	-	2,990	3,509
	Culloden Point	Upgrade substation from 23 kV to 33 kV	Dec-22	6,229	2,281	1,034	853
	Buell	Upgrade substation from 23 kV to 33 kV	May-23	12,191	242	3,228 *	5,052
	Bridgehampton	Install 2 new feeders and conversion and reinforcement	Jun-23	12,923	-	343	2,441
	Pilgrim	69kV bus reconfiguration	Jun-23	1,310	-	-	50
	Massapequa	Construct new 69/13kV substation	Jun-23	32,641	2,947	5,133	10,890
	Berry Street	Reconductor 69kV circuit to South Farmingdale Substation	Jun-23	13,280	256	201	7,671
	Peconic	Upgrade existing distribution transformers from 14MVA to 33MVA	Jun-23	7,022	-	-	2,392
	Broadway	Upgrade distribution feeder from 4kV to 13kV	Jun-23	2,953	-	-	120
	North Bellmore	Install 33 MVA bank, switchgear, and feeders	Jun-23	21,902	-	100	5,471
	Navy Road	Construct new 23/13 kV substation (Montauk substation replacement)	Oct-23	31,746	22,142	4,962	601
	Hero	Upgrade substation from 23 kV to 33 kV	Dec-23	685	117	61	31
	East Hampton	Upgrade substation from 23 kV to 33 kV	May-24	5,695	384	1,456 *	1,167
	Hither Hills	Upgrade substation from 23 kV to 33 kV	May-24	12,973	170	308	2,603
	Bridgehampton	Install new 69kV circuit to Buell	Jun-24	45,520	3,114	968 *	878
	Deerfield	Reconfiguration of 69kV double circuit to Canal	Jun-25	1,625	-	280	133
	Yaphank	Install 33 MVA bank, switchgear, feeders & C&R	Jun-25	12,000	-	-	250
	North Patchogue	Land acquisition for new substation	Jun-26	2,400	-	-	2,400
	New Cassel	Land acquisition for new substation	Jun-26	16,690	-	-	2,100
	Southampton	Install new 138kV cable to Deerfield	Jun-27	115,804	-	750	1,680
	Doctors Path	Land acquisition for new substation	Jun-29	1,500	-	-	1,500
	Various	Distribution facilities to serve new business		-	35,328	35,308	37,074
	Various	Residential underground development to serve new business		-	10,000	12,000	12,000
Total Load Growth Projects				\$ 765,931	\$ 207,467	\$ 214,349	\$ 202,982

*Includes carry over from 2020. See Carry Over table for details

(a) Project to date expenditures includes projects that began prior to 2020

2021 Proposed and 2022 Projected Capital and Deferred Expenditures
(Thousands of Dollars)

Transmission & Distribution	Location	Investment Description	In Service Date	Total Project Cost	Project To Date Expenditures through 12/31/20 (a)	Proposed 2021	Projected 2022
Reliability Projects							
	Fire Island	New circuit	Jun-21	8,844	1,313	7,531	-
	Hicksville	Purchase two mobile units	Jun-21	3,598	2,511	1,087	-
	Northport	Procure phase angle regulator	Jun-21	11,083	2,142	8,941	-
	Greenlawn	Reconductor 69kV circuit to Elwood	Dec-22	6,779	95	474	6,209
	Northport	Replace radiators for banks 1 to 4	Dec-22	5,625	2,074	1,656	1,896
	East Garden City	Switchgear replacement	Dec-22	28,590	103	7,491	7,320
	Various	Telecom alarm monitoring system	Dec-22	310	-	225 *	85
	Fire Island Pines	Install new 23 kV circuit to Ocean Beach	Jun-24	46,142	1,862	436	12,058
	Various	Upgrade corrosion protection system for pipe type cable	-	-	2,008	2,000	2,000
	Various	Transformer load tap changer replacements	-	-	410	410	410
	Various	Distribution circuit improvement program (CIP)	-	-	12,407	16,000	16,000
	Various	Transformer monitoring	-	-	-	950	950
	Various	Substation battery replacements	-	-	482	482	482
	Various	Substation control power transformer replacements	-	-	224	262	262
	Various	Pipe type cable low pressure trip	-	-	913	683	1,366
	Various	Pipe type cable terminal pressure monitoring upgrade program	-	-	1,364	724	905
	Various	Transmission cables cathodic replacements	-	-	374	374	374
	Various	Transmission pipe type cable pump house upgrade/replacement	-	-	680	860	860
	Various	Transmission protection and controls upgrades	-	-	1,100	3,490	3,200
	Various	Substation lightning & grounding upgrades	-	-	290	790	790
	Various	Remote terminal unit replacement/upgrades	-	-	2,586	2,707	2,700
	Various	Mechanical relay replacements	-	-	188	225	800
	Various	Transmission breaker replacements	-	-	2,330	2,500	2,500
	Various	Protection lease line upgrade	-	-	1,421	1,600	800
	Various	Replace (13) trailer mounted capacitor banks with fixed banks	-	-	-	2,100	3,300
	Various	Distribution pole mounted switches and RTU replacements	-	-	-	500	500
	Various	Upgrade supervisory controllers for Capacitor Banks	-	-	1,762	2,262	3,430
	Various	Distribution switchgear replacements	-	-	-	-	7,500
	Various	Distribution breaker replacements	-	-	748	748	748
	Various	Cap and pin insulator replacements	-	-	500	425	425
	Various	Transformer major component replacements	-	-	720	1,750	1,750
	Various	Substation rack replacements	-	-	-	-	200
	Various	Substation transformers replacements	-	-	-	200	4,500
	Various	Distribution transformers - add/replace	-	-	15,776	17,761	18,649
	Various	Substation equipment failures	-	-	7,425	7,000	7,000
	Various	System spares	-	-	6,166	5,800	5,800
	Various	Public works	-	-	16,192	9,293	9,293
	Various	Transmission pole replacements	-	-	980	709	745
	Various	Distribution pole reinforcement	-	-	2,981	5,000	5,000
	Various	Distribution system improvements - services, branch lines & customer requests	-	-	26,828	28,500	30,975
	Various	Accidents	-	-	9,418	10,229	12,332
	Various	Distribution pole replacements	-	-	14,752	15,031	15,782
	Various	Distribution multiple customer outages (MCO)	-	-	8,171	7,272	7,490
	Various	Transmission system failures	-	-	1,035	606	636
	Various	Underground distribution cable upgrades	-	-	10,370	12,200	12,200
	Various	Residential underground cables	-	-	2,600	6,400	6,400
	Various	Telecom distribution automation repeater upgrades	-	-	272	425	450
	Various	Two Way Radio new fleet equipment	-	-	103	104	104
	Various	Two Way Radio communications equipment infrastructure	-	-	-	-	200
Total Reliability Projects				\$ 110,971	\$ 163,676	\$ 196,212	\$ 217,376

*Includes carry over from 2020. See Carry Over table for details

(a) Project to date expenditures includes projects that began prior to 2020

2021 Proposed and 2022 Projected Capital and Deferred Expenditures
(Thousands of Dollars)

Transmission & Distribution	Location	Investment Description	In Service Date	Total Project Cost	Project To Date Expenditures through 12/31/20 (a)	Proposed 2021	Projected 2022
Storm Hardening Projects							
	Various	Storm hardening distribution circuits		-	61,544	70,000	50,000
Total Storm Hardening Projects				\$ -	\$ 61,544	\$ 70,000	\$ 50,000
Tools, Equipment, Other, Economic, Salvage							
	Various	Two way radio system upgrade	Dec-20	42,913	40,917	1,995 *	-
	Far Rockaway Peninsula	Relocate Aerial Cable at Beach 105th Street MTA Station Rebuild	Dec-20	3,953	1,460	2,493	-
	Edwards Avenue	Interconnection costs associated with Long Island Solar Farm	Dec-21	5,069	-	-	5,069
	East Hampton	Underground transmission in Village	Jun-21	5,118	1,062	500	3,139
	Edwards Avenue	Interconnection costs associated with sPower Riverhead Solar Farm 2	Dec-22	270	-	-	270
	Port Jefferson	Interconnection costs to reconductor 69kV Circuit to Stonybrook Substation	Jun-23	31,455	646	1,491	6,760
	Hicksville	Transmission operations control room facility replacement	Dec-23	78,025	-	700 *	30,125
	Newbridge to Bellmore	Interconnection costs associated with system deliverability upgrades associated with Offshore Wind (b)	Dec-25	9,000	-	-	900
	Various	Interconnection costs and system deliverability upgrades associated with Offshore Wind	Dec-26	-	-	2,000	16,000
	Various	LIRR program upgrade		-	1,000	1,527	1,200
	Various	Substation distribution circuit relay upgrade		-	780	362	500
	Various	Substation security upgrade		-	1,775	4,975	14,925
	Various	Transfer distribution facilities to new telephone poles		-	17,076	10,124	10,630
	Various	Capital tools		-	912	2,200	3,200
	Various	Salvage		-	(876)	(500)	(500)
Total Tools, Equipment, Other, Economic, Salvage				\$ 175,803	\$ 64,753	\$ 27,867	\$ 92,218
Grand Total Transmission & Distribution				\$ 1,159,005	\$ 597,752	\$ 514,429	\$ 562,576

*Includes carry over from 2020. See Carry Over table for details

(a) Project to date expenditures includes projects that began prior to 2020

(b) Additional costs may be required as details of the offshore wind project development are finalized.

