2022 Proposed Budget: Clean, Reliable, Customer-First

December 15, 2021

Presented by Tamela Monroe
CFO, Long Island Power Authority

LIPA BOARD'S OBJECTIVES FOR SERVICE TO CUSTOMERS

The LIPA Board has set high objectives for clean, reliable, customer-first service. The reformed contract provides PSEG Long Island management accountability for these objectives

Customer satisfaction
among the top 25% of electric utilities in the country

Reliability
within the top 10% of peer electric utilities

Industry leading emergency response

70% renewable energy by 2030
and a carbon-free electric grid by 2040

Rates
comparable to or below neighboring utilities in the New York City metropolitan area

- *For more information, please see the LIPA Board Policies that discuss these goals*

BUDGET BY THE NUMBERS

The 2022 Budget consists of an Operating Budget of $3.9 billion and a Capital Budget of $783 million. 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 lines, substations, poles, and wires, as well as information technology, vehicle fleet, and other assets.

2022 Operating Budget ($ thousands)	
Operating Revenues	3,850,840
Grant & Other Income	60,639
Total Revenues and Income	**3,911,479**
Power Supply Costs	1,655,303
Delivery Costs	837,789
PILOTs, Taxes & Fees	568,391
Interest Payments	369,547
Debt Reduction & OPEB	480,449
Operating Budget	**3,911,479**
Fixed Obligation Coverage	
LIPA Debt Plus Leases	1.40x
LIPA & UDSA Debt Plus Leases	1.26x

2022 Capital Budget ($ thousands)	
Capital Projects	710,088
Storm Hardening	72,690
Capital Budget	**782,778**
Funding from Operating Budget	223,610
FEMA Storm Hardening Grant	2,421
Debt Issued to Fund Projects	556,747
Funding Sources	**782,778**
Percent of Capital Projects Funded from Debt	**71%**

CHANGES FROM PRELIMINARY BUDGET

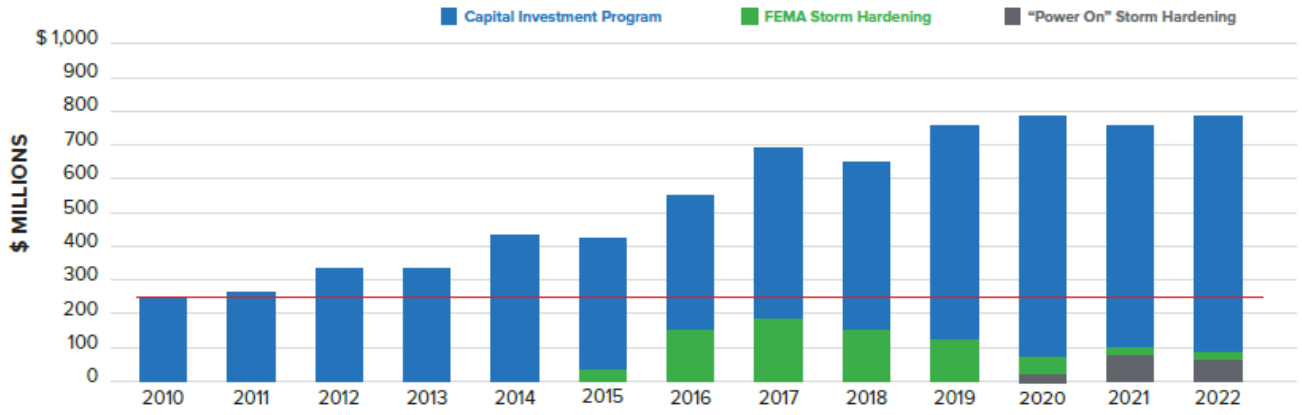
- **Operating Budget Changes:**
  - Utility 2.0 aligned with Department of Public Service recommendations reflecting a deduction of $410,000
  - Storm restoration increased $1.8 million
  - Reserve funding related to open items of $27 million transferred to appropriate categories
- **Capital Budget Changes:**
  - 2021 Carryover Projects - $22.9 million
  - Reserve funding related to open items of $59 million transferred to appropriate categories with only $5 million remaining in LIPA Capital Budget

CHANGES IN 2022 OPERATING REVENUES

- The 2022 Operating Budget includes Operating Revenues of $3.9 billion, an increase of $188.8 million from the 2021 Budget
- Actual Operating Revenues are projected to decline $132.1 million, as Operating Revenues for 2021 came in above budget due to higher Power Supply and storm restoration costs

2022 CAPITAL BUDGET

Capital Investments in the Long Island Electric Grid are Up 300%



LIPA has invested a record $4.9 billion in infrastructure since 2016 to improve the reliability and resiliency of Long Island's electric grid – over 3 times the level of investment of a decade ago

Reliability and Resiliency Investments Showing Results for Customers

Customers with Power Outages
34%

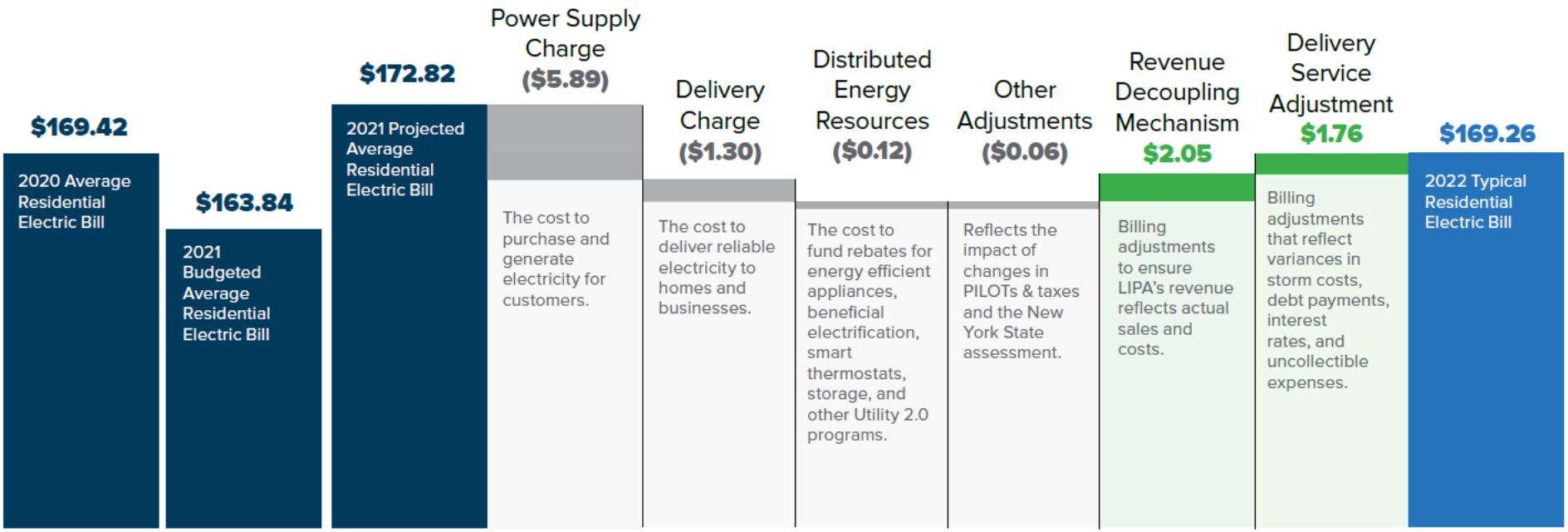
Customers with "Flicker" Interruptions
51%

Customers with ≥4 Outages Per Year
59%

National Utilities Ranking for Reliability
#8 out of 63 Peer Utilities

RESIDENTIAL BILLS FOR 2022

Average Residential Customer Electric Bill (Weather-Normalized)



- Residential bills came in above budget in 2021 due to higher power supply costs and sales than budgeted (excess 2021 sales are generating a $3 bill credit in 2022)
- Delivery rate will increase 2.2% for 2022; however, lower sales are expected to result in a $1.30 month decrease in the Delivery Charge for a typical customer

2022 BUDGET MAINTAINS FISCAL SUSTAINABILITY

- Operating Budget targets **1.40x fixed obligation coverage** consistent with Board's Policy on Debt and Access to the Credit Markets
- LIPA has achieved **four credit rating upgrades since 2013 and is on positive outlook by Fitch** for an upgrade in the next 12-to-24 months
- Total debt payments and coverage will increase **$28.0 million**

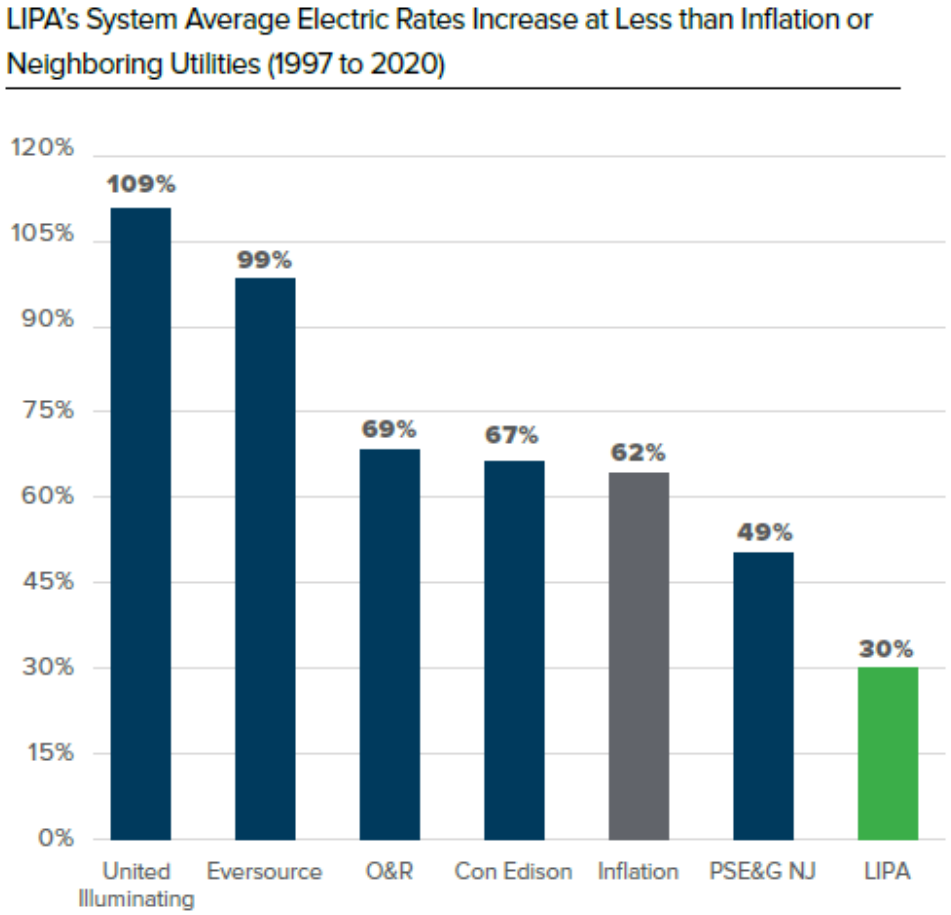
Financial Policy

LIPA's Credit Rating Upgrades

	2013 Ratings (Outlook)	2021 Ratings (Outlooks)
Moody's Investors Service	Baa1 (Negative)	A2 (Stable)
Standard and Poor's	A- (Negative)	A (Stable)
Fitch Ratings	A- (Negative)	A (Positive)

RATES CONTINUE TO INCREASE AT LESS THAN INFLATION

Taking steps to minimize customer costs has resulted in system average rates that have increased at **less than the rate of inflation and less than those of neighboring utilities**



2022 BUDGET PUBLIC COMMENTS

- LIPA held two virtual public comment sessions on Monday, November 29 – one in the morning and one in the evening
  - Comments regarding the budget were received from one speaker, focusing on the potential savings associated with municipalization, the importance of sourcing low-cost renewable energy, the need to continue LIPA's efforts to pursue property tax savings, and the need to seek out available federal funds

- Written comments were also accepted via email
  - To date, no written comments from the public on the 2022 budget have been submitted

Questions?

FOR CONSIDERATION
December 15, 2021

TO: The Finance and Audit Committee

FROM: Thomas Falcone

SUBJECT: Recommendation to Approve LIPA's 2022 Budget and Amendment of 2021 Budget

Requested Action

The Finance and Audit Committee (the "Committee") of the Board of Trustees (the "Board") of the Long Island Power Authority ("LIPA") is requested to adopt a Resolution recommending that the Board: (i) approve the proposed 2022 Operating and Capital Budgets (the "Budget") which sets forth the revenue, grant, other income, and expenditure forecasts for the year ending December 31, 2022; (ii) amend the 2021 Operating and Capital Budgets; and (iii) establish regulatory accounting treatment to allow proper alignment of revenue and costs associated with the New York State Attorney General settlement designated to low-to-moderate income programs and for the deferral of recovery of potential impacts of the Suffolk County Property Tax Litigation, as described below and specified in **Exhibit "A**".

Background on 2022 Operating and Capital Budgets

The proposed 2022 Budget totals $4.694 billion, including an Operating Budget of $3.911 billion and a Capital Budget of $782.8 million (attached as **Exhibit "B")**. The proposed 2022 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 monthly electric bill for the average residential customer is projected to be $169.26 in 2022, which is $3.56 per month or 2.1% below the 2021 average of $172.82. The primary driver of the projected decrease are lower power supply costs partially offset by adjustments to the bill resulting from storm restoration costs, debt service, and sales.

The proposed 2022 Budget is consistent with the Board's Policy on Debt and Access to the Credit Markets (the "Financial Policy"), 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 2022 Budget reflects an increase in the fixed rate obligation coverage to 1.40x, as approved by the Board in December 2021. Although, the Board's Financial Policy also 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, for 2022, the proposed budget recommends LIPA fund 71% of the $782.8 million Capital Budget from debt issues due to the need to increase capital investments to

meet the Board's strategic priorities. It is proposed that LIPA increase investments in Transmission and Distribution Reliability by $55.9 million, Information Technology systems by $32.1 million, and Storm Hardening by $19.2 million. To mitigate the impact of the increased capital spending, the increased fixed obligation coverage ratio will produce an additional $39.2 million in operating revenue to fund these capital investments. LIPA projects the percentage of the Capital Budget funded from debt issues will decrease steadily over the next few years, achieving the Board target of 64% by 2025.

LIPA is proposing a PSEG Long Island Capital Budget to the Board for approval based on its assessment of the detailed project descriptions. However, for certain initiatives, LIPA and PSEG Long Island continue to evaluate data related to such projects, the development of which will continue through the first quarter of 2022. As a result, the 2022 Capital Budget reflects approximately $4.9 million reserve funding for these PSEG Long Island initiatives, within LIPA's approved Capital Budget. Further, LIPA requests that the Board provide LIPA management the authorization to release such funds from the reserve to PSEG Long Island's Capital Budget upon LIPA management's approval of final project justification documents. LIPA will inform the Board of the associated budget modification during the year.

Changes from the 2022 Proposed Budget

There have been adjustments to the Proposed Budget presented to the Trustees on November 17, 2021. The 2022 Budget presented herein includes the following adjustments: (i) an increase to the 2022 PSEG Long Island Capital Budget by $22.9 million to reflect the carryover of funds from 2021 to 2022 to align with updated project schedules, (ii) an decrease to the 2022 Utility 2.0 Operating Budget by $410,000 to reflect the final Department of Public Service (the "DPS") recommendations, (iii) the transfer of funds initially reflected in a pending project authorization reserve to the PSEG Long Island 2022 Operating and Capital Budgets, as LIPA received final information on related project and initiatives, and (iv) the balance of changes increasing the 2022 Storm Budget by $1.8 million.

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 would increase LIPA's 2022 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 $19 million to minus $30 million, as shown in the table below.

Allocation of Intra-Year Power Supply Capacity Costs ($ millions)	
January	($19.747)
February	($30.157)
March	($6.840)
April	($3.581)
May	$7.487
June	$10.337
July	$17.784
August	$19.081
September	$13.386
October	$2.394
November	$1.159
December	($11.303)
Total	$0.000

2022 Utility 2.0 Plan

The 2022 Proposed Budget includes $40.0 million (including the carryover) in Capital funding and $13.9 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, and support for beneficial electrification such as electric vehicle make ready initiatives.

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.

2022 Energy Efficiency Plan

The 2022 Proposed Budget includes $92.8 million in Operating Revenue for initiatives proposed in the PSEG Long Island's 2022 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 $21.9 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 five years, the professional services that are anticipated include 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, case management, financial management, planning, and modeling, Human Resource management, cloud migration, cybersecurity planning, implementation and review, 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 review of design, systems and programs implementation 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 2021 Operating and Capital Budgets

The Budget reflects the approved amendment related to a property acquisition completed in August 2021, increasing PSEG Long Island's Capital Budget by $27.1 million. LIPA further recommends PSEG Long Island's Capital Budget be amended to allow for the carryover of Capital projects from 2021 to 2022, for: (i) $9.1 million in Information Technology projects, (ii) $8.8 million in delayed fleet purchases, (iii) $4.4 million associated with a delay in receipt of a substation transformer, and (iv) $0.7 million associated with the Dusk to Dawn Program.

LIPA is also recommending approval of an amendment to increase the 2021 PSEG Long Island Operating Budget by $6.0 million related to (i) an increase of $5.5 million for Enhanced Vegetation Management and (ii) $0.5 million for Low-to-Moderate Income Heat Pump Program which is being funded by a settlement received from the New York State Attorney General and is reflected in other income. The amount of the recommended amendment is $1.1 million higher than the amount reflected in the preliminary Proposed Budget presented on November 17, 2021 due to the increased amount for

Enhanced Vegetation Management reflecting an increased level of hazardous tree removal that PSEG Long Island will be able to complete in 2021.

Accounting for 2021 Settlement Funds Used for Home Comfort Plus Program

In 2021, LIPA received funds from the New York State Attorney General Office as a settlement to resolve outstanding issues with LIPA's past service provider. Such funds are designated to be used to enhance the rebate program for low-to-moderate income customers to upgrade their home heating systems with clean electric heat pumps. The 2021 Operating Budget as discussed above is being amended to reflect the $0.5 million expended in 2021 with the balance of the funds, $4.0 million, deferred to the 2022 Operating Budget. This program is revenue requirement neutral as LIPA will defer the remaining proceeds from the settlement funds to 2022 revenue to properly align with projected spending.

Regulatory Accounting for the Litigation Related to Certain Payments in Lieu of Taxes

By statute, LIPA makes payments in lieu of taxes (PILOTs) for real property it acquired from LILCO. Beginning in calendar year 2015, the LIPA Reform Act capped LIPA's PILOT payments to no more than 2% higher than the prior calendar year. In 2017, LIPA received notices from Suffolk County claiming to enforce liens against certain of LIPA properties for alleged unpaid real estate taxes. LIPA filed a legal action to negate any attempt by Suffolk County to enforce the alleged tax liens and filed suit against the ten Suffolk County towns to ensure that they comply with the annual 2% limit on growth in such payments. On April 1, 2021, the Supreme Court, Suffolk County issued a Decision and Order that found: (1) LIPA's transmission and distribution (T&D) properties are not exempt from real-property taxation for tax years 2014/15 through 2019/20 by reason of LIPA's failure to timely challenge its unlawful assessment as non-exempt, taxable properties by the Town Assessors during those tax years; and (2) compelling LIPA to pay to Suffolk County the unpaid real property taxes levied against the T&D properties for tax years 2014/15 through 2019/20, with interest and penalties in the amount of approximately $67 million. A judgment was entered on October 8, 2021, that includes the 2014/15 to 2020/21 tax years. LIPA filed its notice of appeal from that judgment.

LIPA pays the PILOT amounts it is authorized to pay by law and sets its budgets as such. Although LIPA is entitled to a stay of enforcement of the judgment pending its appeal and is not paying this penalty until such time, if deemed necessary, in accordance with generally accepted accounting principles, LIPA must record this contingent liability. To ensure customers are not burdened with this levy until LIPA completes its appeal process, LIPA is requesting the Board approve deferral of recovery of such costs from its customers unless and until LIPA is required to submit payment for such judgement. LIPA cannot predict the outcome or timing of the appeal.

Public Comment on the 2022 Operating and Capital Budgets

LIPA held two virtual public comment sessions regarding the 2022 Budget. Both sessions occurred on Monday, November 29, 2021, with the first session held during the day and the second session held in the evening.

Comments regarding the budget were received from one speaker, Fred Harrison of Merrick. Mr. Harrison commented on (a) the potential savings associated with municipalization, (b) the importance of sourcing low-cost renewable energy, (c) the need to continue LIPA's efforts to pursue property tax savings, and (d) the need to seek out available federal funds. LIPA staff agrees that the issues identified by Mr. Harrison are important factors to consider in LIPA's long-term planning and cost-reduction efforts. We will continue to keep these issues front and center in development of future budgets and work plans. LIPA also accepted written comments. To date, no written comments have been received.

Public Comment on the Utility 2.0 and Energy Efficiency Plan

As discussed above, the Budget reflects adjustments recommended by the DPS in its Utility 2.0 and Energy Efficiency Plan Recommendations. The DPS solicited public comments on PSEG Long Island's Utility 2.0 and Energy Efficiency Plan, which are provided to the Board for their consideration and publicly available on the DPS's website.[1] PSEG Long Island's responses to the public comments are attached hereto as **Exhibit "E"**.

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

Exhibit "A"	Resolution
Exhibit "B"	Proposed 2022 Operating and Capital Budgets
Exhibit "C"	Tariff redline reflecting rate adjustments
Exhibit "D"	DPS Utility 2.0 and Energy Efficiency Plan Recommendation
Exhibit "E"	PSEG Long Island responses to public comments on Utility 2.0 and Energy Efficiency Plan

[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

Exhibit "A"

RECOMMENDATION TO APPROVE THE 2022 OPERATING AND CAPITAL BUDGETS AND AMENDMENT OF THE 2021 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 2022 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 $21.9 million for Information Technology ("IT") professional services and commodities that may 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 2022 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 2022 Operating and Capital Budgets to the Board of Trustees on November 17, 2021 and held two public comment sessions on November 29, 2021; 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.

NOW, THEREFORE, BE IT RESOLVED, that consistent with the accompanying memorandum, the Finance and Audit Committee (the "Committee") hereby recommends that the Board approve the 2022 Operating and Capital Budgets and associated rate adjustments, which are attached hereto; and

BE IT FURTHER RESOLVED, that the Committee hereby recommends that the Board approve

granting LIPA the authority to release funds from the Capital reserve into PSEG Long Island's Capital Budget upon LIPA management's receipt and approval of the pending information; and

BE IT FURTHER RESOLVED, that the Committee hereby recommends that the Board approve amendment to LIPA's 2021 Capital Budget to defer capital projects totaling approximately $22.9 million to 2022; and

BE IT FURTHER RESOLVED, 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, that the Committee hereby recommends that the Board approve the establishment of a regulatory accounting treatment to allow proper alignment of revenue and costs associated with the New York State Attorney General settlement designated to low-to-moderate income programs and for the deferral of recovery of potential impacts of the Suffolk County Property Tax Litigation; and

BE IT FURTHER RESOLVED, that the Committee hereby recommends that the Board approve LIPA's financing of the requirements of the 2022 and 2023 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 that the Committee hereby recommends that the Board authorize the Chief Executive Officer or his designee be, to execute and effect agreements to engage IT professional services and commodities consistent with the accompanying memorandum; and

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

Dated: December 15, 2021

Exhibit "B"

Clean, Reliable, Customer-First

2022 Budget

LIPA
Long Island Power Authority

2022 Budget

$3,911,479,000
operating

$782,778,000
capital

Energy Requirements

20,104,072
megawatt hours

Transmission System

1,400
miles

2021 Peak Demand

5,217
megawatts

Distribution System

9,000
miles overhead

5,000
miles underground

189,000
transformers

Substations

30
transmission

152
distribution

Generating Capacity

5,757
megawatts

Customers

1,023,221
residential

116,560
commercial

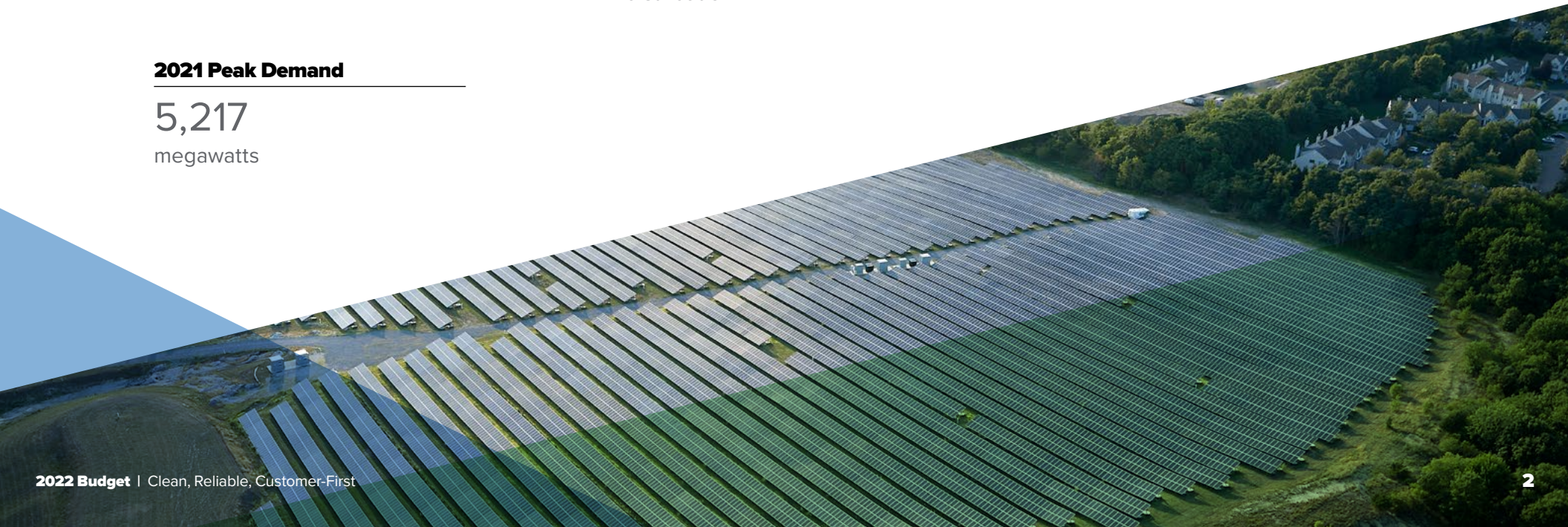


Table of Contents

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- Finance and Audit Committee

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- Governance, Planning, and Personnel Committee

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Sheldon L. Cohen

- Chair, Finance and Audit Committee
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Laureen Harris

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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 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

In 2021, the Board of Trustees reviewed and refreshed LIPA's purpose and vision, as well as its expectations for the strategic outcomes that management will deliver in the areas of reliability, customer experience, and information technology. The Board also reviewed key priorities in other areas, such as clean energy and customer affordability. Figure 1 summarizes some of the Board's expectations for the service LIPA provides to customers.

Figure 1

Summary of LIPA Board's Key Objectives

Reliability and Resiliency

- **Top 10% reliability** among peer utilities
- **Improve circuit conditions** that cause some customers to have repeated outages
- Invest in system resiliency to **reduce outages and restoration times** from severe weather
- Independently verify and validate **emergency restoration planning**

Customer Experience

- Deliver **top quartile customer satisfaction** in J.D. Power survey
- Continually improve in **ease of customer interaction**, as measured by customer surveys
- **Invest in technology to enhance convenience** of billing, payments, appointments, emergency restoration, etc.

IT and Cybersecurity

- Deploy **modern grid management technology and data analytics** benchmarked to the top 25% of utilities
- **Protect digital infastructure and customer data**, as measure by the NIST Cybersecurity Framework
- Clearly communicate customer information and data collection policies

Clean Energy

- **70 percent renewable energy** by 2030
- **Zero-carbon electric grid** by 2040
- **Promote beneficial electrification** of transportation and buildings (i.e., EVs and cold-climate heat pumps)

Customer Affordability

- Electric rates at the **lowest fiscally and operationally sound levels**
- Electric rates **comparable to regional utilities**
- Electric rate increases that are **in line with the rate of inflation**
- Electric rate designs **consistent with New York statewide principles**

Purpose Statement

LIPA's purpose is to **serve our customers and community** by providing clean, reliable, and affordable energy to Long Island and the Rockaways. As a **not-for-profit utility**, LIPA is a value-driven organization that puts our **customers first** in all our actions.

Vision

LIPA's vision is to be our **customers' trusted energy partner**. To achieve our vision, LIPA will:

- Actively **engage** with our customers and the communities we serve;
- **Respond** to our customers' needs and exceed their expectations;
- Be a recognized **innovator** in our industry to better serve our customers; and
- Be known as a **steward** of our environment and community.

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

Executive Management Team

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

Billy Raley

Senior Vice President, Transmission and Distribution System Oversight

Rick Shansky, P.E.

Senior Vice President, Power Supply and Wholesale Markets

Justin Bell

Vice President, Public Policy and Regulatory Affairs

Donna Mongiardo, CPA

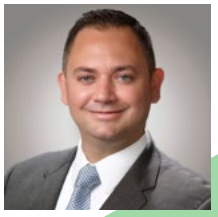
Vice President, Controller

Barbara Ann Dillon, Esq., PHR

Director of Human Resources and Administration

Kenneth Kane, CPA

Senior Advisor for Oversight



Tom Locascio

Director of External Affairs

Jennifer Hayen

Director of Communications

Section One

Budget Message

Budget Message | # Letter From Our CEO

Dear Customer-Owners and Stakeholders,

A budget is less a series of numbers than an expression of values. LIPA's annual budget provides an opportunity to take stock of where we stand as an organization, inform our customer-owners of the progress we have made, and convey our plans to deliver a **customer-first** electric utility for Long Island and the Rockaways.

Three topics in particular warrant discussion – LIPA's reformed contract with PSEG Long Island, our efforts to make the electric grid more resilient, and our plans to meet New York's nation-leading carbon reduction goals.

This budget reflects the Board's priorities and is focused on delivering exceptional results for our customers, including:

- An **outstanding customer experience** among the top 25 percent of electric utilities;
- A **highly reliable electric grid** among the top 10 percent of peer electric utilities – equivalent to fewer than one power outage a year per customer or 99.99 percent reliability;
- Advancing **New York's climate goals**, including 70 percent renewable energy by 2030 and a carbon-free electric grid by 2040; and
- **Electric service at the lowest possible cost**, with rates that are comparable to or below our neighboring utilities in the New York metropolitan area.

Reformed Contract with PSEG Long Island

Over the past 16 months, LIPA has completed an exhaustive investigation of PSEG Long Island's failed response to Tropical Storm Isaias, including publishing six reports of our findings. The Department of Public Service (DPS) also completed their separate, independent inquiry.

The results were both disappointing and unflattering. The root cause of PSEG Long Island's storm response failures were management problems. Further, PSEG Long Island management was not candid with LIPA and DPS about what it knew before, during, and after the storm. The truth was uncovered in the emails and text messages of PSEG Long Island staff, as documented in our reports.

The LIPA Board has adopted 167 specific recommendations for PSEG Long Island to implement to improve management, emergency management, and information technology, among other areas. The Board has asked LIPA management to independently verify and validate the remediation of each of these recommendations and to report to the Board on the status in Quarterly Reports.

However, the Board took the position that even remediating known problems was insufficient. As LIPA pays for management services, and the root cause of the poor storm response was PSEG Long Island management shortcomings, **the Board, with the support of the DPS, voted in November 2020 to either terminate or renegotiate LIPA's management contract with PSEG Long Island**.

At the Board's request, LIPA staff reviewed all the options available for the future management of LIPA's assets, including a renegotiated contract with PSEG Long Island, hiring a new service provider, and LIPA directly taking over management responsibilities. In its Options Analysis dated April 2021, LIPA highlighted the advantages of each alternative and stated the eight non-negotiable reforms that would be required to enter into a reformed agreement with PSEG Long Island, shown in Figure 2.

Figure 2

Eight Core Contract Reforms Required for a New Contract with PSEG Long Island

Strengthen Incentives and Accountability Mechanisms

1. Greater share of management compensation at risk based on performance
2. Expanded performance metrics with greater rigor covering all categories of the management services provided to LIPA
3. Strong gating and default metrics to discourage singularly poor performance (e.g., storms)
4. Strengthen Long Island-based management and accountability for Long Island operations
5. Require candor from service provider

+

Strengthen Oversight

6. Require compliance with Board recommendations to address known deficiencies
7. Strengthen oversight in long-term planning, project prioritization, and budget development
8. Partition Long Island IT systems and facilitate independent verification and validation by LIPA

On November 9, 2021, LIPA and PSEG Long Island reached agreement on a reformed contract. **The new contract fundamentally addresses LIPA's concerns**. As the Board insisted on, a "second chance" for PSEG Long Island cannot be an act of faith. It must be backed by contractually binding commitments adequate to the task.

Among the eight reforms LIPA has secured in the reformed contract are a commitment to a **fully staffed, capable local management team, strict "pay for performance" measures that directly affect the majority of PSEG Long Island's compensation, and strengthened contract termination rights**. Additionally, the contract provides **new oversight rights to both LIPA and DPS**, including the right to independently verify and validate the stress testing of all mission-critical computer systems. Thirdly, the contract requires a **Duty of Candor from PSEG Long Island**, violation of which can result in termination. Most significantly, **the management agreement has been effectively shortened from 12 years to four** by eliminating PSEG Long Island's option to extend the contract upon its expiration in 2025.

In addition to the strong contract terms, **LIPA has put in place 96 rigorous performance standards for 2022 that will determine PSEG Long Island's compensation**. Among these measures are the material unfinished work contained in the Board's 167 recommendations. A summary of these performance standards is included in Section III, and the complete details are available on LIPA's website.

At the end of 2022, LIPA's review of PSEG Long Island's performance on these measures will be publicly available. Under the LIPA Reform Act, LIPA must first evaluate PSEG Long Island's performance, and then DPS must independently review and approve LIPA's evaluation.

I am aware of no utility in the country that has a more transparent and public set of measures for management accountability. PSEG Long Island management will either meet these rigorous measures, or their shortcomings will be obvious, and PSEG Long Island will have strong incentives to remediate the causes.