2021 Proposed and 2022 Projected Capital and Deferred Expenditures
(Thousands of Dollars)

Information Technology	Investment Description	In Service Date	Total Project Cost	Project To Date Expenditures through 12/31/20 (a)	Proposed 2021	Projected 2022
Transmission & Distribution						
	Outage and Incident Communications	2021	950	776	174	-
	Control room recorder upgrade	2021	5,750	-	1,600 *	3,000
	GIS upgrade	2021	6,256	-	6,515 *	-
	Mobile timesheets	2021	5,300	-	5,600 *	-
	New Business Portal	2021	1,595	200	750	-
	GIS field smart designer	2022	7,000	-	-	3,000
	LI Two Way Radio N-1 coverage	2022	3,500	-	-	1,500
	ADMS - Network Model and FLISR	2023	16,700	-	4,000 *	5,500
	Asset health system enhancements (IBM Platform)	2025	1,800	-	500	500
	Work management continuous improvement	Program	-	-	1,987 *	-
	CAD - Mobile Operational Enhancements	Program	-	-	1,000	500
	CG Concentrator Replacement	Program	-	-	-	850
	Geospatial Operational Enhancements	Program	-	-	-	1,500
	OMS - Mobile Operational Enhancements	Program	-	-	1,000	500
	Refresh the CNI PI system	Program	-	-	400	-
	Substation remote monitoring and data collection	Program	-	-	263	500
	T&D mobile applications	Program	-	-	1,250 *	-
	Robotics	Program	-	-	250 *	-
Total Transmission & Distribution			\$ 48,851	\$ 976	\$ 25,289	\$ 17,350
Customer Service						
	Community Choice Aggregation (CCA)	2021	1,800	-	1,800	-
	CRM modernization - Salesforce product backlog	Program	-	-	2,500	2,000
	Call Center as a Solution (CaaS) product backlog	Program	-	-	6,470 *	1,000
	Robotic Process Automation product backlog	Program	-	-	250	750
	CAS product backlog	Program	-	-	500 *	1,000
	AMI system product backlog	Program	-	-	800	2,000
	Rate change product backlog	Program	-	-	600 *	1,000
	Payment processing backlog	Program	-	-	-	2,000
	Suffolk County Sewage	Program	-	-	400	-
	Bill Print & Bill Image Migration - new vendor (security & finance stability drv)	Program	-	-	500	-
	IT - ACH (Electronic Payment System Add On) Replacement (PEP+)	Program	-	-	400	-
	Mobile app product backlog	Program	-	-	250	500
	Voice Assistant product backlog	Program	-	-	300 *	500
	myAccount product backlog	Program	-	-	798 *	1,498
	Kubra enhancement product backlog	Program	-	-	300	600
	TCPA Preference Management Tool	Program	-	-	500	-
Total Customer Service			\$ 1,800	\$ -	\$ 16,368	\$ 12,848
Information Technology						
	Network access control security	2021	1,261	794	441	-
	AWS Storage	2021	800	-	200	-
	Core Switch/Firewall Life Cycle Replacement GC & HN	2021	140	-	140	-
	Cyber Security Compliance Tools (CAPE)	2021	250	-	250	-
	Herndon AWS Migration	2021	1,000	-	1,000	-
	InfoBlox DNS Upgrade	2021	300	-	300	-
	Mainframe CICS Upgrade	2021	300	-	300	-
	Windows 2016 Operating System Upgrade	2021	294	-	294	-
	Network F5 load balancers life cycle program	2021	300	-	300 *	-
	Customer usage patterns analytics	Program	-	-	500	500
	Cybersecurity continous improvement	Program	-	-	765 *	1,000
	Energy Efficiency program analytics	Program	-	-	500	500
	Grid optimization analytics	Program	-	-	2,000 *	1,000
	Mulesoft platform continuous improvement	Program	-	-	1,000	500
	Network (LAN/WAN) infrastructure life cycle program updates	Program	-	-	-	900
Total Information Technology			\$ 4,645	\$ 794	\$ 7,990	\$ 4,400
Grand Total Information Technology Projects			\$ 55,296	\$ 1,770	\$ 49,647	\$ 34,598

*Includes carry over from 2020. See Carry Over table for details

(a) Project to date expenditures includes projects that began prior to 2020

2020 Approved and 2021 Projected Capital Expenditures
(Thousands of Dollars)

Utility 2.0	Investment Description	Total Project Cost	Project To Date Expenditures through 12/31/20 (a)	Proposed 2021	Projected 2022
2018 Utility 2.0 Filing					
Empowering Customers					
	Core AMI: Operational	194,075	104,980	48,735	40,361
	Core AMI: PMO + Change Management	7,636	3,636	2,000	2,000
	AMI-Enabled Capabilities	14,175	7,439	3,362	3,373
	Enabled AMI: Rate Modernization	10,034	5,235	4,420	187
	Enabled AMI: Analytics	5,329	3,629	1,000	700
	Accelerated Meters to 2020	-	10,000	-	(10,000)
	Accelerated Meters to 2021	-	-	16,840	(16,840)
	Total Empowering Customers	\$ 231,248	\$ 134,919	\$ 76,357	\$ 19,780
Evolving to the DSP					
	IOAP Phase I (SGIP Interconnection)	1,759	1,759	-	-
	Utility of the Future / CVR / JU	1,042	562	240	240
	Locational Value Study	488	488	-	-
	Grid Storage	9,220	409	3,405	5,407
	Total Evolving to the DSP	\$ 12,508	\$ 3,217	\$ 3,645	\$ 5,647
Total 2018 Utility 2.0 Filing Projects		\$ 243,757	\$ 138,136	\$ 80,001	\$ 25,427
2019 Utility 2.0 Filing					
New Initiatives					
	Next Gen Insights Pilot	587	587	-	-
	Energy Concierge Pilot	1,150	-	1,150	-
	Electric School Bus V2G Pilot	84	-	84	-
	Hosting Capacity Maps Ph 1 & 2	1,472	800	672 *	-
	Total New Initiatives	\$ 3,293	\$ 1,387	\$ 1,906	\$ -
Total 2019 Utility 2.0 Filing Projects		\$ 3,293	\$ 1,387	\$ 1,906	\$ -
2020 Utility 2.0 Filing					
New Initiatives					
	On-Bill Financing	1,115	-	1,068	48
	C&I Demand Alert Pilot	1,773	-	-	1,773
	Enhanced Marketplace	4,646	-	2,984	1,648
	EV Make-Ready Program	3,196	-	3,196	-
	CVR Program	936	-	936	-
	DER Visibility	3,947	-	3,947	-
	Hosting Capacity Maps Stage 3	1,700	-	1,700	-
	Total New Initiatives	\$ 17,313	\$ -	\$ 13,831	\$ 3,468
Total 2020 Utility 2.0 Filing Projects		\$ 17,313	\$ -	\$ 13,831	\$ 3,468
New Program Funding		-	-	-	\$ 5,000
Total Utility 2.0 Projects		\$ 264,363	\$ 139,523	\$ 95,739	\$ 33,896

*Includes carry over from 2020. See Carry Over table for details

(a) Project to date expenditures includes projects that began prior to 2020

2021 Proposed and 2022 Projected Capital and Deferred Expenditures
(Thousands of Dollars)

Business Units	Investment Description	In Service Date	Total Project Cost	Project To Date Expenditures through 12/31/20 (a)	Proposed 2021	Projected 2022
Customer Service						
	Purchase Electric Meters	Blanket	-	-	7,027	7,105
	Install/Remove Meters	Blanket	-	-	3,933	4,085
	Tools/Equipment	Program	-	-	500	500
	Dusk to Dawn		18,100	-	5,822	3,064
Total Customer Service Projects			\$ 18,100	\$ -	\$ 17,282	\$ 14,754
Facilities						
	Facilities Services	Program	-	-	8,972 *	3,072
	Riverhead Vehicle Canopy		5,000	4,065	1,000 *	
	Shoreham Facility Upgrades				1,545	
Total Facilities Projects			\$ 5,000	\$ 4,065	\$ 11,517	\$ 3,072
Fleet						
	Fleet	Program	-	-	9,719	7,222
Total Fleet Projects			\$ -	\$ -	\$ 9,719	\$ 7,222
Total PSEG LI Projects with Carryover and Amendments					\$ 698,332	\$ 656,117
FEMA Storm Hardening					\$ 24,414	\$ -
Storm Capitalization					\$ 4,468	\$ 4,468
Grand Total PSEG Long Island and FEMA Related					\$ 727,215	\$ 660,586

*Includes carry over from 2020. See Carry Over table for details

(a) Project to date expenditures includes projects that began prior to 2020

**2020 Carry Over Costs into 2021
(Thousands of Dollars)**

Business Units	Location	Investment Description	2021 Carry Over Amounts
Transmission & Distribution			
Load Growth Projects			
	Amagansett	Upgrade substation from 23 kV to 33 kV	1,500
	Buell	Upgrade substation from 23 kV to 33 kV	1,593
	East Hampton	Upgrade substation from 23 kV to 33 kV	1,305
	New South Road	Expand 69/13kV substation & distribution circuits	1,163
	Far Rockaway	Install two new distribution circuits	2,950
	Bridgehampton	Install new 69kV circuit to Buell	100
	Total Load Growth Projects		\$ 8,611
Reliability Projects			
	Various	Telecom alarm monitoring system	225
	Total Reliability Projects		\$ 225
Other Projects			
	Hicksville	Transmission operations control room facility replacement	500
	Various	Two way radio system upgrade	2,014
	Total Other Projects		\$ 2,514
Total Transmission & Distribution			\$ 11,350
Information Technology			
IT-Transmission & Distribution			
		Mobile timesheets	1700
		GIS upgrade	2252
		Work Management Continuous Improvement	1987
		ADMS continuous improvement (OMS-DMS)	1000
		T&D mobile app continuous improvement	500
		Control room recorder upgrade	600
		Robotics	250
	Total IT-Transmission & Distribution		\$ 8,289
IT-Customer Service			
		Call Center as a Solution (CaaS) product backlog	3,470
		myAccount product backlog	300
		CAS product backlog	100
		Rate change product backlog	100
		Voice Assistant product backlog	50
	Total IT-Customer Service		\$ 4,020
IT-Information Technology			
		AWS Storage	200
		Grid optimization analytics	500
		Network F5 load balancers life cycle program	300
		Cybersecurity continuous improvement	265
	Total IT-Information Technology		\$ 1,265
Total Information Technology			\$ 13,574

**2020 Carry Over Costs into 2021
(Thousands of Dollars)**

Business Units	Location	Investment Description	2021 Carry Over Amounts
Business Services			
Facilities			
	Hicksville	Ops 2 redevelopment and EOB 2nd fl phase I	857
	Melville	Restroom refurbishment	320
	Riverhead	Customer Office Redevelopment	387
	Roslyn	Customer Office Refurbishment	71
	Uniondale	Office Refurbishment	110
	Riverhead Vehicle Canopy	Vehicle Canopy	1,000
Total Business Services			\$ 2,744
Subtotal before Utility 2.0			\$ 27,668
Utility 2.0			
Evolving to a Customer-Centric DSP			
		Hosting Capacity Maps Ph 1 & 2	672
Total Evolving to a Customer-Centric DSP			\$ 672
Total Utility 2.0			\$ 672
Total Project Carry Over			\$ 28,340

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

LIPA's Relationship with New York State Government

LIPA is a component unit of New York State. LIPA became the retail supplier of electric service in the Counties of Nassau and Suffolk (with certain limited exceptions) and a portion of Queens County known as the Rockaways (Service Area), on May 28, 1998 by acquiring the transmission and distribution system of the Long Island Lighting Company as a wholly owned subsidiary of the Authority. LIPA provides electric delivery service in the Service Area, which includes approximately 1.1 million customers. The population of the Service Area is approximately 2.9 million. In order to assist LIPA in providing electric service to its customers, LIPA entered into operating agreements to provide operating personnel and a significant portion of the power supply resources necessary to provide electric service.

Under LIPA's business model, essentially all costs of operating and maintaining the Authority's T&D system incurred by PSEG Long Island, the LIPA's Service Provider, are passed through to and paid for by LIPA.

Long Island Power Authority 2021 Proposed and 2022 Projected Operating and Capital Budgets

Budget Process

Under the terms of the LIPA Reform Act and the Amended and Restated Operations Services Agreement, the LIPA Consolidated Budget and Financial Plan are jointly developed by LIPA and its Service Provider, PSEG Long Island.

The LIPA Consolidated Budget outlines projected spending by major expense and revenue category. The budget reflects the operating and capital costs required to provide electric service in the Service Area.

Budget Development Schedule:

- April through October: LIPA and PSEG Long Island develop projections of current year spending and preliminary budget forecasts for the upcoming year and financial plan.
- June through October: PSEG Long Island provides LIPA with preliminary Capital project projections.
- October:
 - PSEG Long Island provides LIPA with a preliminary budget. This includes projections for current year spending as well as a preliminary budget for the years covered by the financial plan. The preliminary budget submission is reviewed by LIPA.
 - LIPA provides PSEG Long Island its portion of the Consolidated Budget by mid-October.
 - PSEG Long Island produces a LIPA Consolidated Budget by the end of October.
 - The LIPA Consolidated Budget is reviewed by senior level staff from both LIPA and PSEG Long Island.
- November:
 - Public Hearings are held in November to solicit comments from the public.
 - The Board of Trustees is briefed on the budget during regular board meeting.
- December: The Board of Trustees votes on the adoption of the LIPA Consolidated Budget.

www.lipower.org



VIII. SERVICE CLASSIFICATIONS: (continued):**A. SERVICE CLASSIFICATION NO. 1 - Residential Service (continued):
(Rate Codes: 180, 480, 481, 580)****3. Rates and Charges per Meter:****a) Schedule of Rates**

The rates for this service code are set forth below.

<u>Rate Code 180</u>	June to September <u>Inclusive</u>	October to May <u>Inclusive</u>
Service Charge per Day	\$. 4200 <u>4400</u>	\$. 4200 <u>4400</u>
Energy Charge per kWh per month		
First 250 kWh @	\$. 0827 <u>0871</u>	\$. 0827 <u>0871</u>
Over 250 kWh @	\$. 4045 <u>1101</u>	\$. 0827 <u>0871</u>

VIII. SERVICE CLASSIFICATIONS: (continued):**A. SERVICE CLASSIFICATION NO. 1 - Residential Service (continued):****(Rate Codes: 180, 480, 481, 580)****Rates and Charges per Meter (continued):**

<u>Rate Code 580 (Space Heating)</u>	<u>June to September Inclusive</u>	<u>October to May Inclusive</u>
Service Charge per Day	\$. 4200 <u>4400</u>	\$. 4200 <u>4400</u>
Energy Charge per kWh per month		
First 250 kWh @	\$. 0827 <u>0871</u>	\$. 0827 <u>0871</u>
Next 150 kWh @	\$. 1045 <u>1101</u>	\$. 0827 <u>0871</u>
Over 400 kWh @	\$. 1045 <u>1101</u>	\$. 0467 <u>0492</u>
 <u>Rate Code 480, 481</u>	 <u>June to September Inclusive</u>	 <u>October to May Inclusive</u>
Service Charge per day	\$. 3800 <u>4000</u>	\$. 3800 <u>4000</u>
Energy Charge per kWh per month		
12:00 midnight to 7:00 a.m. (Standard Time) or	\$. 0144 <u>0152</u>	\$. 0144 <u>0152</u>
10:00 p.m. to 10:00 a.m. (Standard Time)	\$. 0164 <u>0169</u>	\$. 0164 <u>0169</u>

VIII. SERVICE CLASSIFICATIONS (continued):**B. SERVICE CLASSIFICATION NO. 1-VMRP (L)****Voluntary Large Residential Service with Multiple Rate Periods (continued):**
(Rate Codes: 181, 182, 184)3. Rates and Charges per Meter:

a) Schedule of Rates

The rates for this service code are found below.

<u>All Rate Codes</u>	<u>June to September Inclusive</u>	<u>October to May Inclusive</u>
Service Charge per Day	\$1.91 <u>02.0100</u>	\$1.91 <u>02.0100</u>
<u>Rate Codes 184 – Rate 1</u>	<u>June to September Inclusive</u>	<u>October to May Inclusive</u>
Energy Charge per kWh		
Daylight Savings Time 8 p.m. to 10 a.m., and Saturday and Sunday	<u>Period 1</u>	<u>Period 2</u>
First 125 kWh @	\$ <u>.0256</u> <u>0269</u>	\$ <u>.0256</u> <u>0269</u>
Over 125 kWh @	\$ <u>.0256</u> <u>0269</u>	\$ <u>.0256</u> <u>0269</u>
Daylight Savings Time 10 a.m. to 8 p.m. Weekdays	<u>Period 3</u>	<u>Period 4</u>
First 125 kWh @	\$ <u>.0785</u> <u>0826</u>	\$ <u>.0785</u> <u>0826</u>
Over 125 kWh @	\$ <u>.2853</u> <u>3002</u>	\$ <u>.0804</u> <u>0843</u>

VIII. SERVICE CLASSIFICATIONS (continued):**B. SERVICE CLASSIFICATION NO. 1-VMRP (L)****Voluntary Large Residential Service with Multiple Rate Periods (continued):****(Rate Codes: 181, 182, 184)****Rates and Charges per Meter (continued):**

	June to September <u>Inclusive</u>	October to May <u>Inclusive</u>
<u>Rate Codes 181 - Rate 2</u>		
Energy Charge per kWh		
Daylight Savings Time*		
8 p.m. to 10 a.m., and		
Saturday and Sunday		
	<u>Period 1</u>	<u>Period 2</u>
First 125 kWh @	\$. 0564 <u>0590</u>	\$. 0564 <u>0590</u>
Over 125 kWh @	\$. 0564 <u>0590</u>	\$. 0564 <u>0590</u>
Daylight Savings Time*		
10 a.m. to 8 p.m.		
Weekdays	<u>Period 3</u>	<u>Period 4</u>
First 125 kWh @	\$. 0564 <u>0590</u>	\$. 0564 <u>0590</u>
Over 125 kWh @	\$. 1397 <u>1470</u>	\$. 1009 <u>1062</u>
	June to September <u>Inclusive</u>	October to May <u>Inclusive</u>
<u>Rate Codes 182 - Rate 3</u>		
Energy Charge per kWh		
Daylight Savings Time*		
8 p.m. to 10 a.m., and		
Saturday and Sunday		
	<u>Period 1</u>	<u>Period 2</u>
First 125 kWh @	\$. 0564 <u>0593</u>	\$. 0564 <u>0593</u>
Over 125 kWh @	\$. 0564 <u>0593</u>	\$. 0365 <u>0384</u>
Daylight Savings Time*		
10 a.m. to 8 p.m.		
Weekdays	<u>Period 3</u>	<u>Period 4</u>
First 125 kWh @	\$. 0564 <u>0593</u>	\$. 0564 <u>0593</u>
Over 125 kWh @	\$. 1408 <u>1482</u>	\$. 0367 <u>0386</u>

* See paragraph IV.A.10 "Daylight Savings Time" Leaf No. 99.

VIII. SERVICE CLASSIFICATIONS (continued):**C. SERVICE CLASSIFICATION NO. 1-VMRP(S)****Voluntary Small Residential Service With Multiple Rate Periods (continued):****(Rate Code: 188)**3. Rates and Charges per Meter:a) Schedule of Rates

The rates for this service code are found below.