After 15 months of investigations, six public reports, and an exhaustive inquiry, the **new contract terms are entirely beneficial to LIPA and its customers**. Additionally, the settlement agreement provides $30 million of benefits to LIPA customers and avoids the costs, delays, and uncertainty of further litigation.

Figure 3 summarizes the key changes between the 2013 PSEG Long Island contract and the reformed contract for 2022.

Figure 3

Key Benefits of the Reformed PSEG Long Island Contract

	Original 2013 LIPA-PSEG Long Island Contract	REFORMED 2022 LIPA-PSEG Long Island Contract	Description
Objective 1: Greater Share of PSEG Long Island Compensation at Risk Based on Performance			
How much of PSEG Long Island's compensation is at risk based on performance?	$10 million (13% of contract fees)	$40 million (51% of contract fees)	The reformed management contract increases the amount of PSEG Long Island's annual compensation at risk from $10 million to $40 million.
Objective 2: Expanded Performance Metrics with Greater Rigor Covering all Categories of Management Services			
How are Performance Metrics set?	Initially in 2013; any changes are with PSEG Long Island's agreement	Annually, by LIPA Board and DPS	Under the existing contract, PSEG Long Island is effectively able to set its own standards of performance by declining to update metrics for evolving industry trends and customer needs. Now, Performance Metrics will be set by LIPA and DPS and voted on by the LIPA Board in a public meeting at the beginning of each year.
How many Performance Metrics affect compensation?	20-26	Up to 110	PSEG Long Island will be subject to detailed performance requirements set annually by the LIPA Board and DPS to ensure the company meets industry best practices across all the management services provided to LIPA and its customers.

	Original 2013 LIPA-PSEG Long Island Contract	REFORMED 2022 LIPA-PSEG Long Island Contract	Description
Objective 3: Strong Gating and Default Metrics to Address Failure to Achieve Minimum Performance			
• Cost Management: spending more than 102% of LIPA budgeted funds	$5-10 million	$10-20 million	PSEG Long Island's compensation pool is automatically reduced if PSEG Long Island does not stay within budget or fails to meet minimum levels of performance in four core customer-facing categories. A new gating metric has been added for emergency preparation and response. A new default metric has been added for cybersecurity.
• Emergency Preparedness and Response: failure to achieve minimum performance score on a 48-hour or 72+ hour storm	Right to terminate after two failures on 72+ hour storms in three consecutive years	$5 million (48-hour) to $10 million (72+ hour) and right to terminate (72+ hour only) on a single failure	
• Reliability: average customer minutes without power exceeds utility benchmark	$13.4 million for 2 failures in 3 consecutive years (>95 Minutes)	$10 million for failure in any contract year (>85 minutes)	
• Customer Satisfaction: failure to meet minimum customer satisfaction performance	$13.4 million for 2 failures in 3 consecutive years on a combination of JD Power and internal customer contact surveys (unlikely to occur); right to terminate after 4 consecutive annual scores in 4th quartile	$3 million and right to terminate for 2 consecutive annual scores in 4th quartile of JD Power Customer Satisfaction Survey beginning in 2024	
Violations of emergency response plan or failure to provide safe, adequate, and reliable service to customers	n/a	Up to $20 million	The reformed contract includes a new DPS investigative process with compensation reductions for violations of PSEG Long Island's emergency response plan or failures to provide safe, adequate, and reliable service to customers.
Cybersecurity: failure to implement measures to achieve NIST Cybersecurity Framework Tier 3	n/a	Right to terminate	The reformed contract has a termination right for failed cybersecurity performance.

	Original 2013 LIPA-PSEG Long Island Contract	REFORMED 2022 LIPA-PSEG Long Island Contract	Description
Contract Term			
When does the contract end?	PSEG Long Island has the right to extend the contract for eight years on substantially similar terms to 12/31/2033	12/31/2025	The reformed contract eliminates PSEG Long Island's option to extend the contract on substantially similar terms for eight years, effectively shortening the termination date to December 31, 2025. Any renewal of the contract will be based on demonstrated performance.
Objective 4: Strengthen Long Island-Based Management and Accountability for Long Island Operations			
Does PSEG Long Island have a fully staffed local management team?	34 PSEG Long Island employees report to superiors in New Jersey	Fully staffed Long Island executive team with decision-making authority. All Long Island employees report to a local manager. Five new local executive positions to be added	The President and Chief Operating Officer of PSEG Long Island will have full and final operational decision-making authority. All Long Island employees will report to a local manager. Local senior executives will be added to strengthen information technology, cybersecurity, emergency response, business services, and human resources.
Does the contract require transparency by PSEG Long Island around decisions to hire PSEG affiliates to provide services to LIPA?	No	Yes	The reformed contract requires a demonstration of cost savings or improved service for hiring or retaining a PSEG affiliate to perform services for LIPA. LIPA has the right to reject affiliate services that do not meet this standard.
Objective 5: Duty of Candor			
Does the contract require timely and accurate disclosure of significant operational issues?	No	Yes	The reformed contract requires timely, affirmative disclosure to LIPA and DPS of issues that significantly impair PSEG Long Island's ability to provide reliable service, emergency response, cybersecurity, financial impairment, noncompliance with laws, or circumstances that may endanger public health, safety, and welfare.
Can LIPA terminate for Violation of the Duty of Candor?	No	Yes	LIPA may terminate the contract if the PSEG Long Island violates the Duty of Candor.

	Original 2013 LIPA-PSEG Long Island Contract	REFORMED 2022 LIPA-PSEG Long Island Contract	Description
Objective 6: Require Compliance with LIPA Board Recommendations to Address Known Deficiencies			
Does the contract require PSEG Long Island to fix operational issues identified by LIPA or DPS in a timely manner?	No	Yes	The reformed contract requires PSEG Long Island to implement plans to fix known operational issues identified by LIPA management or DPS, with oversight by the LIPA Board, pursuant to agreed upon plans.
Objective 7: Long-term Planning, Budget Development, and Cost Management			
Are management objectives, budgets, and performance metrics tied together to deliver value for LIPA customers?	Limited to Utility 2.0 Plans (energy efficiency and electrification programs); limited recourse for failure to deliver approved plans	Each scope of management services has a long-term plan approved by the LIPA Board. Budget proposals and performance metrics are aligned with delivering on long-term plans	The reformed contract requires 5-year plans for each scope of management services provided by PSEG Long Island management. Budgets and performance metrics are tied to delivering on the objectives of these plans, providing greater transparency and accountability for delivering projects and services on time and within budget.
Objective 8: Partition Long Island IT Systems and Facilitate Independent Validation and Verification			
Can LIPA independently stress test and validate the performance of mission-critical information technology systems?	No	Yes	The reformed contract has new rights to allow LIPA to independently stress test and validate the performance of mission-critical information technology systems, such as those that failed during Tropical Storm Isaias.
Are LIPA IT systems entangled with PSEG Long Island's parent company system?	Partially merged with PSEG Long Island's parent company systems, with limited LIPA oversight	Separate, independently testable, LIPA-owned IT systems	The reformed contract requires PSEG Long Island to separate information technology platforms from New Jersey-based systems to ensure better accountability and oversight and to reduce barriers to switching to a new provider in the future, if necessary.

LIPA made the proposed contract available on our website for a 30-day public review period. LIPA accepted public comment on the reformed contract at the November 17, 2021 Board meeting, as well as at an evening public comment session on December 2, 2021. If the Board approves the contract, it will also be subject to review and approval by both the Attorney General and the State Comptroller prior to taking effect.

Performance Standards for 2022

The reformed contract between LIPA and PSEG Long Island includes $40 million of at-risk compensation, or 51% of the total management fees paid each year by LIPA, including:

- **$20 million of Variable Compensation** at-risk based on performance standards set by LIPA, with an independent recommendation to the LIPA Board by the DPS. These performance standards ensure that PSEG Long Island's compensation is tied to delivering meaningful results for Long Island and Rockaways electric customers.
- **$20 million of DPS Compensation** at-risk if PSEG Long Island violates its Emergency Response Plan or fails to provide safe and adequate service, as determined by an independent DPS investigation and recommended to the LIPA Board.

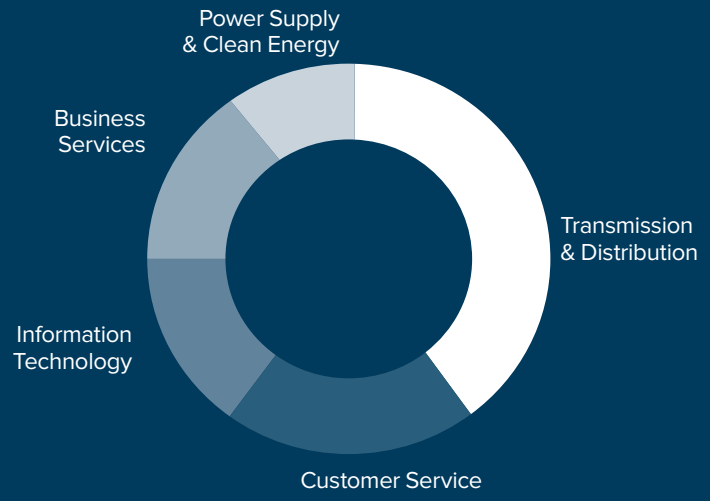
For 2022, LIPA and PSEG Long Island have agreed to 96 performance standards, distributed across all the management services provided to LIPA and its customers. These metrics, which will be reset annually by LIPA and DPS, are designed to be achievable levels of improvement (or to maintain already high levels of service) that are objectively verifiable. The funds to achieve this performance are also budgeted, tying realistic plans and budgets to achievable, measurable outcomes each year.

Figure 4 summarizes the performance standards by focus area and contract function.

Figure 4

Focus Areas for 2022 Performance Standards

2022 Performance Standards by Function



Some highlights among the 96 performance standards for 2022 include:

Major Projects	• **Asset Management Program:** Plan and implement a new asset management program consistent with ISO-55001, including developing effective asset management plans, surveying assets, and deploying a new Enterprise Asset Management System to track assets, work, maintenance, and inventory levels, to enable preventative and predictive maintenance that increases reliability and reduces cost to customers. • **Primary Transmission Control Center Replacement:** Complete strategic and conceptual design of a new control center to manage the electric flows on the Long Island electric grid. • **Customer Information System (CIS):** Plan for and deploy a new, flexible, modern CIS capable of effective and efficient customer transactions, billing and customer services.
Reliability	• **Reliability Performance**: Maintain average reliability among the top 10% of utilities; reduce the number of customers with four or more outages by 22%; reduce customers with "flicker" outages by 13%; and reduce customers with six or more "flicker" outages by 20%.
Resiliency	• **Resiliency:** Meet milestones for storm hardening program, while developing pilots and plans to underground rear-yard branch circuits, harden transmission feeds to load pockets, and operationalize smart switches. • **Tree Trimming:** Utilize data to target vegetation management plans to improve effectiveness, implement a new "trim to sky" protocol, and increase removal of "hazard" trees from 3,000 to 12,000 per year.
Customer Satisfaction	• **Customer Experience Projects:** Deliver seven projects to improve the customer contact and billing experience, including smart meter features, upgrading credit card vendors, enhancing the mobile app, and enhanced texting of outage information. • **Call Center:** Answer 80% of calls with a live agent within 30 seconds and resolve at least 80% of calls on the first call. • **Email Resolution:** Answer 70% of emails within 24 hours. • **Social Media:** Respond to 90% of social media inquiries related to health and safety with a live agent within 2 hours on blue sky days and 80% within 3 hours during storms. • **Low Income Discounts**: Increase participation in the low-income discount program by 34% compared to the 3-year average.

Clean Energy	• **Integrated Resource Plan**: Complete LIPA IRP per agreed upon scope. • **Energy Storage RFP:** Complete studies to award contracts for 180 MW of battery storage. • **Energy Efficiency and Beneficial Electrification:** Achieve targets contained in annual Utility 2.0 filing. • **EV Make Ready:** Achieve targets in annual Utility 2.0 filing for deploying EV chargers. • **DER Interconnection:** Improve the interconnection process for solar systems per LIPA Board recommendations. • **Time of Use Rates** (TOU)**:** Implement new TOU rates for space heating and large commercial customers; enroll 12,000 new customers in optional TOU pricing plans.
Operations	• **Work Management:** Implement new practices for short and long-term scheduling and tracking of work to optimize staffing levels, increase productivity, and reduce overtime. • **Construction:** Implement a minimum of 85% of capital projects on time and within the estimated cost. • **Safety:** Maintain the incidents rate for employee injuries among the top 25% of utilities while reducing serious injuries resulting in days away by 22%. • **Contractor Performance:** Implement a new contractor evaluation system to benefit from suppliers that have demonstrated experience in cost controls, performance, quality, risk management, innovation, and transformation. • **Estimated Times of Restoration**: Improve the accuracy of restoration time estimates provided to customers in blue sky conditions by 10%.
Information Technology	• **IT Organizational Maturity**: Improve the organization's ability to manage and implement IT projects to Level 3 as measured by the Capability Maturity Model Integration (CMMI) model. • **Disaster Recovery:** Complete a robust IT resiliency plan that includes thoroughly exercised disaster recovery and business continuity plans for all critical systems/processes. • **Lifecycle Management:** Upgrade IT assets to be within their active service life and under general support by the product vendor. • **IT System Implementation:** Implement 21 major IT system projects. • **IT Board Recommendations:** Implement 9 major IT projects related to recommendations adopted by the LIPA Board, including the Outage Management System. • **IT System Segregation:** Plan for and separate LIPA IT systems from PSEG New Jersey systems.

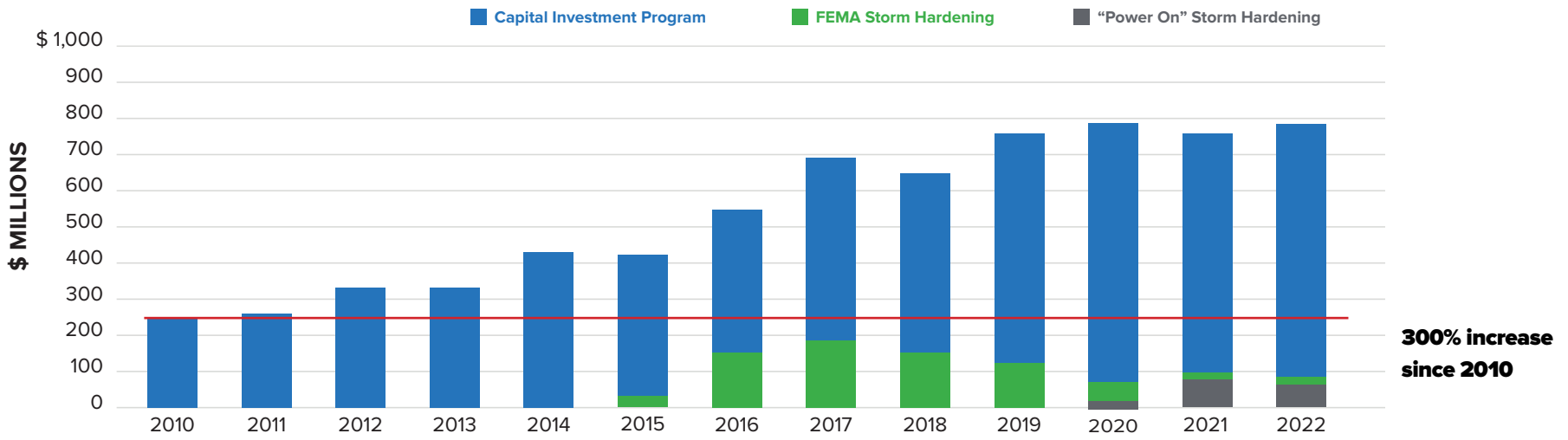
For a more detailed summary of the performance standards for 2022, please see Section III. The complete details of the 2022 performance standards are available on LIPA's website.

Making the Electric Grid More Resilient

Severe weather and other extreme events can disrupt the operations of the electric grid, causing multi-day power outages for customers. **LIPA has invested a record $4.9 billion in infrastructure since 2016 to improve the reliability and resiliency of Long Island's electric grid – over 3 times the level of investment of a decade ago** (see Figure 5). This investment has led to significantly improved outcomes (Figure 6). LIPA's investments will continue to improve every day reliability and to **enhance grid resiliency, reducing the impact of a large storm event**.

Figure 5

Capital Investments in the Long Island Electric Grid are Up 300%



The LIPA Board of Trustees recently completed a strategic review of its objectives for reliability and resiliency for the Long Island and Rockaways electric grid. Based on that strategic review, **the Board has set its objectives for reliability and resiliency**, including:

- **Reliability:** Maintain **top 10 percent reliability** among peer utilities, while improving circuit conditions that cause any customers to experience significantly worse reliability than the average customer; and
- **Resiliency:** Mitigate the effects of climate change through **multi-year programs that reduce the number and duration of outages after significant system disruptions**.

Following Tropical Storm Isaias, the Board adopted several recommendations to put these objectives into effect, the results of which have been incorporated into the 2022 budget and PSEG Long Island performance standards. The overall strategy, however, is illustrated in Figure 7, which represents **a customer-driven approach to grid resiliency**.