<u>All Rate Codes</u>	<u>June to September Inclusive</u>	<u>October to May Inclusive</u>
Service Charge per day	\$. 4200 <u>4400</u>	\$. 4200 <u>4400</u>
Meter Charge per day	\$. 4200 <u>1300</u>	\$. 4200 <u>1300</u>
<u>Rate Codes 188</u>	<u>June to September Inclusive</u>	<u>October to May Inclusive</u>
Energy Charge per kWh		
Daylight Savings Time* 8 p.m. to 10 a.m., and Saturday and Sunday	<u>Period 1</u>	<u>Period 2</u>
	\$. 0529 <u>0557</u>	\$. 0344 <u>0362</u>
<u>Daylight Savings Time*</u> 10 a.m. to 8 p.m. Weekdays	<u>Period 3</u>	<u>Period 4</u>
	\$. 3354 <u>3526</u>	\$. 0932 <u>0981</u>

* See Paragraph IV. A. 10. "Daylight Savings Time" on leaf No. 99.

b) Adjustments to Rates and Charges

Each Customer's bill will be adjusted for the Power Supply Charge, Increases in Rates and Charges to Recover PILOT Payments, the Shoreham Property Tax Settlement Rider, the Distributed Energy Resources Cost Recovery Rate, the New York State Assessment Factor, Revenue Decoupling Mechanism, the Securitization Offset Charge, and the Delivery Service Adjustment.

4. Minimum Charge

The Minimum Charge is the Service and Meter Charges, plus Adjustments to Rates and Charges.

VIII. SERVICE CLASSIFICATIONS (continued):**D. SERVICE CLASSIFICATION NO. 2 - General Service - Small:
(Rate Code: 280)****1. Who Is Eligible**

- a) Customers who will use the service for purposes other than Residential, when the Authority estimates that the Applicant's demand will be less than 7 kW, subject to Special Provision 8.c) below. The Authority may bill the Customer on a metered or unmetered basis.
- b) A Customer, as described in a. above, that has the option under Service Classification Nos. 12 – Backup and Supplemental Service, of choosing to pay the rates and charges associated with a different Service Classification.

2. Who Is Not Eligible

Traffic Signals, caution signals and operating control equipment for all such signals are no eligible for service under this Service Classification.

3. Character of Service

- a) Continuous, 60 hertz, alternating current.
- b) Radial secondary service at approximately 120/208, 120/240, or 277/480 volts, single or three phase; network system 120/208 or 277/480 volts, single or three phase; depending on the size and characteristics of the load and the circuit supplying the service.

4. Rates and Charges per Meter:**a) Schedule of Rates**

The rates for this service are set forth below.

<u>Rate Code 280</u>	<u>June to September Inclusive</u>	<u>October to May Inclusive</u>
Service Charge per day	\$. 4200 <u>4400</u>	\$. 4200 <u>4400</u>
Energy Charge per kWh	\$. 1135 <u>1196</u>	\$. 0915 <u>0964</u>

VIII. SERVICE CLASSIFICATIONS (continued):**E. SERVICE CLASSIFICATION NO. 2-VMRP****Voluntary Small General Service With Multiple Rate Periods: (continued)**
(Rate Code: 288)3. Rates and Charges per Meter:a) Schedule of Rates

The rates for this service code are found below

<u>Rate Code 288</u>	<u>June to September Inclusive</u>	<u>October to May Inclusive</u>
Meter Charge per day	\$. 4200 <u>1300</u>	\$. 4200 <u>1300</u>
Service Charge per day	\$. 4200 <u>4400</u>	\$. 4200 <u>4400</u>
Energy Charge per kWh		
Daylight Savings Time 8 p.m. to 10 a.m., and Saturday and Sunday	<u>Period 1</u> \$. 0529 <u>0557</u>	<u>Period 2</u> \$. 0344 <u>0362</u>
Daylight Savings Time 10 a.m. to 8 p.m. Weekdays	<u>Period 3</u> \$. 3354 <u>3526</u>	<u>Period 4</u> \$. 0932 <u>0981</u>

b) Adjustments to Rates and Charges

Each Customer's bill will be adjusted for the Power Supply Charge, Increases in Rates and Charges to Recover PILOT Payments, the Shoreham Property Tax Settlement Rider, the Distributed Energy Resources Cost Recovery Rate, the New York State Assessment Factor, Revenue Decoupling Mechanism, the Securitization Offset Charge, and the Delivery Service Adjustment.

4. Minimum Charge

The Minimum Charge is the Service and Meter Charge, plus Adjustments to Rates and Charges.

5. Terms of Payment

The Customer shall pay the balance due in cash, including checks and money orders, on receiving the bill. Late payments shall be subject to Late Payment Charges.

VIII. SERVICE CLASSIFICATIONS (continued):**F. SERVICE CLASSIFICATION NO. 2-L - General Service – Large (continued):
(Rate Codes: 281, 283, 291)**1. Rates and Charges per Meter:a) Schedule of Rates

The rates for this service code are set forth below.

Secondary Service

<u>Rate Code 281</u>	<u>June to September Inclusive</u>	<u>October to May Inclusive</u>
Service Charge per day	\$2.222.34	\$2.222.34
Demand Charge per kW of demand	\$16.9217.80	\$15.5416.32
Energy Charge per kWh	\$.02900305	\$.04170123

Primary Service

<u>Rate Code 281</u>	<u>June to September Inclusive</u>	<u>October to May Inclusive</u>
Service Charge per day	\$2.222.34	\$2.222.34
Demand Charge per kW of demand	\$15.8016.62	\$14.4215.17
Energy Charge per kWh	\$.02840299	\$.04140117
Demand Charge per kvar of Reactive Demand	\$.27	\$.27

b) Rate Code 283 - Seasonal

The following changes to 3.a) above apply to Customers who terminate service for at least four (4) continuous months from October through May and submit a signed Application:

VIII. SERVICE CLASSIFICATIONS (continued):**G. SERVICE CLASSIFICATION NO. 2L - VMRP****Voluntary Large Demand Metered Service With Multiple Rate Periods (continued):**
(Rate Codes: 282 and M282)1. Rates and Charges per Meter per Month:a) Schedule of Rates

The rates for this service code are set forth below.

Rate Code 282-(Secondary)*

Service Charge per day	\$1.83 <u>1.93</u>
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Meter Charge per day	\$.2900 <u>3100</u>
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Rate Periods**

	1	2	3
	<u>Off-Peak</u>	<u>On-Peak*</u>	<u>Intermediate</u>
	all year	June - Sept.	all
		weekdays	other
	11 p.m.	12 noon	hours
	to 7 a.m.	to 8 p.m.	
Demand Charge per kW			
Total of 3 Rate Periods	none	\$57.54 <u>60.51</u>	\$4.93 <u>5.19</u>
Energy Charge per kWh			
Total of 3 Rate Periods	\$.0035 <u>0037</u>	\$.0254 <u>0264</u>	\$.0240 <u>0221</u>
Minimum Demand Charge			
per Meter per kW			
per Rate Period	none	\$55.58	\$6.74

*For Rate Code M282 (Secondary), the modified peak period is from 3 p.m. to 8 p.m.

** See Paragraph IV.A.10, "Daylight Savings Time", on Leaf No. 99.

VIII. SERVICE CLASSIFICATIONS (continued):**F. SERVICE CLASSIFICATION NO. 2L - VMRP****Voluntary Large Demand Metered Service With Multiple Rate Periods (continued):****(Rate Codes: 282 and M282)****Rates and Charges per Meter per Month (continued):**Rate Code 282-(Primary)Service Charge per day ~~\$1.83~~ \$1.93Meter Charge per day ~~\$.8700~~ \$.9300Rate Periods**

	1	2	3
	<u>Off-Peak</u>	<u>On-Peak*</u>	<u>Intermediate</u>
	all year	June - Sept.	all
	11 p.m.	weekdays	other
	to 7 a.m.	12 noon	hours
		to 8 p.m.	
Demand Charge per kW			
Total of 3 Rate Periods	none	\$54.66 <u>\$57.51</u>	\$4.72 <u>\$4.97</u>
Energy Charge per kWh			
Total of 3 Rate Periods	\$.0032 <u>\$.0034</u>	\$.0226 <u>\$.0238</u>	\$.0490 <u>\$.0500</u>
Demand Charge per kvar			
of Reactive Demand			
Total of 3 Rate Periods	none	\$.27	\$.27
Minimum Demand Charge			
per Meter per kW			
per Rate Period	none	\$52.91	\$6.44

* For Rate Code M282 (Primary), the modified peak period is from 3 p.m. to 8 p.m.

**See Paragraph IV.A.10, "Daylight Savings Time", on Leaf No. 99.

b) Adjustments to Rates and Charges

Each Customer's bill will be adjusted for the Power Supply Charge, Increases in Rates and Charges to Recover PILOT Payments, the Shoreham Property Tax Settlement Rider, the Distributed Energy Resources Cost Recovery Rate, the New York State Assessment Factor, Revenue Decoupling Mechanism, the Securitization Offset Charge, and the Delivery Service Adjustment.

2. Minimum Charge - All Rate Codes

The monthly Minimum Charge is the sum of the Service and Meter Charges, and may include an annual Demand Charge (See 6.below), plus Adjustments to Rates and Charges.