The blue line in Figure 7 shows the "outage curve" (i.e., the number of customers out per day) for Tropical Storm Isaias or a similar storm affecting approximately half of all customers. The black line shows LIPA's objectives for a similar storm as a result of our resiliency investments over the next five years.

Figure 6
Reliability and Resiliency Investments Showing Results for Customers

Customers with Power Outages
34%

Customers with "Flicker" Interruptions
51%

Customers with ≥4 Outages Per Year
59%

National Utilities Ranking for Reliability
#8 out of 63 Peer Utilities

LIPA's efforts are to both limit the number of customers impacted by an outage event and shorten the length of restoration for those that are impacted. Initiatives for 2022 include:

Reduce the number of outages by:
- Continuing to harden the worst performing distribution circuits
- Hardening one transmission supply feed to every substation in a load pocket
- Reducing the number of customers behind each smart switch to less than 500
- Increasing hazard tree removal, implementing a trim-to-sky protocol, and deploying intelligence to the tree trim cycle

Shorten the length of storm restoration by:
- Utilizing smart meter data for operational intelligence
- A pilot program for selective undergrounding of hard to access rear-lot distribution service
- Deploying electricians for low-voltage restoration

Results of these new initiatives in 2022 will refine plans for 2023 and beyond.

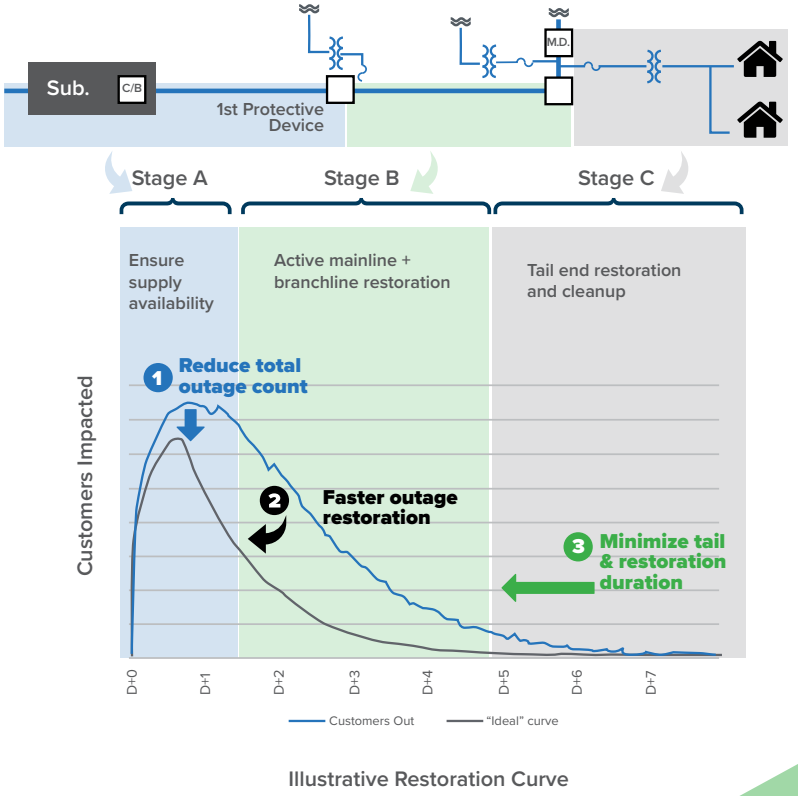


Figure 7
A Customer-Driven Approach to Grid Resiliency

Clean Energy Transition

LIPA is transitioning the electric grid for Long Island and the Rockaways away from fossil fuels. This is in step with New York's Climate Leadership and Community Protection Act (CLCPA), which requires an **entirely carbon-free electric grid by 2040**, among the other goals in Figure 8.

Transitioning to a carbon-free electric grid involves both adding new clean sources of energy and retiring older, fossil-fueled power plants. **The transition to clean energy will involve billions of new investment that will create jobs and improve Long Island's environment**.

Figure 8
New York's Climate Goals

- Renewables **70% by 2030**
- Electric Sector GHG Reduction **100% by 2040**
- Energy Efficiency **185 trillion BTU reduction by 2025**
- Offshore Wind **9,000 MW by 2035**
- Battery Storage **3,000 MW by 2030**
- Solar Energy **6,000 MW by 2025** **10,000 MW by 2030**
- Electric Vehicles **100% zero-emission vehicles by 2035**

Figure 9 shows already committed clean energy projects for the Long Island electric grid through 2030. Long Island will have about 900 megawatts (MW) of solar generation in service by 2022, 2,300 MW of offshore wind by 2026, and 400 MW of energy storage by 2030. **Already committed actions will add 3,500 MW of clean energy to the Long Island electric grid – that's on a grid with a 2021 peak demand of 5,217 MW**.

Figure 9

Long Island Clean Energy Projects in Service and under Procurement

	Size (MW)	In-service (Est.)
Solar (900 MW)		
Long Island Solar Farm	32	2011
Eastern Long Island Solar Project	11	2013
Shoreham Solar Commons	25	2018
Riverhead Solar	20	2019
Kings Park Solar 1 and 2	4	2019
Feed-In Tariffs (FIT I- FIT III)	89.5	2012-2021
LI Solar Calverton	23	2021
Riverhead Solar II	36	2022
Rooftop Solar	620	2022
Community Solar Program (FIT V)	21.5	2022
Offshore Wind (`2,300 MW)		
South Fork Wind Farm	130	2023
Sunrise Wind	880	2024
Empire Wind 2	1,260	2026
Energy Storage (400 MW)		
East Hampton & Montauk Storage	10	2018 & 2019
TBD	175	2025
TBD	175	2030
Total	**3,512**	

Here are some of the initiatives LIPA is undertaking to stay on track with New York's climate goals:

Solar Energy

LIPA accounts for **36 percent of New York's distributed solar** projects, even though we are only 12.5 percent of the State's electric load. In 2021, the LIPA Board of Trustees approved a 36 MW solar project called Riverhead 2 in Calverton, which, will be the **largest solar farm on Long Island**.

Electric Vehicles (EVs)

With New York phasing out the sale of most internal combustion engine (ICE) cars by 2035, the time is now to accelerate the transition to electric vehicles. LIPA offers residential customers several electric rate options that provide a **25 to 40 percent discount on electricity used to charge vehicles overnight**. LIPA also has a **$99 million plan to build out EV chargers by 2025**.

Heat Pumps

A typical residential customer with oil heat could **reduce their carbon footprint by 40 percent and save about $1,000 a year** on heating by using electric heat via a cold climate heat pump. Even better, as the electric grid transitions to cleaner fuels, **the carbon savings will approach 100 percent**. LIPA offers attractive rebates for homeowners converting to a heat pump, allowing the additional cost of the heat pump to pay for itself.

Wind Power

In 2017, the LIPA Board approved **the country's first contract for an offshore wind farm in federal waters** – the South Fork Wind Farm. Since then, two additional offshore wind projects have been awarded agreements with the state to connect to the Long Island electric grid – **providing over 2,300 MW of offshore wind by 2026**.

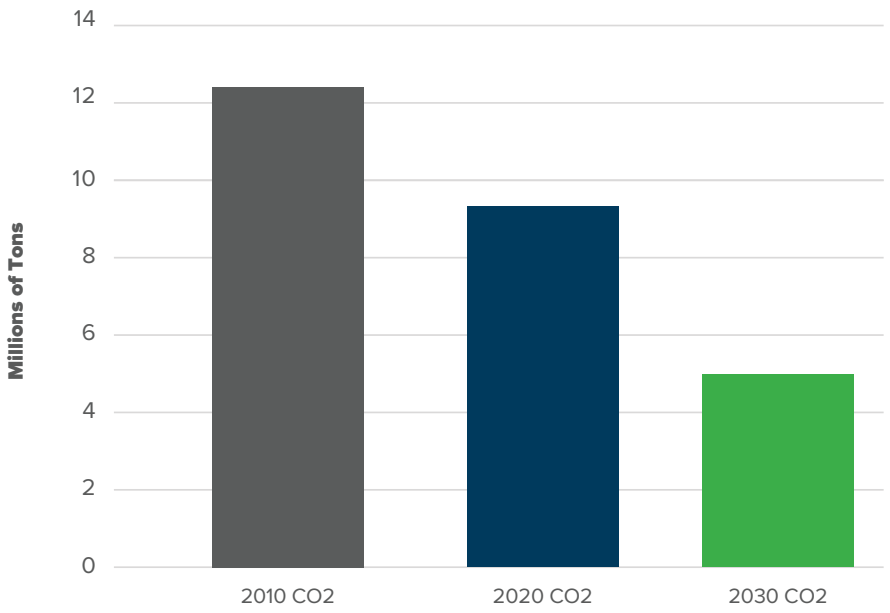
Battery Storage

In 2016, LIPA moved forward with the **largest battery storage project in the state** – a pair of 5 MW storage projects that each provide capacity for up to eight hours. These batteries store excess energy from renewables like wind and solar so homes and businesses can continue to be powered when needed. LIPA is now procuring an **additional 175 MW of battery storage** to be installed by 2025 to help balance electric loads on a grid with greater renewable energy.

Figure 10 shows the effect of planned resource additions on **LIPA's carbon emissions, which will decrease approximately 60 percent by 2030 from 2010 levels**.

Figure 10

Long Island Carbon Emissions to Decrease 60% by 2030



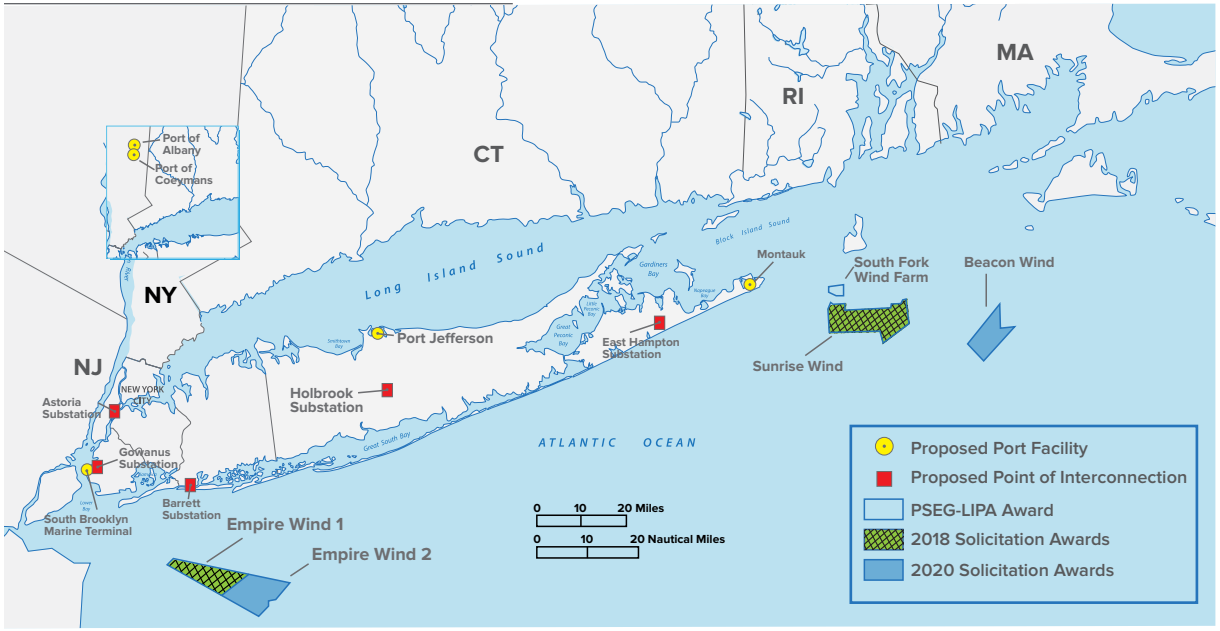
Offshore Wind and the Long Island Electric Grid

Offshore wind is poised to become a major source of clean energy for Long Island and New York State. As shown in Figure 11, with the New York State Energy Research and Development Authority (NYSERDA) acting as the utilities' joint procurement agent, **the State is well on its way to meeting the CLCPA mandate for 9,000 megawatts (MW) of offshore wind energy by 2035** – enough to power **6 million homes**.

Figure 11

Local Offshore Wind Procurements

Source: NYSERDA



Project Name	Owner	Size (MW)	Contract Off-Taker	Interconnect Utility	In-Service Date
South Fork Wind	Joint venture of Ørsted A/S and Eversource Energy	130 MW	LIPA	LIPA	2023
Empire Wind 1	Equinor Wind US LLC	816 MW	NYSERDA	ConEd	2024-5
Sunrise Wind	Joint venture of Ørsted A/S and Eversource Energy	880 MW	NYSERDA	LIPA	2024-5
Empire Wind 2	Equinor Wind US LLC	1,260 MW	NYSERDA	LIPA	2026-7
Beacon Wind	Equinor Wind US LLC	1,230 MW	NYSERDA	ConEd	2028

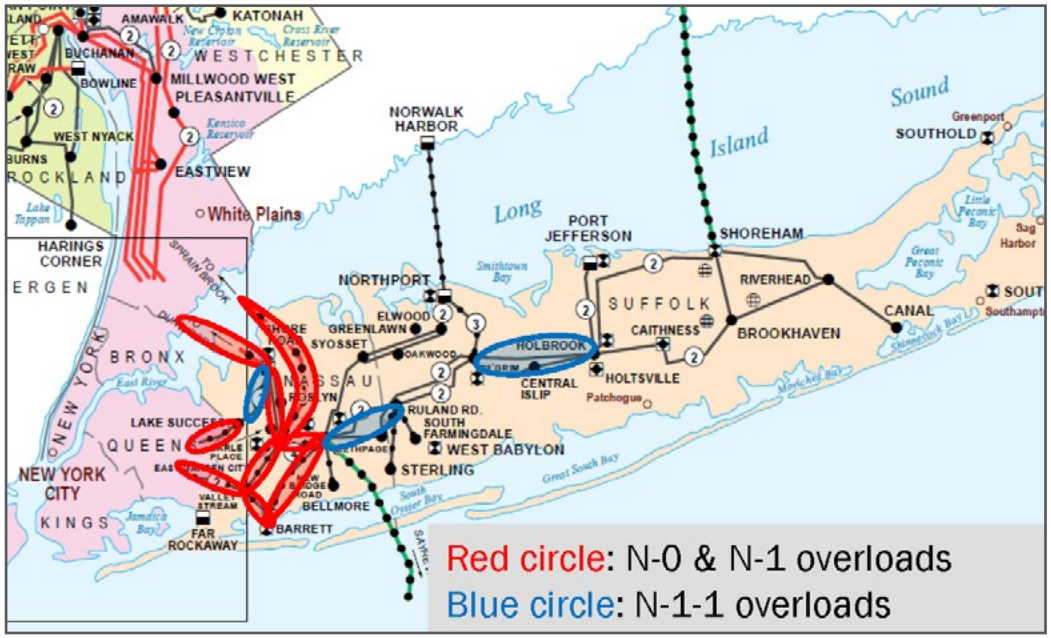
All this new development will change the way that power is produced for electric customers on Long Island and beyond. More than half of the power produced by the projects shown in Figure 11 will inject directly into the LIPA service territory, and the rest into the adjacent Consolidated Edison (ConEd) territory. This will allow the downstate region to accelerate the retirement of fossil-fired generation.

Changing the way New York generates and distributes power involves more than building new clean generation facilities. The transmission and distribution system that brings power to customers' homes was built around the existing energy sources. Now, there will be tens of thousands of megawatts of power coming from different sources, interconnecting at different locations on the grid. It will require investment in the transmission and distribution system to make this new grid work.

LIPA and ConEd conducted a study in 2020 for the interconnection of 9,000 MW of offshore wind in the regional grid. That work was confirmed in New York State's Power Grid Study released in January 2021 and by the New York Independent System Operator (NYISO) in their review earlier this year.

Integrating projected offshore wind and solar will require an estimated $1.5 billion of investment in the Long Island electric grid between now and 2030.

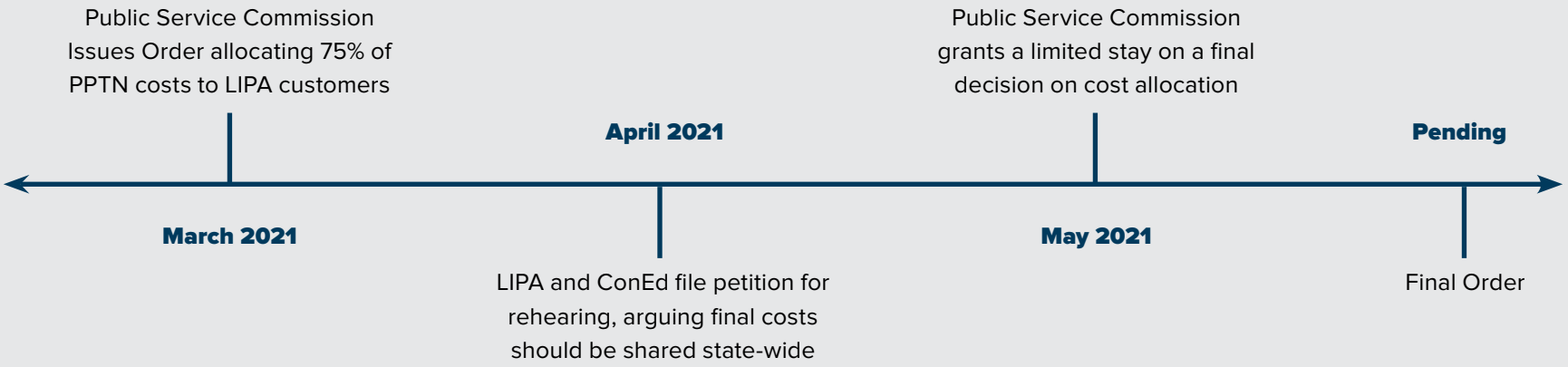
New York ISO Long Island Offshore Wind Expert Assessment



LIPA strongly believes that the costs for the build out of the transmission and distribution system to meet CLCPA goals should be shared by electric consumers statewide. At the LIPA Board's request, we are advocating this position at the state level with the support of many Long Island stakeholders, as shown below. The amount of offshore wind to be built greatly exceeds what Long Island needs for its own energy needs. **Offshore wind is a major new clean energy source for all of New York, and so all state electric consumers should share in the cost to make the electric grid work.**

Cost For Public Policy Transmission Needs for Offshore Wind

LIPA strongly believes that the cost of transmission built to integrate offshore wind into the regional grid should be shared state-wide



LIPA's position is supported by many local and state elected officials and organizations

Association for a Better Long Island, Inc.

Long Island Federation of Labor AFL-CIO

IBEW 1049

Long Island Association

Nassau County Village Officials Association

Nassau County Legislature

New York State Assembly

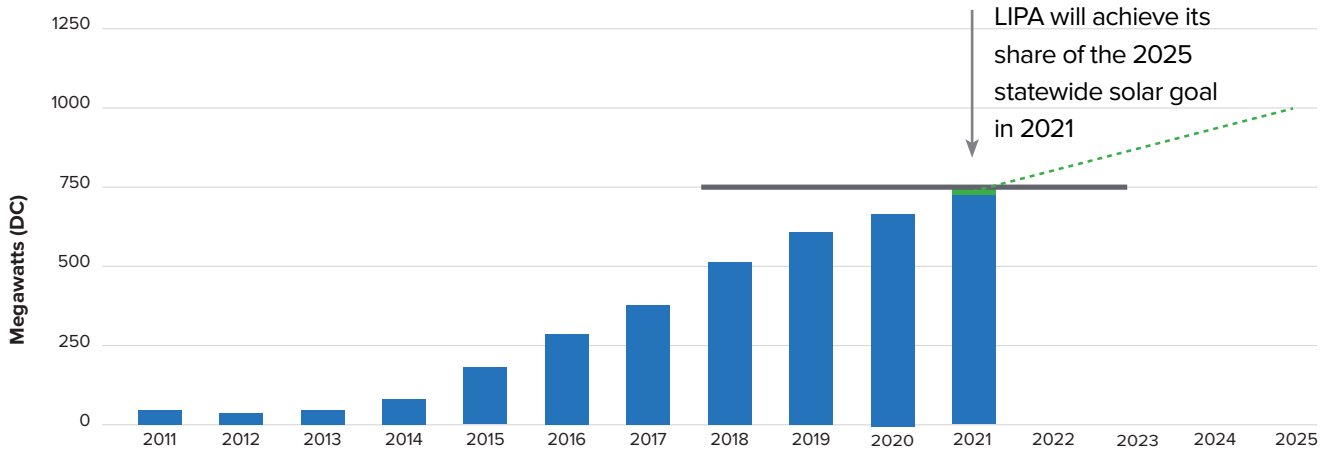
New York State Senate

Suffolk County Village Officials Association

Rooftop Solar and the Customer Benefit Contribution Charge

LIPA's long-standing support for rooftop solar has created the most vibrant solar market in New York. **That market continues to grow and soon we will exceed 750 MW of distributed solar on Long Island and the Rockaways**, as shown in Figure 12. **In fact, LIPA represents 36 percent of New York's distributed solar market, while being only 12.5 percent of the state's energy load – outperforming our share of statewide targets by 300 percent**.

Figure 12
Long Island and Rockaways Distributed Solar Capacity



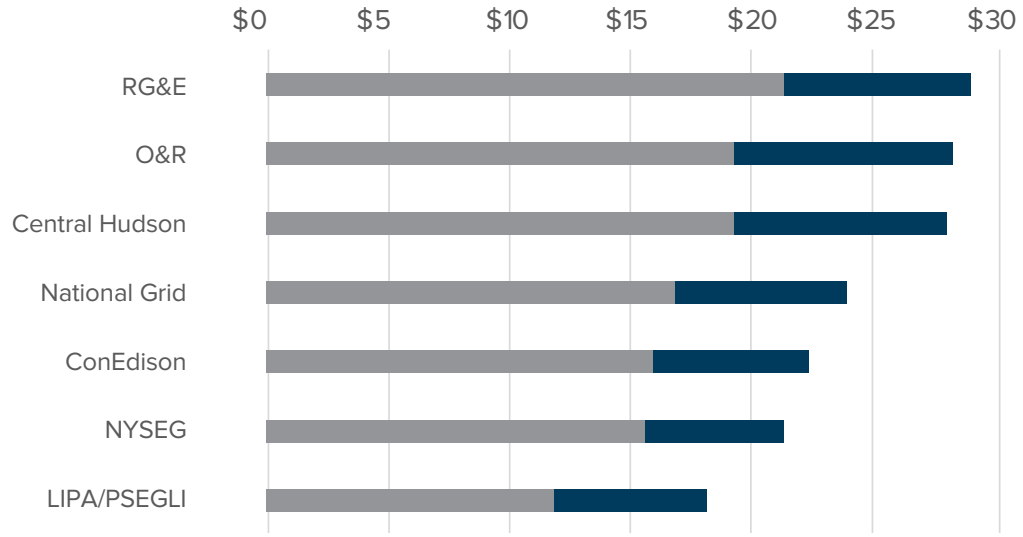
LIPA Leads New York in Distribution Solar

36%
LIPA Share of New York Solar Projects

12.5%
LIPA Share of New York Electric Grid

Figure 13

Monthly Fixed Charges for Rooftop Solar in New York



	LIPA/ PSEGLI	NYSEG	ConEdison	National Grid	Central Hudson	O&R	RG&E
Basic Service Charge	$13.20	$16.05	$16.50	$17.00	$19,50	$19.50	$21.70
Customer Benefit Charge	$5.34	$5.52	$6.54	$6.90	$7.98	$8.04	$6.12

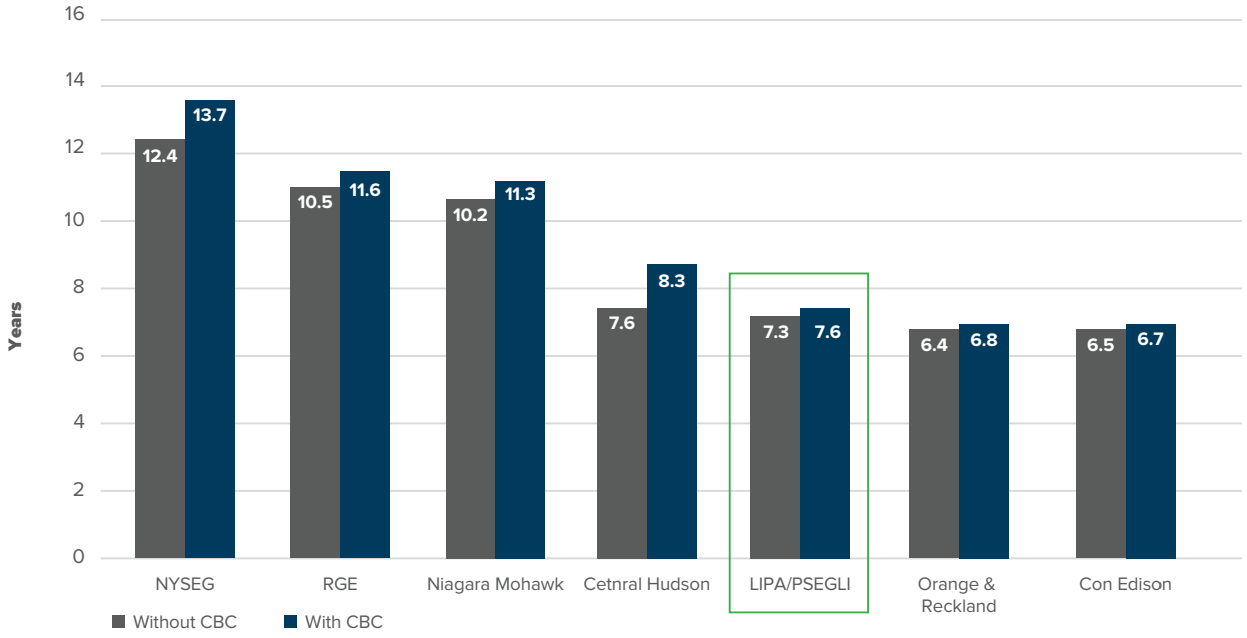
In July 2020, the New York State Public Service Commission (PSC) approved new compensation rules for distributed generation, creating a Customer Benefit Contribution (CBC) charge applicable to customers who enroll in net metering after January 1, 2022. **The CBC supports the cost of customer benefit programs like energy efficiency rebate programs, cold climate heat pumps rebates (to transition buildings from natural gas and fuel oil), electric vehicle charger incentives, grid-connected renewables, and low-income bill discount programs. LIPA spends over $147 million per year on these programs, and they benefit all customers**. Currently, a customer with onsite generation like rooftop solar contributes less than half of what other customers pay towards these initiatives to a cleaner, more equitable energy system.

The LIPA Board is considering adopting the CBC on Long Island and the Rockaways. If approved, the charge will be $0.89 per kW of solar. A customer that installs rooftop solar on an average-sized Long Island home would pay approximately $5.34 per month, as shown in Figure 13. **The LIPA CBC would be the lowest in New York, and LIPA also has the lowest monthly basic service charge of the major New York utilities at $13.20 per month.**

Most important, while all customers would contribute to the cost of **customer benefit programs with the CBC, the economics of rooftop solar for residential customers on Long Island would remain nearly unchanged**. As shown in Figure 14, **the LIPA service territory is among the most attractive places in New York to install rooftop solar, and the CBC adds only four months to the payback time for a typical customer**. With a payback period of 7.6 years, rooftop solar customers on Long Island have a rate of return of approximately 10 percent on their investment.

Figure 14

Simple Payback Period for an Average Residential Rooftop Solar Project



Note: Comparison includes NY Sun incentives where available

LIPA's 2022 Integrated Resource Plan

Every three to five years, LIPA conducts an Integrated Resource Plan (IRP) to study the future supply- and demand-side resources needed to power the Long Island grid. LIPA's 2022 IRP will chart a path towards a **zero-carbon electric grid by 2040**, while meeting electric customer needs **reliably and affordably**.

The IRP will ultimately result in an action plan that will identify the key activities and investments that LIPA will need to make to meet state goals.

Key objectives for LIPA's IRP include:

- Supporting and meeting CLCPA goals
- Retiring fossil-fueled generation
- Integrating substantial amounts of renewable energy resources
- Identifying the impacts of beneficial electrification
- Increasing the availability of clean energy technologies in disadvantaged communities

The current IRP begancn June 2021 and will be completed in the **third quarter of 2022**. Figure 15 shows LIPA's progress towards its share of certain statewide clean energy goals.

Figure 15

LIPA Clean Energy Goal Update

745 MW of **750 MW** of distributed solar by **2025**

745 MW of **1250 MW** of distributed solar by **2030**

12,400 of **30,000** of heat pumps by **2025**

27,000 of **180,000** light-duty EVs by **2025**

19.2 MW of **375 MW** of battery storage by **2030**

130 MW South Fork Wind plus **82 MW** of NYSERDA credits towards **1,125 MW** offshore wind by **2035**

Update on New York's Climate Action Council

The New York State Climate Action Council (CAC) is a 22-member committee established as part of the State's CLCPA to **chart the course to New York's bold clean energy and climate future**. LIPA's Chief Executive Officer, Thomas Falcone, is a member of the CAC and other LIPA staff participate in its working groups.

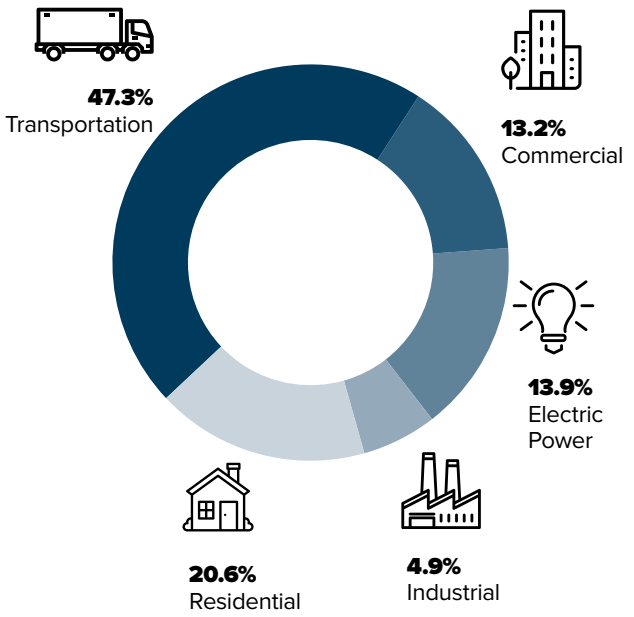
In October 2021, the CAC released the initial results of an "Integration Analysis" that lays out **several scenarios to achieve carbon neutrality across all sectors of the New York economy by mid-century**.

The electric grid is at the center of achieving the State's carbon reduction goals. As shown in Figure 16, most of New York's carbon emissions come from transportation and heating of residential and commercial buildings. In fact, only 13.9 percent of the State's emissions come from the electric grid.

Figure 16

New York State Current Estimated Green House Gas Emissions by Sector

Source: US Energy Information Agency



Here are three important takeaways from the CAC's work:

- **New York aims to achieve a zero-carbon electric grid and then to use that grid as the fuel of the future** for transportation and heating (think electric vehicles and cold-climate heat pumps).
- Electrifying transportation and heating, even with aggressive energy efficiency measures, will **more than double the amount of energy distributed through the electric grid by 2050.**
- Achieving a zero-carbon electric grid by 2040 will require **16,000 to 19,000 MW of offshore wind, 19,000 to 21,000 MW of 4-8 hour storage**, and **15,000 to 23,000 MW of zero-carbon controllable clean energy technologies** (e.g., green hydrogen that can be dispatched on demand to balance supply and demand on the electric grid).

In support of the State's climate goals, **LIPA has already started transitioning its power supply portfolio away from fossil fuels**, promoting beneficial electrification, and planning new investments in the transmission system to accommodate the large-scale expansion of offshore wind and other sources of clean energy.

Budget by the Numbers

Budget by the Numbers

The 2022 Budget consists of an Operating Budget of **$3.9 billion** and a Capital Budget of **$783 million**. The Operating Budget, shown in Figure 17, funds delivery and power supply costs, energy efficiency and distributed energy programs, taxes, and debt service. The Capital Budget, shown in Figure 18, funds long-life infrastructure investments such as transmission lines, substations, poles, and wires, as well as information technology, vehicle fleet, and other assets.