VIII. SERVICE CLASSIFICATIONS (continued):**I. SERVICE CLASSIFICATION NO. 2 - MRP****Large General and Industrial Service With Multiple Rate Periods (continued):****(Rate Codes: 284, 285, M284, M285)****Character of Service (continued):**

- a) The Authority may consider loads with a minimum estimated demand of 10,000 kW for service at 69,000 volts or higher.
 - b) The Primary Rate will also apply to Customers served at 23,000 or 33,000 volts.
 - c) The Transmission Rate will apply to Customers served at 69,000 volts or higher.
2. Rates and Charges per Meter per Month:

a) Schedule of Rates

The rates for the service code are set forth below.

<u>Rate Code 285</u>	<u>Secondary</u>	<u>Primary</u>	<u>Transmission</u>
Service Charge per day \$10.43 <u>10.97</u>	\$9.93 <u>10.45</u>	\$10.43 <u>10.97</u>	
Meter Charge per day \$7.56 <u>7.95</u>	\$2.90 <u>3.05</u>	\$7.56 <u>7.95</u>	
<u>Rate Periods**</u>			
	<u>1</u> Off-Peak all year midnight to 7 a.m.	<u>2</u> On-Peak * June-Sept. except Sundays 10 a.m. to 10 p.m.	<u>3</u> Intermediate all other hours
<u>Demand Charge per kW</u>			
Secondary	none	\$28.38 <u>29.86</u>	\$6.75 <u>7.10</u>
Primary	none	\$24.36 <u>25.63</u>	\$5.97 <u>6.28</u>
Transmission	none	\$20.14 <u>21.18</u>	\$4.90 <u>5.15</u>
<u>Energy Charge per kWh</u>			
Secondary \$0.024 <u>0.0253</u>	\$0.058 <u>0.061</u>	\$0.037 <u>0.0396</u>	
Primary \$0.021 <u>0.0221</u>	\$0.034 <u>0.036</u>	\$0.032 <u>0.0344</u>	
Transmission \$0.019 <u>0.0207</u>	\$0.034 <u>0.036</u>	\$0.030 <u>0.0322</u>	
<u>Minimum Demand Charge</u> per Meter per kW per Rate Period			
Secondary	none	\$33.50	\$9.21
Primary	none	\$28.76	\$8.13
Transmission	none	\$23.79	\$6.68

*For Rate M285, the modified peak period is from 3 p.m. to 10 p.m. on weekdays (Monday – Friday)

** See Paragraph IV.A.10, “Daylight Savings Time”, on Leaf No.99.

VIII. SERVICE CLASSIFICATIONS (continued):**I. SERVICE CLASSIFICATION NO. 2 - MRP****Large General and Industrial Service With Multiple Rate Periods (continued):****(Rate Codes: 284, 285, M284, M285)****Rates and Charges per Meter per Month (continued):**

<u>Rate Code 284</u>	<u>Secondary</u>	<u>Primary</u>	<u>Transmission</u>
Service Charge per day \$10.43 <u>\$10.97</u>	\$9.93 <u>\$10.45</u>	\$10.43 <u>\$10.97</u>	
Meter Charge per day \$7.56 <u>\$7.95</u>	\$2.90 <u>\$3.05</u>	\$7.56 <u>\$7.95</u>	
<u>Rate Periods**</u>			
	1	2	3
	Off-Peak all year 11 p.m. to 7 a.m.	On-Peak * June - Sept weekdays 12 noon to 8 p.m.	Intermediate all other hours
<u>Demand Charge per kW</u>			
Secondary	none	\$54.99 <u>\$57.86</u>	\$5.50 <u>\$5.79</u>
Primary	none	\$49.38 <u>\$51.96</u>	\$4.93 <u>\$5.19</u>
Transmission	none	\$36.94 <u>\$38.84</u>	\$3.68 <u>\$3.87</u>
<u>Energy Charge per kWh</u>			
Secondary	\$.0001	\$.0324 <u>\$0.338</u>	\$.0207 <u>\$0.218</u>
Primary	\$.0001	\$.0230 <u>\$0.242</u>	\$.0042 <u>\$0.044</u>
Transmission	\$.0001	\$.0217 <u>\$0.228</u>	\$.0040 <u>\$0.042</u>
<u>Minimum Demand Charge</u> per Meter per kW per Rate Period			
Secondary	none	\$54.99	\$7.25
Primary	none	\$49.57	\$6.68
Transmission	none	\$36.88	\$5.06

* For Rate Code M284, the modified peak period is from 3 p.m. to 8 p.m.

** See Paragraph IV.A.10, "Daylight Savings Time", on Leaf No. 99.

b) Adjustments to Rates and Charges

Each Customer's bill will be adjusted for the Power Supply Charge, Increases in Rates and Charges to Recover PILOT Payments, the Shoreham Property Tax Settlement Rider, the Distributed Energy Resources Cost Recovery Rate, the New York State Assessment Factor, Revenue Decoupling Mechanism, the Securitization Offset Charge, and the Delivery Service Adjustment.

VIII. SERVICE CLASSIFICATIONS (continued):**K. SERVICE CLASSIFICATION NO. 5**
Traffic Signal Lighting (continued):
(Rate Code: 980)**1. Definition of Control Mechanism for Billing Purposes:**

A control mechanism is a device that controls the signal lights and other traffic/pedestrian equipment at an intersection.

2. Rates and Charges**a) Rates per Signal Face of Light per Month**

~~\$8.408.52~~ per control mechanism per month.

~~\$2.402.53~~ per incandescent signal face per month.

~~\$3.303.47~~ per LED signal face per month

b) Adjustment to Rates and Charges

Each Customer's bill will be adjusted for the Power Supply Charge, Increases in Rates and Charges to Recover PILOT Payments, the Shoreham Property Tax Settlement Rider, the Distributed Energy Resources Cost Recovery Rate, the New York State Assessment Factor, the Securitization Offset Charge, and the Delivery Service Adjustment.

3. Terms of Payment

The Customer shall pay the balance due in cash, including checks and money orders, on receiving the bill. Late payments shall be subject to Late Payment Charges.

4. Term of Service

- a) The Authority will provide service to the Customer until service is terminated either by the Customer or the Authority.
- b) The Customer shall give the Authority thirty (30) days written notice when requesting termination of service.
- c) The Authority may terminate service to the Customer in accordance with the provisions of this Tariff, after giving the Customer thirty (30) days written notice.

VIII. SERVICE CLASSIFICATIONS (continued):**J. SERVICE CLASSIFICATION NO. 7****Outdoor Area Lighting:**
(Rate Code: 780)1. Who Is Eligible

Customers who used this service for outdoor lighting before December 5, 1986, provided:

- a) Suitable overhead distribution facilities exist, except,
- b) When only one (1) span of overhead secondary cable per lighting fixture is needed. In such cases, the Authority will provide the cable on existing poles.

2. Character of Service

- a) Unmetered, single-phase, 60 hertz, alternating current supplied to Authority-owned, operated, and maintained lighting facilities, and
- b) Provided for approximately 4,210 hours per year (4,222 for a leap year), at suitable voltages chosen by the Authority, and
- c) Provided to mercury vapor and incandescent lighting facilities.

3. Rates and Chargesa) Rates per Mercury Vapor Facility per Month

Type <u>Luminaire</u>	Approximate <u>Lumens</u>	Total <u>Watts</u>	Monthly <u>Rates</u>
Area Light*	7,000	200	\$14.96 15.74
Area Light*	21,000	455	\$21.22 22.33
Flood Light*	21,000	455	\$23.16 24.37
Flood Light*	52,000	1,100	\$48.59 51.13

b) Rates per Incandescent Facility per Month

Type <u>Luminaire</u>	Approximate <u>Lumens</u>	Total <u>Watts</u>	Monthly <u>Rates</u>
Flood Light*	100 c.p.	92	\$6.12 6.44
Flood Light*	250 c.p.	189	\$10.44 10.98

* These luminaires are no longer available for new installations or unit replacements.

c) Adjustments to Rates and Charges

Each Customer's bill will be adjusted for the Power Supply Charge, Increases in Rates and Charges to Recover PILOT Payments, the Shoreham Property Tax Settlement Rider, the Distributed Energy Resources Cost Recovery Rate, the New York State Assessment Factor, the Securitization Offset Charge, and the Delivery Service Adjustment.

VIII. SERVICE CLASSIFICATIONS (continued):**M. SERVICE CLASSIFICATION NO. 7A****Outdoor Area Lighting - HPS (High Pressure Sodium), MH (Metal Halide), and LED (Light Emitting Diode):****(Rate Codes: 781, 782)****1. Who Is Eligible**

Customers who will use this service for outdoor lighting, provided:

- a) Suitable overhead distribution facilities exist, except
- b) When only one (1) span of overhead secondary cable per lighting fixture is needed. In such cases, the Authority will provide the cable on existing poles. Charges for additional cable and poles are given below.

2. Character of Service

- d) Unmetered, single-phase, 60 hertz, alternating current supplied to Authority-owned, operated, and maintained lighting facilities, and
- e) Provided for approximately 4,090 hours per year (4,102 for a leap year), at suitable voltages chosen by the Authority, and
- f) Provided to high pressure sodium (HPS), metal halide (MH) and light emitting diode (LED) facilities.