Figure 17

2022 Operating Budget ($ thousands)

Operating Revenues	3,850,840
Grant & Other Income	60,639
Total Revenues and Income	**3,911,479**
Power Supply Costs	1,655,303
Delivery Costs	837,789
PILOTs, Taxes & Fees	568,391
Interest Payments	369,547
Debt Reduction & OPEB	480,449
Operating Budget	**3,911,479**
Fixed Obligation Coverage	
LIPA Debt Plus Leases	1.40x
LIPA & UDSA Debt Plus Leases	1.26x

Figure 18

2022 Capital Budget ($ thousands)

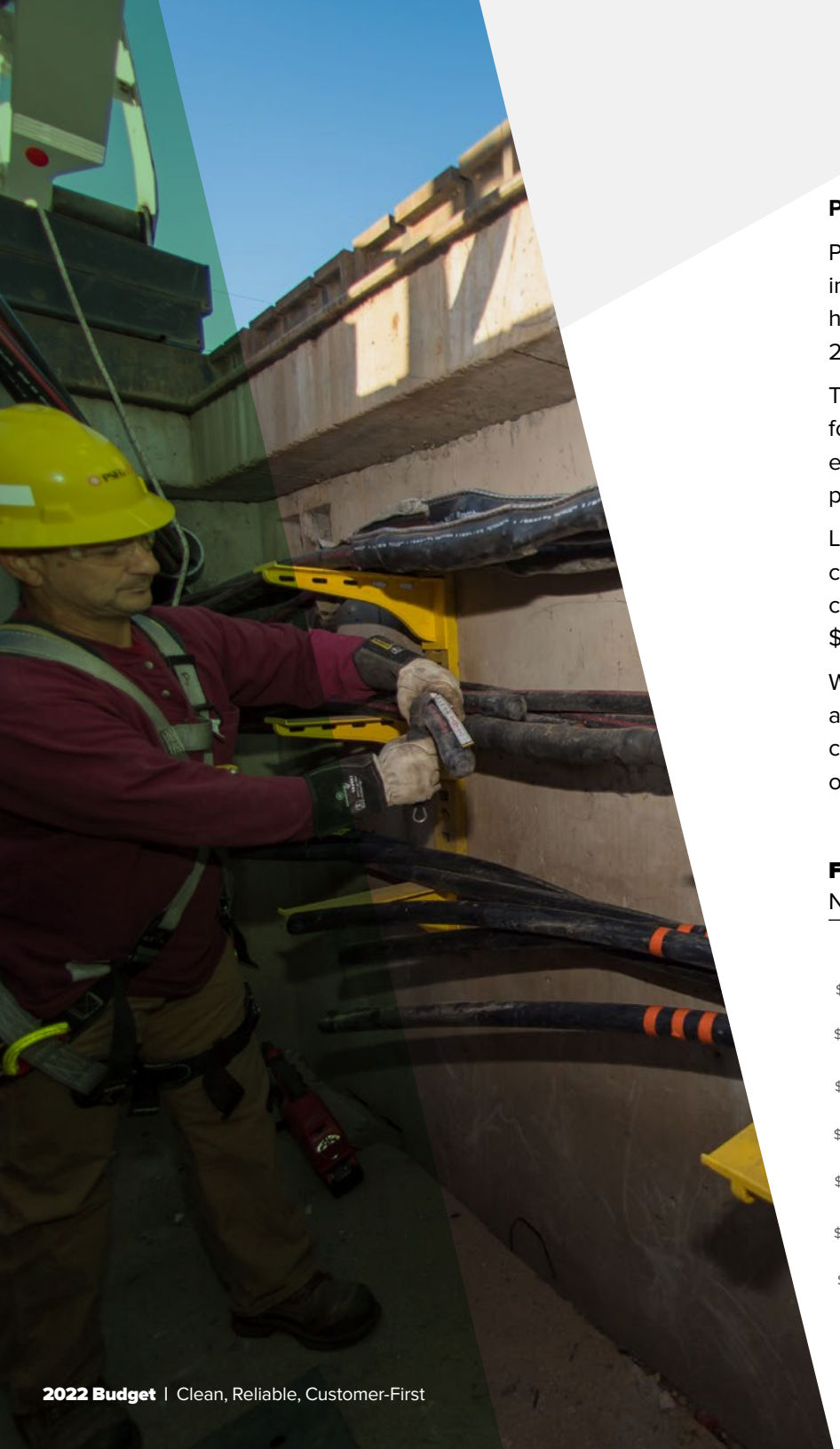
Capital Projects	710,088
Storm Hardening	72,690
Capital Budget	**782,778**
Funding from Operating Budget	223,610
FEMA Storm Hardening Grant	2,421
Debt Issued to Fund Projects	556,747
Funding Sources	**782,778**
Percent of Capital Projects Funded from Debt	**71%**

Changes in the Operating Budget

The 2022 Operating Budget includes Operating Revenues of $3.9 billion, an increase of $188.8 million from the 2021 Budget. Actual Operating Revenues are projected to decline $132.1 million, as Operating Revenues came in above budget in 2021 due to higher Power Supply and storm restoration costs. Changes are shown in Figure 19 and described below.

Figure 19

2022 Operating Revenue from Customers



Power Supply

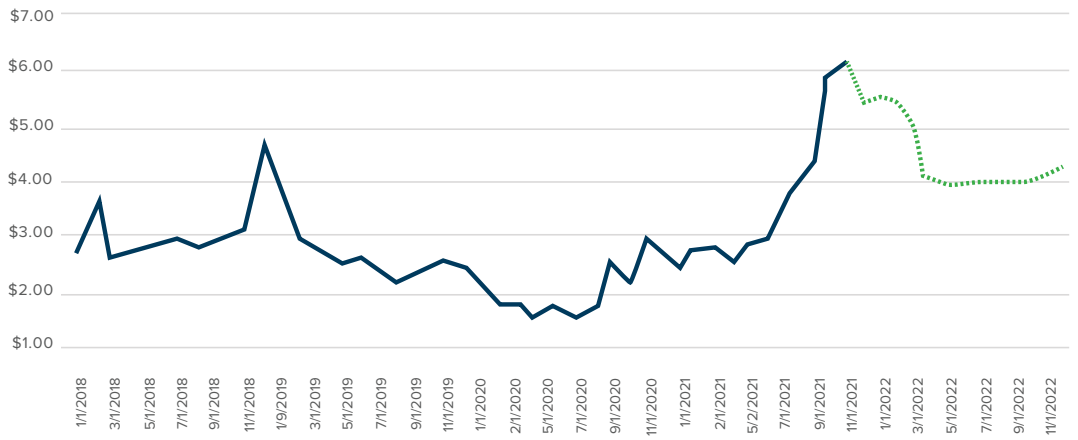
Power Supply, the cost to purchase or generate electricity for customers, is forecast to increase by $253.1 million for 2022 compared to the 2021 Budget, driven primarily by higher commodity costs. However, only net costs of $103.1 million are included in the 2022 Budget due to offsets from LIPA's energy commodity hedging program.

The wholesale market price of natural gas has increased dramatically in 2021 and forward prices (i.e., the price LIPA could buy natural gas for delivery in 2022) remain elevated, as shown in Figure 20. LIPA budgets for commodity costs at their current prices each year.

LIPA maintains a commodity hedging program to reduce the volatility of commodity costs experienced by customers in their monthly electric bills. Based on current commodity prices, existing hedges would offset approximately $150 million of the $253.1 million of higher commodity costs in 2022.

While budgeted Power Supply costs will increase, actual 2022 Power Supply costs are projected to be $148.2 million lower than 2021. Actual Power Supply costs in 2021 came in approximately $251 million above budget primarily due to transmission cable outages resulting in more run time for higher cost on-island generation.

Figure 20
Natural Gas Prices Have Increased Dramatically in 2021



Power Plant Property Tax Challenges

The Power Supply budget also reflects a $6.6 million decrease in property taxes on legacy power plants under contract to LIPA.

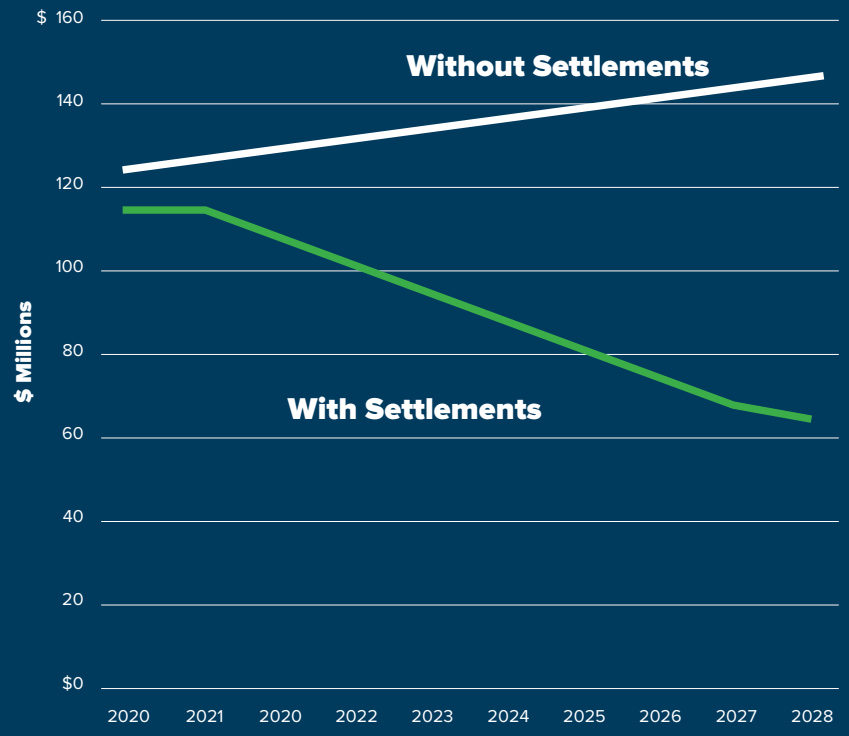
New York has aggressive targets to rapidly add new, cleaner sources of energy to the electric grid. Recognizing this reality, **LIPA is working to transition our most excessively taxed power plants to a more sustainable energy future**.

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**, as shown in Figure 21.

In 2019, LIPA reached a tentative settlement with Nassau County for the E.F. Barrett and Glenwood Landing power plants. The settlement was contingent on approval of a payment-in-lieu-of-tax (PILOT) agreement by the Nassau County Legislature, which unfortunately did not bring the issue to a vote. **LIPA is continuing our efforts to provide tax fairness to all customers** and will now continue this effort through the courts. Trial for the E.F. Barrett and Glenwood Landing tax cases will begin in early 2022.

Figure 21

Power Plant Tax Settlements Will Save Customers $364 Million Through 2028[1]



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

Debt Payments & Cash Contribution to Capital Projects:

Debt payments are budgeted to decline $10.1 million, while LIPA is increasing the level of operating revenue used to fund capital projects (i.e. "coverage") by $39.2 million, for a net increase in total debt payments and coverage of $29.1 million. This increase in coverage is in accordance with the Board's Policy on Debt and Access to the Credit Markets to reduce leverage to industry standard levels and thereby reduce cost to customers over time. The Board's policy has resulted in four upgrades to LIPA's credit ratings since 2013 and a recent change to a "positive outlook" by Fitch Ratings (see Fitch Outlook Upgrade). LIPA has used its stronger credit ratings and favorable market conditions to lower borrowing costs, thereby generating savings for customers. For example, **refinancing savings from lower interest rates in 2022 have reduced debt payments by more than the increase in coverage**. In 2022, LIPA will be using new authority to issue securitization bonds to take advantage of the current low interest rate environment to capture additional savings for customers (see UDSA Bill for Debt Savings).

Fitch Outlook Upgrade

In September 2021, Fitch Ratings revised its credit rating outlook on LIPA from "Stable" to "Positive." With this positive outlook, LIPA is on track for another credit rating upgrade within the next 12-to-24 months. This news demonstrates the value of the LIPA Board of Trustees' continued commitment to **providing our customers with lower cost through sound fiscal policy and debt reduction**.

In 2014, LIPA had the lowest credit ratings of any large public power authority and because of this, LIPA was paying higher interest rates and bank credit costs than other utilities. That's why in 2015 the LIPA Board adopted a plan to **reduce LIPA's leverage, cost of debt, and financing costs**. This plan has proven successful and has resulted in over **$600 million of savings for customers and four upgrades of LIPA's bond ratings** (see Figure 22). The Board revisited that plan in November 2020 and adopted a new Financial Policy Report with targets for the next five years.

While there is still more work to do, this news demonstrates we are on the right financial path.

Figure 22

LIPA Continues to Receive Credit Rating Upgrades

	2013 Ratings (Outlook)	2021 Ratings (Outlook)
Moody's Investors Service	Baa1 (Negative)	A2 (Stable)
Standard and Poor's	A- (Negative)	A (Stable)
Fitch Ratings	A- (Negative)	A (Positive)

UDSA Bill for Debt Savings

In August 2021, New York's Governor signed a bill into law authorizing issuance of up to $8 billion of restructuring bonds by the Utility Debt Securitization Authority (UDSA). UDSA bonds are issued to finance LIPA debt at a lower interest rate, or to fund investment in the resiliency of LIPA's transmission and distribution system.

UDSA (rated triple-A) provides a **lower cost of financing than LIPA bonds**. UDSA financings have saved LIPA customers $492 million in present value interest savings to date and **several hundred million of additional savings are available at current interest rates with the passage of this bill**.

Capital funds from UDSA bond sales could be used to upgrade transmission and distribution infrastructure **including stronger utility poles, cross arms, wire, selective undergrouding, etc.**

Funds could also be used to **improve the resilience of the distribution system** through the purchase and installation of **new automated sectionalizing switches** that limit the impact of an outage on an electric circuit.

LIPA has been expanding the use of **sensors and smart meters** to **speed outage detection and restoration**.

Contractual Cost Increases and Other Adjustments

The Operating Budget increases by $13.8 million or 2 percent to reflect contractural (non-wage) cost increases.

Enhanced Vegetation Management

Among the recommendations adopted by the LIPA Board after Tropical Storm Isaias was a re-evaluation of vegetation management practices. That review led to an expansion of vegetation management by $14.9 million for 2022, including an expanded Hazard Tree Removal Program targeting 12,000 trees (up from 3,000 today); utilizing intelligence and analytics regarding species, growth rate, and location to limit vegetation-caused outages; and executing a new “Trim to Sky” protocol on circuits to the first protective device on each circuit. Each of these initiatives is reflected in PSEG Long Island’s 2022 performance metrics.

Wages

PSEG Long Island’s contractual wage increases are forecast at $8.9 million or three percent in 2022.

Performance Metric-Based Initiatives

The LIPA Board adopted 167 recommendations to improve management, emergency management, and information technology, among other areas, after Tropical Storm Isaias. Several of these recommendations result in new budget requirements in either the Operating or Capital Budget. In addition to the Vegetation Management and IT System Enhancements, separately described, other performance metric-based initiatives for 2022 are budgeted at $7.6 million, including investments to improve: management of assets, procurement and financial oversight designed to tighten controls and reduce cost; and expanded customer communication.

IT Investments

Among the recommendations adopted by the LIPA Board after Tropical Storm Isaias were requirements to thoroughly exercise Disaster Recovery and Business Continuity Plans for all critical systems/processes, improve system Implementation performance for IT projects, and separate LIPA IT systems from PSEG New Jersey systems. These initiatives result in a $6.9 million increase to the 2022 Operating Budget. Each of these initiatives is reflected in PSEG Long Island’s 2022 performance metrics.

Storm Budget

LIPA's storm budget funds the preparation, response, and repairs necessary to restore service after storms. The 2022 storm budget of $76.3 million reflects an increase of $6.3 million over the prior year. As shown in Figure 25, storm restoration costs continue to be above historical levels. These costs are reconciled to actuals each year through the Delivery Service Adjustment (DSA) to customer bills. This $6.3 million increase in the storm budget is to ensure LIPA budgets for typical costs each year, knowing that this cost is particularly volatile based on weather.

Utility 2.0

Utility 2.0 funding supports programs designed to promote energy efficiency and beneficial electrification. The Utility 2.0 budget is based on an annual filing made by PSEG Long Island with LIPA and the DPS in June of each year. The budget is projected to increase by $1.2 million versus the prior year.

Transmission and Distribution System Property Taxes

LIPA's transmission and distribution system is subject to payments-in-lieu-of-taxes from local municipalities. LIPA customers pay the costs of these property-based taxes. The LIPA Reform Act capped increases in these taxes at two percent per year to reduce the burden on customers of past runaway increases. 2022 property taxes are budgeted to increase by $1.1 million or less than one percent.

Productivity Initiatives

PSEG Long Island is reducing operating expenses by $2.4 million through efficiencies.

Uncollectible Expense

LIPA is budgeting a $1.6 million decrease in the uncollectible expense (i.e., write-offs of customer bills) compared to the 2021 budget. Still, the 2022 Budget, at $28.8 million, remains elevated as compared to pre-COVID-19 pandemic years where the average level of uncollectible expense was approximately $18 million. The budgeted level of uncollectible expense will be reconciled to actuals through the Delivery Service Adjustment in 2023.

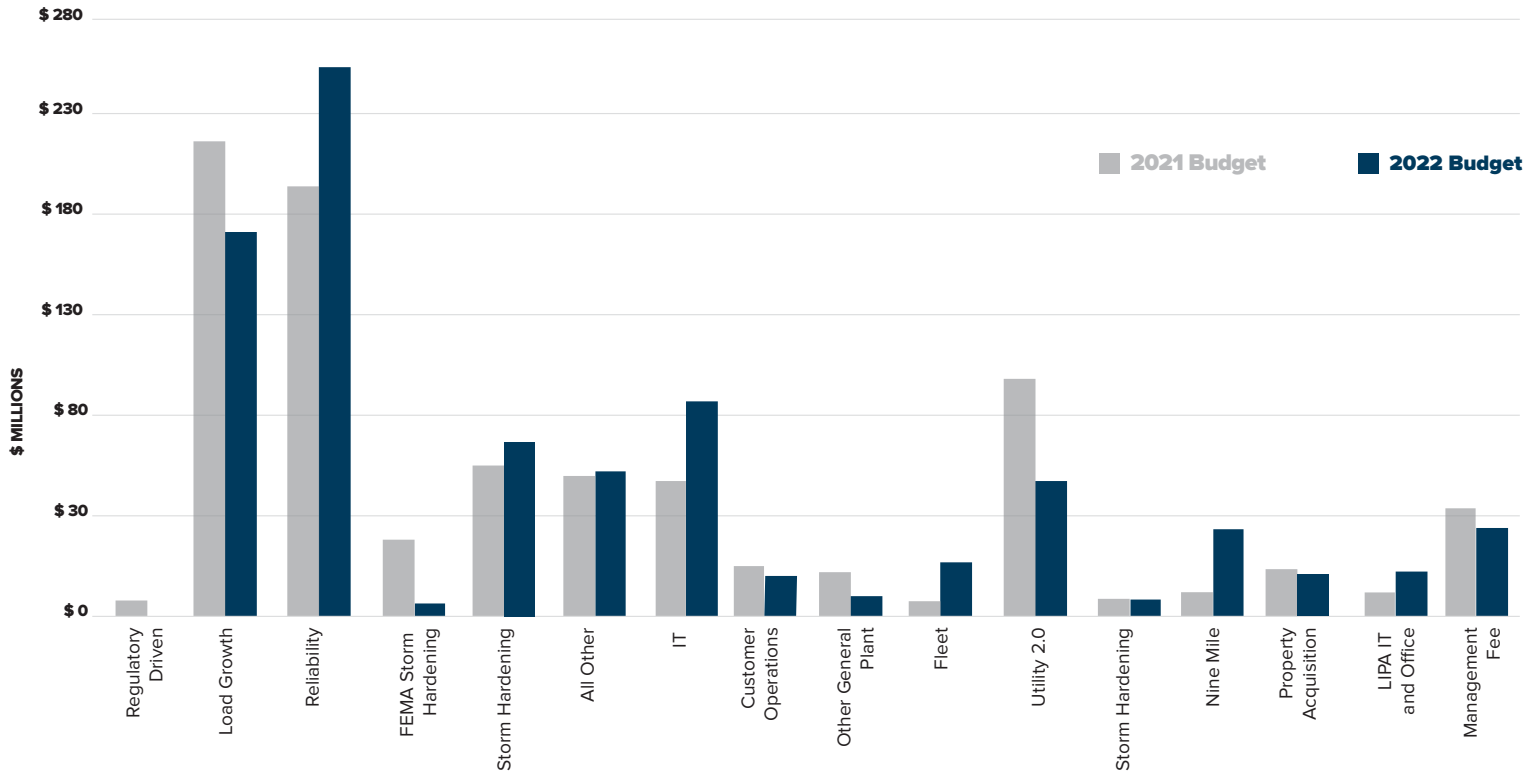
Changes in the Capital Budget

Figure 23 shows the $783 million 2022 Capital Budget as compared to the $768 million 2021 Budget. **The Capital Budget is increasing by $15 million from the prior year**. The most significant changes are a $56 million increase for reliability investments, a $32 million increase for IT related projects offset by a decrease of $56 million for Utility 2.0, which is due to the substantial completion of the smart meter project in 2021 and a decrease of $36 million for load growth-related projects.

The LIPA Board continues to invest towards a goal of providing reliability within the top 10% of electric utilities. The Board also continues substantial funding towards improving system resiliency. **The 2022 Budget includes $70 million of storm hardening investment**. In addition, there are several new initiatives in 2022 that result from the recommendations adopted by the LIPA Board after Tropical Storm Isaias. These new initiatives will result in refined resiliency plans for 2023 and beyond (see **Making the Electric Grid More Resilient** on page 19). The work of building a reliable and resilient grid remains a steadfast LIPA Board priority.

Figure 23

Changes in Capital Budget



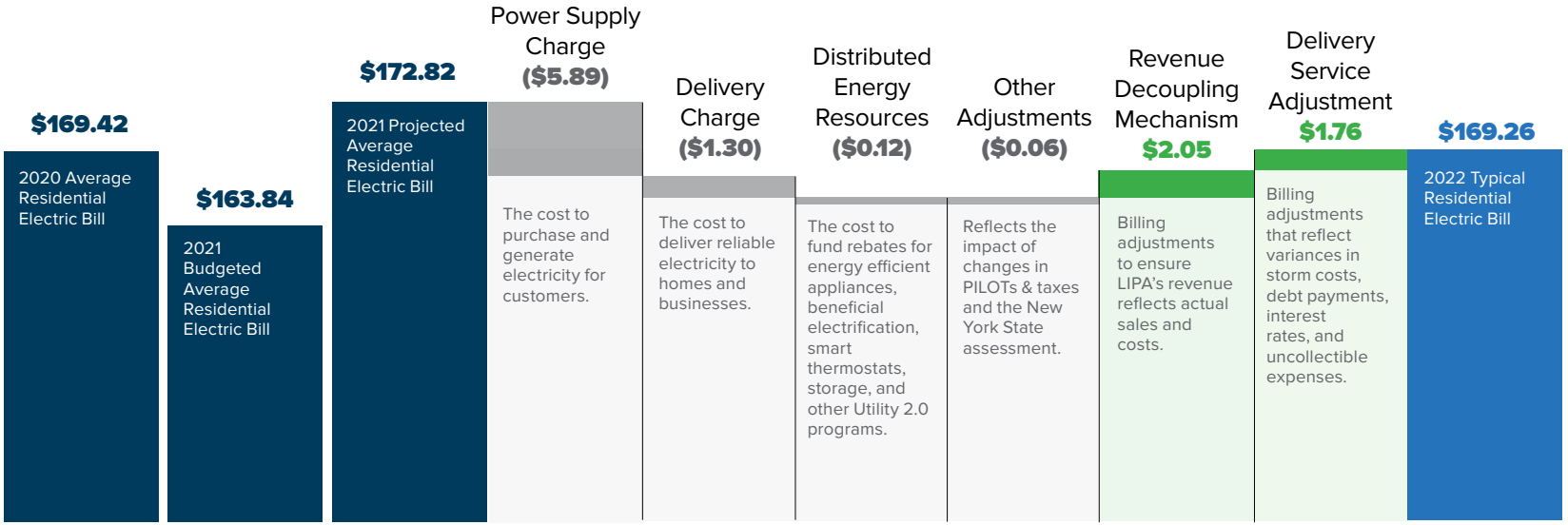
Electric Bills for 2022

Figure 24 shows the 2022 Budget in terms of the average residential customer bill on a weather-normalized basis (i.e. representing historically normal Long Island and Rockaways weather). **Electric bills are budgeted to decrease from $172.82 per month in 2021 to $169.26 in 2022. This compares to average residential electric bills of $169.42 per month in 2020.**

The electric bill is made up of several components, including the Delivery Charge, Power Supply Charge, Distributed Energy Resources (DER) Charge, Delivery Service Adjustment (DSA), and Revenue Decoupling Mechanism (RDM). The DSA and RDM are adjusted each year to reconcile costs and sales assumptions from the prior year for variations in sales, storm restoration costs, debt payments, interest rates, and uncollectible expenses. The major changes for the year are summarized below.

Figure 24

Average Residential Customer Electric Bill (Weather-Normalized)



Power Supply Charge

The largest change for residential customer electric bills will be a decline in the Power Supply Charge of $5.89 per month. This reflects two significant changes. First, while budgeted power supply costs are increasing $103 million from 2021 to 2022 due to higher commodity costs, actual power supply costs in 2021 came in approximately $251 million above budget. The actual costs were higher in 2021 primarily due to outages of transmission lines that connect Long Island to the regional electric grid, which is a source of lower cost power. Therefore, despite *budgeted* commodity cost increases, *actual* 2022 power supply costs are forecast to decline by $148 million. Additionally, as discussed below, use per customer is forecast to decline from 2021 levels as usage patterns at least partially return to pre COVID-19 patterns.

Revenue Decoupling Mechanism

The second biggest change for 2022 is a reduction in the RDM bill credit to customers by $2.05 per month. The RDM reconciles budgeted sales to actual sales in each customer class in the following year (i.e. if residential sales come in above budget due to weather or usage patterns, the excess revenue is credited to customers in the following year). As shown in Figure 27, use per customer has come in much higher than budget in both 2020 and 2021 due to COVID-19. However, the 2021 excess of actuals over budget was less than in 2020. As a result, **the $5 per month RDM bill credit to customers in 2021 (based on 2020 above budget sales) will decline to $3 per month in 2022 (based on 2021 above budget sales). The decline in the bill credit results in an increase to customer bills of $2.05 per month.**

Delivery Service Adjustment

The DSA reconciles actual costs to budgeted levels for several cost categories that are largely out of LIPA's control. These costs include storms, debt payments, interest rates, and uncollectible expense. This results in customers only paying the actual costs incurred by LIPA for these cost categories. **The DSA is forecast to increase by $1.76 per month in 2021. Most of this increase is due to above budget storm costs**, with actual storm restoration expense forecast for 2021 at $147 million compared to a budget of $70 million. Tropical Storm Henri, which was forecast to directly land on Long Island as a category 1 hurricane in August 2021, did not materialize but represents $59 million of this overage (see Tropical Storm Henri).

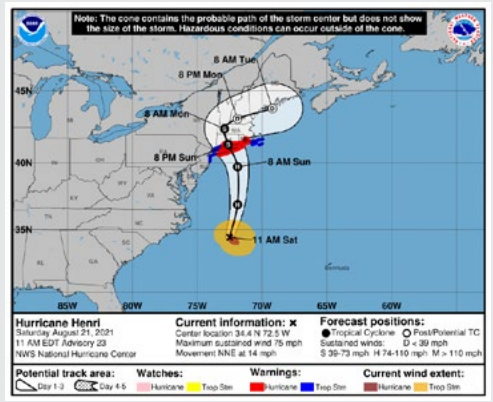
Delivery Charge

The Delivery Charge will increase by 2.2% for 2022; however, delivery costs will decline by $1.30 per month, with the predicted reduction in use per customer (see Figure 27) more than offsetting the price increase.

Hurricane Henri

In August 2021, PSEG Long Island prepared for a direct strike on Long Island from Hurricane Henri. Drawing comparisons to Sandy, the storm was predicted to make landfall with sustained winds of 75 miles per hour, gusts up to 100 miles per hour, and life-threatening storm surge of three to five feet. State and Federal Disaster Emergencies were declared for Nassau, Suffolk, Queens, and other downstate counties, signifying the imminent threat. **Such a storm would have caused hundreds of thousands of customers to lose power** and PSEG Long Island took all necessary steps to see that service would be restored as quickly as possible, including pre-staging thousands of electrical workers on Long Island before the storm at a cost of tens of millions of dollars.

Hurricane Henri Storm Cost	$59M
PSEGLI Crew Members + Contractors	777
Off-Island Crews Pre-Staged	2,730
Customer Outages	4,767



Source: US NOAA National Weather Service

On August 22, the path of the storm changed and had little effect on Long Island. Only 4,767 customers lost power.

While we may have dodged a bullet, the prudent preparations for Henri still cost $59 million.

Figure 25

LIPA's Storm Costs (in $ million)

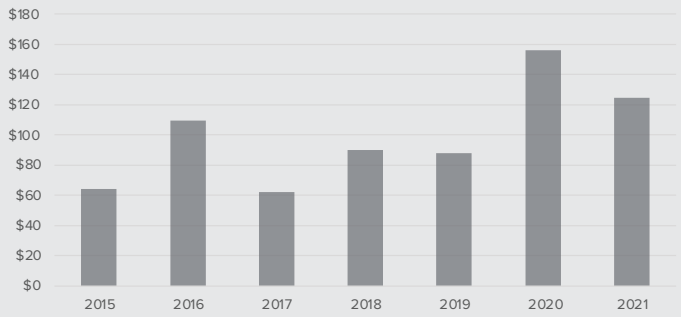
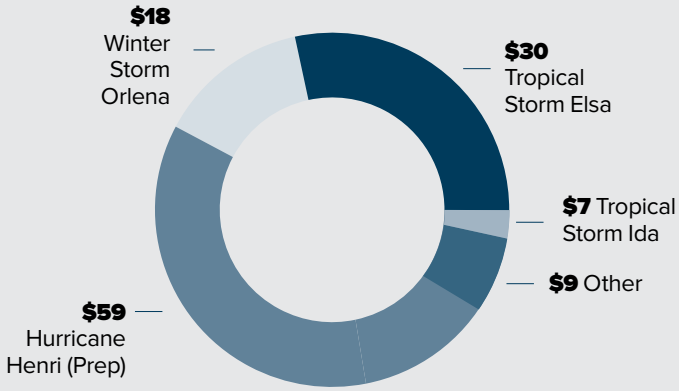


Figure 26

LIPA's Storm Costs 2021 (in $ million)

Net of actual/projected FEMA reimbursement

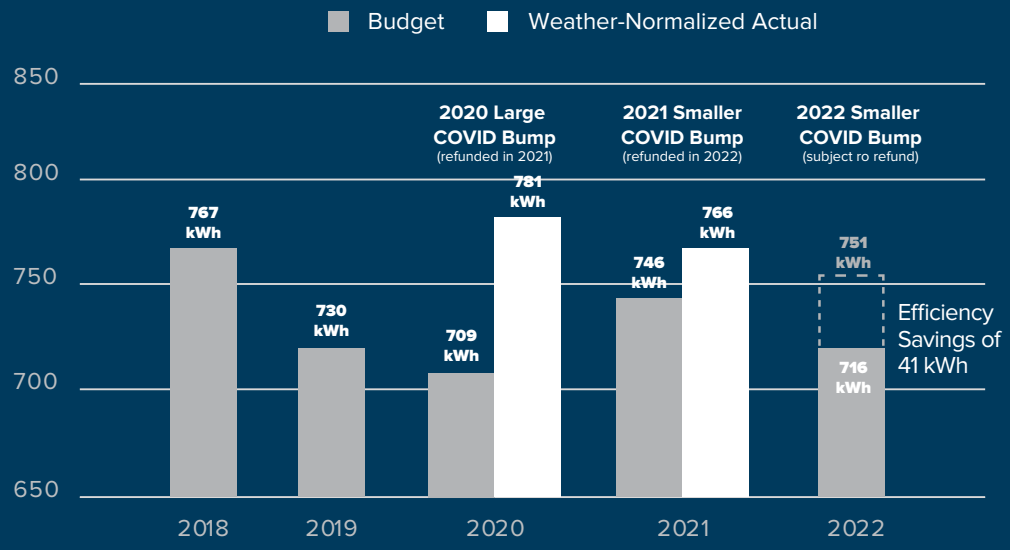


Residential Customer Usage in 2022

The greatest uncertainty in forecasting electric bills for 2022 is customer usage. Residential electric sales per customer have typically declined each year due to improvements in energy efficiency (for example, new lighting and appliances in customer homes). In fact LIPA spends about $90 million per year to reduce electric sales. However, **the COVID-19 pandemic resulted in a significant change to customer behavior**, with more customers working from home and many businesses operating with minimum in-person staff. Figure 27 shows weather-normalized residential use per customer for the last several years. The 2020 Budget forecast a decline in residential use per customer from 730 kWh to 709 kWh per month. Instead, **the COVID-19 pandemic, which began in March 2020, caused residential use per customer to increase to 781 kWh in 2020 (up 7.0% compared to 2019 budgeted levels).** The 2021 Budget forecast some return to normalcy with use per customer of 746 kWh per month. Actual monthly usage has come in at 766 kWh per month in 2021.

The 2022 Budget forecasts use per customer at 716 kWh per month (751 kWh before efficiency savings), reflecting a partial return to historical usage patterns and continued investment in energy efficiency programs. As in 2020 and 2021, should actual usage come in above budget, customers will receive a credit on 2023 electric bills for the difference.

Figure 27
Residential Use per Customer



Keeping Cost Low for Our Customers

The LIPA Board's Policy on customer affordability insists on electric rates that are:

- at the lowest fiscally and operationally sound levels;
- comparable to other regional utilities; and
- in line with the rate of inflation.

The only way to achieve these goals while continuing to invest in a clean, reliable electric grid is to operate lean. **Operating lean means achieving a balance between cost and service to get the most out of every dollar**. Figure 28 shows the savings from operating lean for the 2022 budget. These are the cumulative effects of many decisions and initiatives since 2014. **The $999 million of cost savings in 2022 equals 26 percent of electric bills, or about $44 per month for a typical residential customer**.

Figure 28

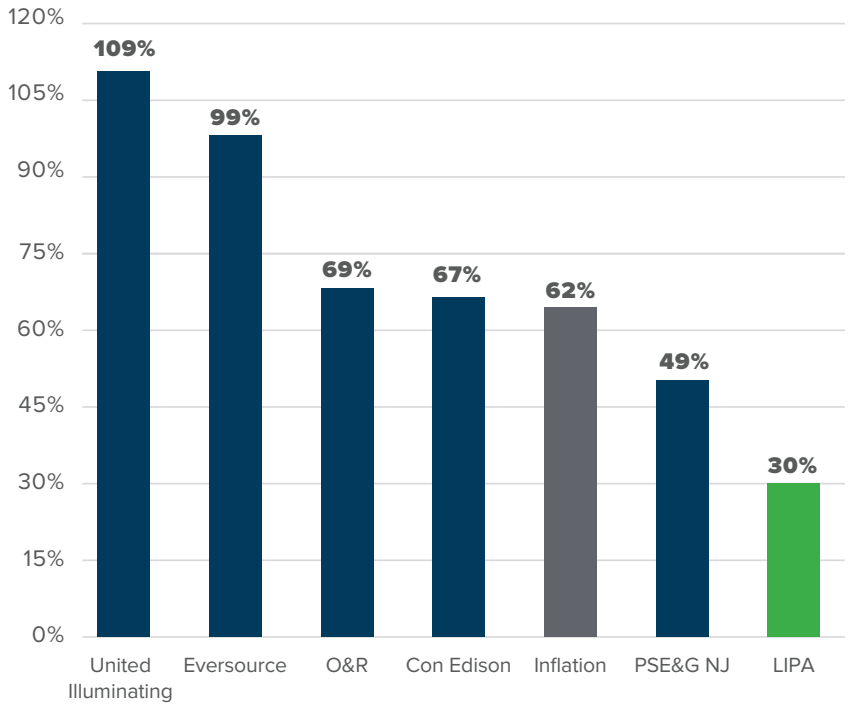
$999 Million Customer Savings in 2022 from Operating Lean

Millions	
Discontinued investments in combined cycle plants	$348
LIPA Reform Act 2% Tax Cap	$272
Commodity hedging (based on current prices)	$150
Renegotiating expiring power purchase agreements	$56
Refinancing existing debt	$49
Reduction to wholesale market and off-island transmission costs	$39
Investing in cost-effective energy efficiency	$29
Power plant property tax savings	$20
Smart Meter savings	$17
Operating savings and improved productivity	$11
Power plant pension and retirement savings	$8
Total	**$999**

Operating lean has resulted in system average rates that have increased at less than the rate of inflation and less than those of neighboring utilities, as shown in Figure 29.