3. Rates and Charges**a) Rates per Lighting Facility per Month**

<u>Lamp Type</u>	<u>Type Luminaire</u>	<u>Approximate Lumens</u>	<u>Total Watts</u>	<u>Monthly Rates</u>
HPS*	Area Light	6,400	108	\$21.76 <u>22.90</u>
HPS*	Flood Light	27,500	309	\$26.69 <u>28.08</u>
HPS*	Flood Light	50,000	476	\$35.47 <u>37.32</u>
MH*	Flood Light	36,000	453	\$36.08 <u>37.96</u>
MH*	Flood Light	110,000	1093	\$39.31 <u>41.36</u>
HPS**	Full Cut-off	4,000	63	\$29.57 <u>31.11</u>
HPS**	Full Cut-off	6,300	91	\$29.66 <u>31.21</u>
HPS	Full Cut-off	9,500	128	\$30.08 <u>31.65</u>

VIII. SERVICE CLASSIFICATIONS (continued):**M. SERVICE CLASSIFICATION NO. 7A****Outdoor Area Lighting - HPS (High Pressure Sodium), MH (Metal Halide), and LED (Lighting Emitting Diode) (continued):****(Rate Codes: 781, 782)****Rates and Charges (continued):**

<u>Lamp Type</u>	<u>Type Luminaire</u>	<u>Approximate Lumens</u>	<u>Total Watts</u>	<u>Monthly Rates</u>
HPS**	Full Cut-off	28,500	305	\$33.71 <u>\$35.47</u>
HPS**	Full Cut-off	50,000	455	\$43.42 <u>\$45.69</u>
MH**	Full Cut-off	20,500	288	\$33.88 <u>\$35.65</u>
MH**	Full Cut-off	36,000	455	\$43.42 <u>\$45.69</u>
LED	Full Cut-off	19,270	150	\$33.71 <u>\$35.47</u>
LED	Full Cut-off	29,100	250	\$43.42 <u>\$45.69</u>

*Commencing October 1, 2003, not available for new installations or replacements.

** Effective January 1, 2019 these luminaires are no longer available for new installations or unit replacements. Effective January 1, 2022, bulbs and photocells replacements for these luminaires will also no longer be available.

- b) The charge for Additional Overhead Secondary Cable and Poles dedicated to the Customer is ~~\$16.95~~ \$17.84 per span per month.

c) Adjustments to Rates and Charges

Each Customer's bill will be adjusted for the Power Supply Charge, Increases in Rates and Charges to Recover PILOT Payments, the Shoreham Property Tax Settlement Rider, the Distributed Energy Resources Cost Recovery Rate, the New York State Assessment Factor, the Securitization Offset Charge, and the Delivery Service Adjustment.

4. Minimum Charge

The monthly Minimum Charge is the facilities charge computed under the rates in 3 a), b) and c) above for the number of lighting facilities in place on the billing date.

5. Terms of Payment

The Customer shall pay the balance due in cash, including checks and money orders, on receiving the bill. Late payments shall be subject to Late Payment Charges.

VIII. SERVICE CLASSIFICATIONS (continued):**N. SERVICE CLASSIFICATION NO. 10****Public Street and Highway Lighting Energy and Connections:**
(Rate Codes: 1580, 1581)**1. Who Is Eligible**

- a) Customers who will use this service for lighting of public streets, highways, parks, parking fields, and similar areas where facilities are owned and maintained by governmental agencies or their agents, and
- b) The Authority will furnish service only after suitable agreements are signed that cover energy requirements and service connections.

2. Character of Service

- a) Unmetered, single-phase, 60 hertz, alternating current supplied to Customer-owned, operated, and maintained lighting facilities (a lighting facility includes luminaries, posts, supply circuits, and all associated equipment needed), and
- b) Provided at suitable voltages chosen by the Authority.

3. Rates and Charges

- a) The Energy Charge per Lighting Facility per Month is \$.~~0485~~0510 per kWh, for the monthly kWhs of unmetered lighting service specified in this Tariff.
- b) The Underground Connection Charge per Month is \$~~3.64~~3.83 per Energy Delivery Point serving one or more underground-supplied lighting facility as described in Special Provision 7.a. below.
- c) Adjustments to Rates and Charges

Each Customer's bill will be adjusted for the Power Supply Charge, Increases in Rates and Charges to Recover PILOT Payments, the Shoreham Property Tax Settlement Rider, the Distributed Energy Resources Cost Recovery Rate, the New York State Assessment Factor, Delivery Service Adjustment, and the Securitization Offset Charge.

4. Minimum Charge

The monthly Minimum Charge is the total Underground Connection Charge, plus Adjustments to Rates and Charges.

5. Terms of Payment

The Customer shall pay the balance due in cash, including checks and money orders, on receiving the bill. Late payments shall be subject to Late Payment Charges.

VIII. SERVICE CLASSIFICATIONS (continued):**P. SERVICE CLASSIFICATION NO. 12****Back-Up and Supplemental Service (continued):**
(Rate Codes: 680, 681)1. Character of Service

- a) 60 hertz, single or three-phase alternating current.
- b) Service is metered at one standard delivery voltage, and the Authority will determine the site-specific characteristics and make the necessary adjustments to maintain that delivery voltage.

2. Rates and Charges for Backup and Supplemental Service

- a) Customers requiring Supplemental Service will pay the rates and charges under another suitable Service Classification. In this case, the Customer will comply with the terms of this Service Classification including the interconnection provision, that are in addition to, and do not conflict with the requirements of the suitable Service Classification.
 - (1) Customers that receive their non-Authority supply from the New York Power Authority (NYPA) under the Recharge NY program will be designated as Rate Code 680.
 - (2) Customers that are a Qualifying Facility under Part 292 of Title 18 of the Code of Federal Regulations, and choose to pay the rates under this Service Classification will be designated as Rate Code 681.
 - (3) Customers that are eligible for net metering pursuant to § 66 – j or § 66 – l of the Public Service Law will be designated with the rate code associated with that suitable Service Classification.
 - (4) Any Back-up Service provided in conjunction with Supplemental Service will be included with the usage and demand billed at the specified rates for Supplemental Service.
- b) Service Charge per Installation per Month (Rate Code 681)
 - (1) The Service Charge applies to all Back-Up Service except when this service is combined with Supplemental Service.

Back-Up and
Supplemental Service

Secondary Voltage (7 KW and less):	\$42.39 <u>44.60</u>
Secondary Voltage (Above 7 KW):	\$77.06 <u>81.08</u>
Primary Voltage:	\$127.16 <u>133.81</u>

VIII. SERVICE CLASSIFICATIONS (continued):**O. SERVICE CLASSIFICATION NO. 12****Back-Up and Supplemental Service (continued):****(Rate Codes: 680, 681)****Rates and Charges for Backup and Supplemental Service (continued):**

- (2) Customers taking service at the transmission voltage level shall pay the full cost of metering devices and any other Local Facilities as part of the Interconnection Charge (see 6. and 7. below) and will not pay a monthly Service Charge.
- c) Demand Charges for Distribution recover the costs of distribution facilities not paid for by the Customer as a lump sum payment or in the Service Charge.

Contract Demand Charge per KW per Month (Rate Code 681)

The Contract Demand Charge is paid monthly for capacity contracted for by Back-Up and Supplemental Service Customers taking service at the primary and secondary distribution levels, as described in Special Provision 11.e. below.

Back-Up and
Supplemental Service

Secondary: ~~\$3.21~~3.38

Primary: ~~\$2.68~~2.82

As-Used Demand Charge per KW per Month (Rate Code 681)

The As-Used Demand Charge is paid in addition to the Contract Demand Charge by Back-Up and Supplemental Service Customers taking service at the primary and secondary distribution levels for demand used during an interruption of the non-Authority supply. The demand billed shall be the highest demand during the month, but not less than one hundred percent (100%) of the highest demand in the last eleven (11) months.

Back-Up and
Supplemental Service

Secondary: ~~\$3.21~~3.38

Primary: ~~\$2.68~~2.82

VIII. SERVICE CLASSIFICATIONS (continued):**O. SERVICE CLASSIFICATION NO. 12****Back-Up and Supplemental Service (continued):****(Rate Codes: 680, 681)****Rates and Charges for Backup and Supplemental Service (continued):****d) Energy Charges per kWh (Rate Code 681)**

Energy Charges per kWh for both Back-Up and Supplemental Service

	<u>Rate Periods*</u>		
	1	2	3
	Midnight to 7 a.m. all year	June - Sept., except Sunday, 10 a.m. to 10 p.m.	All remaining hours
Secondary	\$. 0023 <u>0024</u>	\$. 2352 <u>2476</u>	\$. 0341 <u>0359</u>
Primary:	\$. 0012 <u>0013</u>	\$. 2273 <u>2392</u>	\$. 0317 <u>0334</u>
Transmission	\$.0001	\$. 2174 <u>2288</u>	\$. 0281 <u>0296</u>

* See Paragraph IV.A.10, "Daylight Savings Time", on Leaf No. 99.

e) Reactive Power Charge

Net Reactive Demand Charge per kvar = \$.27 for primary and transmission voltage services only, and applies from 7 a.m. through 11 p.m.

VIII. SERVICE CLASSIFICATIONS (continued):**S. SERVICE CLASSIFICATION NO. 16- AMI****Advanced Metering Initiative Pilot Service (continued):****(Rate Codes: M188, M288)****1. Residential and Small General Service Time-Differentiated Pricing**

Residential and Small General Service (rate codes 280 and 288) Customers participating in the Pilot Service will be charged the rates as stated below.

a) Schedule of Rates (Rate Code M188 and M288)

	<u>June to September Inclusive</u>	<u>October to May Inclusive</u>
Service Charge per day	\$. 4200 <u>4400</u>	\$. 4200 <u>4400</u>
	<u>June to September Inclusive</u>	<u>October to May Inclusive</u>
Energy Charge per kWh	<u>Period 1</u>	<u>Period 2</u>
7 p.m. to 2 p.m. weekdays and all day Saturday and Sunday	\$. 0546 <u>0575</u>	\$. 0546 <u>0575</u>
	<u>Period 3</u>	<u>Period 4</u>
2 p.m. to 7 p.m. Weekdays	\$. 3889 <u>4092</u>	\$. 4382 <u>1454</u>

All the terms and conditions will apply as described in the Customer's previous rate and Service Classification.

a) Adjustments to Rates and Charges

Each Customer's bill will be adjusted for the Power Supply Charge, Increases in Rates and Charges to Recover PILOT Payments, the Shoreham Property Tax Settlement Rider, the Distributed Energy Resources Cost Recovery Rate, the New York State Assessment Factor, Revenue Decoupling Mechanism, the Securitization Offset Charge and the Delivery Service Adjustment.

b) Minimum Charge

The Minimum Charge is the Service charge plus Adjustments to Rates and Charges.



**Department of
Public Service**

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www.dps.ny.gov/longisland

John B. Rhodes
Chair and
Chief Executive Officer

Thomas Congdon
Deputy Chair and
Executive Deputy

Robert Rosenthal
General Counsel

Michelle L. Phillips
Secretary

November 6, 2020

Via Email and U.S. Mail

Honorable Ralph V. Suozzi, Chairman
Board of Trustees
Long Island Power Authority
333 Earle Ovington Blvd.
Uniondale, New York 11553
boardoftrustees@lipower.org

Re: Matter No. 14-01299: In the Matter of PSEG LI Utility 2.0 Long Range Plan;
Recommendations Regarding PSEG LI Annual 2020 Update

Dear Chairman Suozzi:

I am pleased to provide the recommendations of the New York State Department of Public Service (DPS or Department) regarding PSEG Long Island's (PSEG LI, or the Company) annual update to the Utility 2.0 Long Range Plan (the 2020 Utility 2.0 Plan).

Pursuant to Public Authorities Law (PAL) §1020-f(ee); the Long Island Power Authority (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 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 §§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. The Department's recommendations are hereto attached in the accompanying DPS Staff Memorandum.

On June 30, 2020 PSEG LI submitted to DPS the 2020 Utility 2.0 Plan, including the Energy Efficiency and Demand Response (EEDR) Plan for 2021.¹

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).

PSEG LI seeks funding In the 2020 Utility 2.0 Plan 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 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. The Department recommends adoption of all of the proposals in accordance with DPS Staff's attached recommendations, except for the FlexPay pilot program. DPS also recommends that PSEG LI report to DPS Staff the status of the 2020 Plan projects in its quarterly reports, which are currently being filed for its 2018 and 2019 projects, in accordance with prior DPS recommendations. DPS Staff will continue to monitor the approved programs in accordance with corresponding metrics and quarterly updates.

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 DPS, is approximately \$28.39M through 2025. This reflects a reduction of \$18.39M. DPS 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. DPS 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.²

In the EEDR Plan for 2021 PSEG LI 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. DPS recommends adoption of all of the proposals in accordance with the attached DPS Staff recommendations. PSEG LI seeks EEDR funding of approximately \$88.8M for 2021 only.

DPS Staff extensively reviewed the nine proposals submitted by PSEG LI in its 2020 Utility 2.0 Long Range Plan and the nine programs in the EEDR Plan. DPS 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. DPS Staff reviewed the Benefits Cost Analyses (BCA) for all programs for which a BCA was developed by PSEG LI, 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) Commission Orders.³ DPS Staff reviewed the EEDR Plan, with respect to alignment

² See, Appendix 1.

³ Case 14-M-0101, supra, Order Adopting Regulatory Policy Framework and Implementation Plan (issued February 26, 2015), et, al.

with NY State energy efficiency policies set out by the Public Service Commission (PSC) in 18-M-0084.⁴

DPS stresses the need for PSEG LI to ensure that project costs are reasonable and to establish clear goals for proposals in addition to utilizing metrics with which to assess progress towards those goals. This should be reflected in PSEG LI's periodic reporting to DPS. DPS recommends that PSEG LI and LIPA continue to develop and implement innovative and demonstrably beneficial programs for customers to advance the State and Commission's energy goals and policies. DPS looks forward to continuing to work with PSEG LI and LIPA to achieve these goals.

Sincerely,

A handwritten signature in black ink, appearing to read "John B. Rhodes".

John B. Rhodes,
CEO

ATTACHMENT

CC: Thomas Falcone, LIPA Chief Executive Officer
Anna Chacko, LIPA General Counsel
Bobbi O'Connor, LIPA Secretary to the Board of Trustees
Dan Eichhorn, PSEG LI President and Chief Operating Officer
Rick Walden, PSEG LI VP of Customer Service
Guy Mazza, DPS LI Director
Nicholas Forst, DPS LI Counsel

⁴ Case 18-M-0084, In the Matter of a Comprehensive Energy Efficiency Initiative.

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

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

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.nyserdera.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 Agreement¹⁷ (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 prepaid 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 prepaid 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 traditional 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 prepaid 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 prepaid programs. Staff discussed program goals, implementation challenges, licensing fees, benefits and costs. Staff's inquiries revealed that prepaid 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 prepaid 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 beneficitation 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 in 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 keyword 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 NYSEERDA 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 NYSEERDA 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 NYSEERDA'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 NYSEERDA's as practicable, to provide a consistent eligibility approach throughout the State. PSEG LI is transitioning to a fuel neutral approach to its programming; 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.

NYSEERDA'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 NYSEERDA, 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 NYSEERDA 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 NYSEERDA 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 NYSEIDA 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 NYSEIDA'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 NYSEIDA 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.

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 (CSR) 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 PSEG 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.

2020 Utility 2.0 Filing
Matter No: 14-01299
Summary of Staff Adjustments

APPENDIX 1

2020 Programs					
#	Program	Type of Adjustment		Description	Amount of Adjustment
1	C&I Demand Alert Pilot	R&C	Capital	Reduction of Risk and Contingency costs from 50% to 35%.	\$ 193,131
2	DER Visibility Platform	R&C	Capital	Reduction of Risk and Contingency costs from 50% to 20% in 2021.	\$ 973,679
				Total R&C Adjustment	\$ 1,166,810
3	FlexPay Pilot	Removal of Program	Capital	Removal of Program	\$ 8,131,000
			O&M	Removal of Program	\$ 6,103,000
				Total Removal of Program Adjustment	\$ 14,234,000
4	DER Visibility Platform	Other Adjustments	Capital	Removal of costs for software licenses. Staff recommends PSEG LI update its forecast for licenses with each U2.0 filing, based on RFP process.	\$ 2,997,000
					\$ 12,294,810
				Total Capital costs removed	\$ 6,103,000
				Total O&M costs removed	\$ 18,397,810
				Total costs removed	
2018 Programs					
#	Program	Type of Adjustment		Description	Amount of Adjustment
1	Grid Storage – Miller Place	R&C	Capital	Reduction of Risk and Contingency costs from approximately 32% to 15%.	\$ 1,248,312
2	Grid Storage – Miller Place	O&M	O&M	Removal of added O&M costs related to the RFP issuance for Sayville and Centereach in 2021 per IR 20088.	\$ 180,000
EE Budget					
#	Program	Type of Adjustment		Description	Amount of Adjustment
1	Pay for Performance	Incentives	O&M	Removal of incentives and evaluation costs to reflect a more realistic timeline of the start of the program.	\$ 129,410

2020 Utility 2.0 Filing

Matter No: 14-01299

2020 Filing

APPENDIX 1

Initial filing	2021	2022	2023	2024	2025	TOTAL
Capital Program Costs						
C&I Demand Alert Pilot	\$ 1.97	\$ 0.003	\$ -	\$ -	\$ -	\$ 1.97
FlexPay Pilot	\$ 1.20	\$ 2.57	\$ 1.53	\$ 1.91	\$ 0.92	\$ 8.13
On-Bill Financing Pilot	\$ 1.07	\$ 0.05	\$ -	\$ -	\$ -	\$ 1.12
Enhanced Marketplace	\$ 2.98	\$ 1.65	\$ 0.01	\$ 0.01	\$ 0.01	\$ 4.65
EV Make-Ready Program	\$ 3.20	\$ -	\$ -	\$ -	\$ -	\$ 3.20
NWS Process Development	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Hosting Capacity Maps, Stage 3	\$ 1.70	\$ -	\$ -	\$ -	\$ -	\$ 1.70
DER Visibility Platform	\$ 4.92	\$ 1.10	\$ 0.62	\$ 0.63	\$ 0.66	\$ 7.92
CVR Program	\$ 0.94	\$ -	\$ -	\$ -	\$ -	\$ 0.94
TOTAL	\$ 17.97	\$ 5.37	\$ 2.15	\$ 2.54	\$ 1.58	\$ 29.61
Per Filing	\$ 17.97	\$ 5.37	\$ 2.15	\$ 2.54	\$ 1.58	\$ 29.61

Notes

(a) Deferral of program until 2022

(b) Reduction of Risk and Contingency costs from 50% to 35%.

(c) Denial of program

(d) Reduction of Risk and Contingency costs from 50% to 20% in 2021

(e) Removal of capital funding for years 2022-2025

Budget after DPS Adjustments	2021	2022	2023	2024	2025	TOTAL
Capital Program Costs						
C&I Demand Alert Pilot	\$ -	\$ 1.78	\$ -	\$ -	\$ -	\$ 1.78
FlexPay Pilot	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
On-Bill Financing Pilot	\$ 1.07	\$ 0.05	\$ -	\$ -	\$ -	\$ 1.12
Enhanced Marketplace	\$ 2.98	\$ 1.65	\$ 0.01	\$ 0.01	\$ 0.01	\$ 4.65
EV Make-Ready Program	\$ 3.20	\$ -	\$ -	\$ -	\$ -	\$ 3.20
NWS Process Development	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Hosting Capacity Maps, Stage 3	\$ 1.70	\$ -	\$ -	\$ -	\$ -	\$ 1.70
DER Visibility Platform	\$ 3.95	\$ -	\$ -	\$ -	\$ -	\$ 3.95
CVR Program	\$ 0.94	\$ -	\$ -	\$ -	\$ -	\$ 0.94
TOTAL	\$ 13.83	\$ 3.47	\$ 0.01	\$ 0.01	\$ 0.01	\$ 17.32

DPS Adjustments

(a)(b)

(c)

(d)(e)

Check

(0.00)

Initial filing

O&M Program Costs

	2021	2022	2023	2024	2025	TOTAL
C&I Demand Alert Pilot	\$ 0.09	\$ 0.10	\$ -	\$ -	\$ -	\$ 0.20
FlexPay Pilot	\$ 0.79	\$ 0.89	\$ 1.19	\$ 1.53	\$ 1.69	\$ 6.10
On-Bill Financing Pilot	\$ 0.70	\$ 0.81	\$ 0.10	\$ 0.10	\$ 0.10	\$ 1.82
Enhanced Marketplace	\$ 0.66	\$ 0.92	\$ 0.95	\$ 0.98	\$ 1.01	\$ 4.51
EV Make-Ready Program	\$ 1.19	\$ 0.15	\$ 0.16	\$ 0.16	\$ 0.17	\$ 1.83
NWS Process Development	\$ 0.50	\$ -	\$ -	\$ -	\$ -	\$ 0.50
Hosting Capacity Maps, Stage 3	\$ 0.49	\$ 0.43	\$ 0.34	\$ 0.32	\$ 0.24	\$ 1.84
DER Visibility Platform	\$ 0.07	\$ 0.04	\$ 0.05	\$ 0.06	\$ 0.07	\$ 0.29
CVR Program	\$ 0.09	\$ -	\$ -	\$ -	\$ -	\$ 0.09
TOTAL	\$ 4.59	\$ 3.35	\$ 2.79	\$ 3.15	\$ 3.29	\$ 17.17
Per Filing	\$ 4.58	\$ 3.35	\$ 2.79	\$ 3.15	\$ 3.29	\$ 17.17

Notes

(h) Denial of program

Budget after DPS Adjustments	2021	2022	2023	2024	2025	TOTAL
O&M Program Costs						
C&I Demand Alert Pilot	\$ -	\$ 0.20	\$ -	\$ -	\$ -	\$ 0.20
FlexPay Pilot	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
On-Bill Financing Pilot	\$ 0.70	\$ 0.81	\$ 0.10	\$ 0.10	\$ 0.10	\$ 1.82
Enhanced Marketplace	\$ 0.66	\$ 0.92	\$ 0.95	\$ 0.98	\$ 1.01	\$ 4.51
EV Make-Ready Program	\$ 1.19	\$ 0.15	\$ 0.16	\$ 0.16	\$ 0.17	\$ 1.83
NWS Process Development	\$ 0.50	\$ -	\$ -	\$ -	\$ -	\$ 0.50
Hosting Capacity Maps, Stage 3	\$ 0.49	\$ 0.43	\$ 0.34	\$ 0.32	\$ 0.24	\$ 1.84
DER Visibility Platform	\$ 0.07	\$ 0.04	\$ 0.05	\$ 0.06	\$ 0.07	\$ 0.29
CVR Program	\$ 0.09	\$ -	\$ -	\$ -	\$ -	\$ 0.09
TOTAL	\$ 3.70	\$ 2.56	\$ 1.60	\$ 1.62	\$ 1.59	\$ 11.07

DPS Adjustments

Notes

(h)

Check

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Capital Program Costs	2019	2020	2021	2022	TOTAL	PSEG LI Updated Funding Request	Updated Budget 2019 - 2022	DPS Adjustments	Notes	Budget after DPS Adjustments
AMI Technology and Systems (Core)	\$ 50.06	\$ 47.79	\$ 48.74	\$ 49.70	\$ 196.29	\$ (2.30)	\$ 193.99	\$ -		\$ 193.99
AMI-Enabled Capabilities	\$ 2.00	\$ -	\$ -	\$ -	\$ 2.00	\$ 4.03	\$ 6.03	\$ -		\$ 6.03
Program Implementation Support (Co	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 8.00	\$ (0.36)	\$ 7.64	\$ -		\$ 7.64
Customer Engagement	\$ 3.30	\$ 1.50	\$ 1.50	\$ 1.50	\$ 7.80	\$ -	\$ 7.80	\$ -		\$ 7.80
Rate Modernization	\$ 9.50	\$ -	\$ -	\$ -	\$ 9.50	\$ 0.56	\$ 10.06	\$ -		\$ 10.06
Data Analytics	\$ 4.10	\$ 0.60	\$ 1.00	\$ 1.00	\$ 6.70	\$ 0.16	\$ 6.86	\$ -		\$ 6.86
Utility of the Future / CVR / JU	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (0.55)	\$ (0.55)	\$ -		\$ (0.55)
EV Program	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -
Locational Value Study	\$ 1.00	\$ -	\$ -	\$ -	\$ 1.00	\$ (0.50)	\$ 0.50	\$ -		\$ 0.50
IOAP Interconnection	\$ -	\$ 2.27	\$ -	\$ -	\$ 2.27	\$ -	\$ 2.27	\$ -		\$ 2.27
Grid Storage – Miller Place	\$ -	\$ -	\$ 2.46	\$ 2.46	\$ 4.91	\$ 5.83	\$ 10.74	\$ (1.25)	(a)	\$ 9.50
	\$ 71.96	\$ 54.16	\$ 55.69	\$ 56.66	\$ 238.47	\$ 6.87	\$ 245.34	\$ (1.25)		\$ 244.09

Notes

(a) Reduction of Risk & Contingency

O&M Program Costs	2019	2020	2021	2022	TOTAL	PSEG LI Updated Funding Request	Updated Budget 2019 - 2022	DPS Adjustments	Notes	Budget after DPS Adjustments
AMI Technology and Systems (Core)	\$ 1.02	\$ 1.68	\$ 2.16	\$ 2.66	\$ 7.53	\$ 1.97	\$ 9.50	\$ -		\$ 9.50
AMI-Enabled Capabilities	\$ 0.59	\$ 0.36	\$ 0.36	\$ 0.36	\$ 1.65	\$ 3.27	\$ 4.92	\$ -		\$ 4.92
Program Implementation Support	\$ 0.25	\$ 0.25	\$ 0.25	\$ 0.25	\$ 1.00	\$ (0.45)	\$ 0.55	\$ -		\$ 0.55
Customer Engagement	\$ 4.24	\$ 3.69	\$ 3.69	\$ 3.69	\$ 15.29	\$ (6.57)	\$ 8.72	\$ -		\$ 8.72
Rate Modernization	\$ 6.14	\$ 3.00	\$ 3.61	\$ 5.22	\$ 17.97	\$ (1.85)	\$ 16.12	\$ -		\$ 16.12
Data Analytics	\$ 1.35	\$ 1.37	\$ 1.78	\$ 1.80	\$ 6.30	\$ 0.01	\$ 6.31	\$ -		\$ 6.31
Super Savers	\$ 1.99	\$ 1.10	\$ 0.29	\$ 0.10	\$ 3.48	\$ (0.02)	\$ 3.46	\$ -		\$ 3.46
BTM Storage with Solar	\$ 0.10	\$ 0.10	\$ -	\$ -	\$ 0.20	\$ (0.04)	\$ 0.16	\$ -		\$ 0.16
EV Program	\$ 2.26	\$ 4.59	\$ 3.70	\$ 4.60	\$ 15.15	\$ (2.32)	\$ 12.83	\$ -		\$ 12.83
Utility of the Future / CVR / JU	\$ 0.50	\$ 0.51	\$ 0.52	\$ 0.53	\$ 2.06	\$ 0.86	\$ 2.92	\$ -		\$ 2.92
Locational Value Study	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.18	\$ 0.18	\$ -		\$ 0.18
NWS Planning & Analysis Tool	\$ 0.50	\$ -	\$ -	\$ -	\$ 0.50	\$ (0.30)	\$ 0.20	\$ -		\$ 0.20
IOAP Interconnection	\$ -	\$ 1.57	\$ 0.34	\$ 0.34	\$ 2.25	\$ (2.15)	\$ 0.10	\$ -		\$ 0.10
Grid Storage – Miller Place	\$ 0.30	\$ 0.30	\$ -	\$ 0.11	\$ 0.71	\$ 0.34	\$ 1.05	\$ (0.18)	(b)	\$ 0.87
	\$ 19.24	\$ 18.50	\$ 16.70	\$ 19.65	\$ 74.09	\$ (7.07)	\$ 67.02	\$ (0.18)		\$ 66.84

Notes

(b) Removal of funds for future battery storage RFPs

Program	Program Budget (\$M)	DPS Adjustment	Notes	Recommended Budget
Efficient Products	\$ 18.93	\$ -		\$ 18.93
Home Comfort	\$ 11.62	\$ -		\$ 11.62
REAP (Low-Income)	\$ 1.40	\$ -		\$ 1.40
Home Performance	\$ 5.56	\$ -		\$ 5.56
Commercial Efficiency	\$ 35.05	\$ -		\$ 35.05
HEM (Behavioral)	\$ 2.40	\$ -		\$ 2.40
Pay for Performance	\$ 0.16	\$ (0.13)	(a)	\$ 0.03
Solar Community Adder	\$ 1.20	\$ -		\$ 1.20
DLM Program	\$ 1.30	\$ -		\$ 1.30
PSEG Long Island Labor, Outside Services, Advertising	\$ 11.18	\$ -		\$ 11.18
	<u>\$ 88.80</u>	<u>\$ (0.13)</u>		<u>\$ 88.67</u>

(a) Removal of incentives and evaluation costs to reflect a more realistic timeline of the start of the program