Figure 29

LIPA's System Average Electric Rates Increase at Less than Inflation or Neighboring Utilities (1997 to 2020)



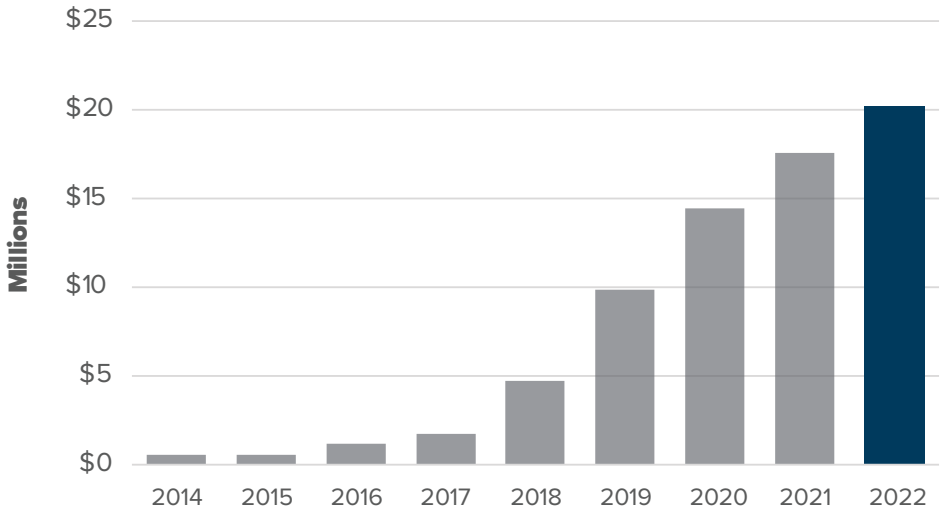
Increased Household Assistance for Customers Experiencing Economic Hardship

LIPA is committed to affordability, especially for our most vulnerable customers. The budget for discounts for low and moderate-income customers will increase to $20.2 million in 2022, as shown in Figure 30. LIPA is also working with stakeholders to design enhanced household assistance discounts for our most vulnerable customers, to be launched in 2022.

Low-income households who have fallen behind on their utility bills due to COVID-19 may also be eligible for a one-time benefit of up to $10,000 to be applied to past-due balances. This temporary benefit is funded by the American Rescue Plan Act of 2021, and customers are encouraged to contact PSEG Long Island customer service to find out if they are eligible.

Figure 30

Funding for Low-Income Customer Discounts



Clean Electric Heating and Energy Efficiency for Low-Income Households

To ensure that low- and moderate-income households can afford to transition from fossil-fuel powered heating and inefficient electric resistance heating to clean, electric heat pumps, **LIPA offers enhanced heat pump incentives for low-income households.** With Home Comfort Plus, funded at $4 million in 2022, low-income households can receive up to $14,400 to replace a gas furnace with a whole-house cold climate heat pump system, up to $15,200 to replace an oil furnace, and up to $16,000 to replace an electric resistance heating system.

LIPA also provides enhanced support for low-income households to make home efficiency improvements. Through the Residential Energy Affordability Program, funded at $5.4 million in 2022, households can receive personalized energy audits and free or discounted energy efficient appliances.

Conclusion

The LIPA Board of Trustees is committed to providing an excellent utility for our customers. **The Board's standards are extremely high** – a utility that provides top 25 percent customer satisfaction, top ten percent reliability, a zero-carbon electric grid by 2040, and electric rates at the lowest possible cost.

> *"Perfection is not attainable, but if we chase perfection we can catch excellence."*
> – Vince Lombardi

The last 16 months have been arduous for both LIPA and PSEG Long Island. The new reformed contract with PSEG Long Island sets forth a new chapter in the energy history of Long Island and the Rockaways. **This Budget funds the Board's priorities and advances us towards the clean, reliable, and customer-first utility our customers deserve.**

We are not perfect. But, like Vince Lombardi, we are going to chase perfection.

Thank you to all the employees of LIPA and PSEG Long Island for the hard work that they do daily on behalf of our customers.

Thomas Falcone
Chief Executive Office

December 15, 2021

Section Two

2022 Budget

Long Island Power Authority
2022 Proposed and 2023 Projected Operating and Capital Budgets

Revenue Requirements

LIPA's annual revenue requirements are budgeted to increase from $3.7 billion in 2021 to $3.9 billion in 2022. Increases in power supply charges and operating costs are the primary drivers of the increase. 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.

Revenue Requirements
(Thousands of Dollars)

Description		2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
Operating and Managed Expenses								
PSEG Long Island Operating and Managed Expenses	(a)	$ 1,023,536	$ 743,661	$ 810,990	$ 791,635	$ 47,974	$ 781,804	$ (9,831)
PILOTs - Property-Based Taxes		295,534	302,802	297,879	303,929	1,127	309,844	5,915
PILOTs - Revenue-Based Taxes		37,504	36,694	38,474	40,549	3,855	42,425	1,876
LIPA Operating Expenses		79,404	90,475	89,308	91,874	1,399	97,138	5,263
Total Operating and Managed Expenses		**1,435,978**	**1,173,632**	**1,236,651**	**1,227,987**	**54,355**	**1,231,211**	**3,223**
Cash Adjustments								
Other Interest Costs		30,797	29,003	37,972	33,459	4,455	33,596	138
Suffolk Property Tax Settlement (Principal)		(27,715)	(29,100)	(31,059)	(31,881)	(2,780)	(34,818)	(2,938)
Visual Benefits Assessment (Principal)		(1,242)	(581)	(1,019)	(837)	(256)	(838)	(1)
PSEG Long Island OPEB Expenses		(46,837)	(51,522)	(46,413)	(46,460)	5,061	(19,250)	27,210
Total Cash Adjustments		**(44,997)**	**(52,199)**	**(40,519)**	**(45,720)**	**6,480**	**(21,311)**	**24,409**
Other Income								
Other Income and Deductions		73,309	35,704	59,033	37,447	1,743	31,424	(6,023)
Grant Income		44,687	23,470	23,507	23,192	(278)	23,098	(94)
Total Other Income		**117,997**	**59,174**	**82,540**	**60,639**	**1,466**	**54,522**	**(6,117)**
Debt Service								
UDSA Debt Service		319,029	367,388	367,388	357,548	(9,841)	402,930	45,383
LIPA Debt Service		255,145	238,280	237,872	235,344	(2,936)	244,101	8,757
Coverage		269,616	217,910	236,574	257,104	39,194	258,635	1,531
Total Debt Service		**843,790**	**823,578**	**841,834**	**849,996**	**26,417**	**905,666**	**55,671**
Power Supply Charge		1,813,110	1,776,149	2,027,427	1,879,216	103,067	1,873,345	(5,871)
Total Revenue Requirements		**$ 3,929,885**	**$ 3,661,987**	**$ 3,982,854**	**$ 3,850,840**	**$ 188,854**	**$ 3,934,389**	**$ 83,549**

Note: (a) PSEG Long Island 2021 Approved Operating and Managed Expenses have been increased by $6.0 million from $737.7 million to $743.7 million due to a budget amendment for Enhanced Vegetation Management and a new Low-to-Moderate Income Heat Pump Program.

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 $55.2 million in 2022 and $82.2 million in 2023. Further information on the components of Revenues and Expenses are included on supplemental pages herein.

The factors contributing to the projection of net income 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).

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

Description		2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
Revenues		**$ 3,929,885**	**$ 3,661,987**	**$ 3,982,854**	**$ 3,850,840**	**$ 188,854**	**$ 3,934,390**	**$ 83,549**
Power Supply Charge		1,813,110	1,776,149	2,027,427	1,879,216	103,067	1,873,345	(5,871)
Revenue Net of Power Supply Charge		**2,116,775**	**1,885,837**	**1,955,427**	**1,971,624**	**85,786**	**2,061,044**	**89,421**
PSEG Long Island Operating and Managed Expenses								
PSEG Long Island Operating Expenses	(a)	530,705	556,976	552,735	609,547	52,571	617,067	7,520
PSEG Long Island OPEB Expense	(b)	41,567	-	-	-	-	-	-
PSEG Long Island Managed Expenses		451,264	186,685	258,255	182,088	(4,597)	164,737	(17,351)
Utility Depreciation		248,657	256,145	247,325	289,157	33,013	334,982	45,825
Accelerated Depreciation of Conventional Meters		35,277	34,007	42,854	-	(34,007)	-	-
PILOTs - Revenue-Based Taxes		37,504	36,694	38,474	40,549	3,855	42,425	1,876
PILOTs - Property-Based Taxes		295,534	302,802	297,879	303,929	1,127	309,844	5,915
LIPA Operating Expenses		79,404	90,475	89,308	91,874	1,399	97,138	5,263
LIPA Depreciation and Amortization		137,044	137,489	137,489	138,199	710	138,759	560
Interest Expense		358,995	345,834	357,845	348,388	2,554	355,117	6,728
Total Expenses		**2,215,952**	**1,947,107**	**2,022,165**	**2,003,732**	**56,625**	**2,060,069**	**56,336**
Other Income and Deductions	(c)	**73,309**	**44,562**	**68,170**	**46,370**	**1,808**	**40,394**	**(5,976)**
Grant Income		**44,687**	**40,241**	**39,551**	**40,924**	**682**	**40,841**	**(83)**
Change in Net Position		**$ 18,820**	**$ 23,533**	**$ 40,983**	**$ 55,185**	**$ 31,652**	**$ 82,211**	**$ 27,026**

Note: (a) PSEG Long Island 2021 Approved Operating Expenses have been increased by $6.0 million from $551.0 million to $557.0 million due to a budget amendment for Enhanced Vegetation Management Program and a new Low-to-Moderate Income Heat Pump Program.

(b) Effective 2021, PSEG Long Island OPEB Expenses are reported under PSEG Long Island Managed Expenses.

(c) 2021 Approved Other Income and Deductions has been increased by $0.5 million from $44.1 million to $44.6 million due to a budget amendment for a new Low-to-Moderate Income Heat Pump Program.

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 2022 projects a 0.5% increase from the approved 2021 Budget. In particular, the continuing economic recovery from the COVID-19 pandemic is expected to result in growth for the commercial sector as employees return to the workplace but will be partially offset by decreased sales for the residential sector.

Sales and Revenues
(Thousands of Dollars)

Description		2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
Sales of Electricity (MWh)								
Residential Sales		9,567,815	9,159,371	9,652,355	8,830,020	(329,351)	8,327,487	(502,532)
Commercial Sales		8,521,867	8,379,397	8,711,880	8,793,650	414,253	8,795,280	1,630
Other Sales to Public Authorities/Street Lighting		490,796	519,540	484,284	519,540	-	519,540	-
Total Sales of Electricity (MWh)		**18,580,479**	**18,058,308**	**18,848,519**	**18,143,210**	**84,902**	**17,642,308**	**(500,903)**
Revenues by Sector								
Residential		$ 2,058,983	$ 1,978,392	$ 2,144,344	$ 2,050,925	$ 72,533	$ 2,090,926	$ 40,001
Commercial		1,568,795	1,628,188	1,715,094	1,802,673	174,486	1,834,484	31,811
Other Public Authorities/Street Lighting		60,464	65,229	61,055	67,798	2,569	68,836	1,038
ESCO Revenue	(a)	10,426	5,947	4,976	-	(5,947)	-	-
Other Regulatory Amortizations and Deferrals		214,188	(44,949)	39,930	(100,413)	(55,464)	(91,102)	9,311
Miscellaneous Revenues		17,030	29,180	17,456	29,857	677	31,245	1,388
Total Revenues		**$ 3,929,885**	**$ 3,661,987**	**$ 3,982,854**	**$ 3,850,840**	**$ 188,854**	**$ 3,934,390**	**$ 83,549**
Revenues by Component								
Delivery Charge (RDM Target)		$ 1,389,009	$ 1,431,928	$ 1,493,904	$ 1,509,154	$ 77,226	$ 1,577,113	$ 67,959
Power Supply Charge		1,844,879	1,776,149	1,962,101	1,879,216	103,067	1,873,345	(5,871)
T&D Property Tax	(b)	295,534	302,802	297,879	303,929	1,127	309,844	5,915
Energy Efficiency and Distributed Energy (DER)		69,442	61,313	64,223	60,813	(500)	79,981	19,168
New York State Assessment		9,971	10,937	10,477	11,719	782	12,308	589
Suffolk Property Tax Settlement		48,420	48,197	50,156	49,237	1,040	50,300	1,063
Visual Benefits Assessment (VBA)		1,210	1,003	1,260	1,049	47	1,019	(31)
Revenue Related PILOTS		37,504	36,694	38,474	40,549	3,855	42,425	1,876
RDM Collection/(Refund)		(20,962)	(28,751)	(31,404)	(11,108)	17,643	2,715	13,823
DSA Collection/(Refund)		23,661	37,484	38,399	76,838	39,354	45,196	(31,642)
Other Regulatory Amortizations and Deferrals		214,188	(44,949)	39,930	(100,413)	(55,464)	(91,102)	9,311
Miscellaneous Revenues		17,030	29,180	17,456	29,857	677	31,245	1,388
Total Revenues		**$ 3,929,885**	**$ 3,661,987**	**$ 3,982,854**	**$ 3,850,840**	**$ 188,854**	**$ 3,934,390**	**$ 83,549**

Note: (a) Beginning in 2022, modifications to the Long Island Choice program will discontinue the Bill Credit Adjustment (BCA) previously charged to ESCOs.
(b) T&D Property Tax is a component of Delivery Charge.

Power Supply Charge

Power supply charges are budgeted at $1.88 billion for 2022, an increase of $103.1 million as compared to the approved Budget for 2021. The increase is mainly attributable to higher projected market energy and commodity costs, which are driven by higher purchased power, gas and oil prices and a modest increase in projected energy sales. The increase is also driven by an increase in NYPA Transmission Adjustment Charges.

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

In addition to the costs for gas and oil consumed in the generation of electricity, power supply charges 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.

The budgeted 2022 power supply charges are projected to be $148.2 million lower than the projected 2021 power supply charges of $2.03 billion. The decrease is mainly attributable to higher gas and oil costs in 2021 driven by intertie outages and derates, resulting in an increase in on-island generation.

Description	Net Change	Cause
Purchased Power	$46.4M	Higher prices associated with market energy purchases as well as increase in NYPA Transmission Adjustment Charges (NTAC), partially offset by lower PJM charges.
Commodity (gas & oil)	$34.2M	Increase mainly due to higher gas and oil prices, partially offset by hedges.
Pass-through Property Taxes	($6.3M)	Projected decrease in PSA property taxes related to property tax settlements.
Renewables	$7.2M	Increase mainly due to higher purchases of Renewable Energy Credits (REC) which is partially offset by expiring Bear Swamp contract.
Regional Greenhouse Gas Initiative (RGGI)	$15.9M	Increase due to higher projected emission prices.
Zero Emissions Credits	$8.5M	Increase due to higher projected price of Zero Emission Credits.
Other	($2.4M)	Decrease mainly driven by lower Y49 cable costs.
Total	$103.1M	

Power Supply Charge
(Thousands of Dollars)

Description	2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
Capacity							
Capacity Charges	$ 381,908	$ 377,071	$ 394,822	$ 372,398	$ (4,672)	$ 368,309	$ (4,090)
National Grid (PSA)	247,886	258,263	269,376	262,390	4,127	266,185	3,795
Total Capacity	**629,795**	**635,334**	**664,197**	**634,788**	**(546)**	**634,494**	**(294)**
Purchased Power							
Purchased Power	335,638	445,816	450,306	492,227	46,411	469,878	(22,349)
Total Purchased Power	**335,638**	**445,816**	**450,306**	**492,227**	**46,411**	**469,878**	**(22,349)**
Commodity							
Natural Gas	290,845	176,725	307,486	195,672	18,947	180,580	(15,092)
Fuel Oil	40,829	20,475	88,178	35,775	15,300	36,145	370
Total Commodity	**331,674**	**197,200**	**395,665**	**231,447**	**34,247**	**216,724**	**(14,722)**
Renewables							
Renewable Power	116,195	98,836	100,621	106,033	7,197	145,714	39,681
Total Renewables	**116,195**	**98,836**	**100,621**	**106,033**	**7,197**	**145,714**	**39,681**
Other							
Transmission	39,755	29,842	25,691	25,434	(4,408)	20,105	(5,329)
Nine Mile Nuclear Fuel	39,286	36,914	36,314	38,135	1,221	40,046	1,911
Regional Greenhouse Gas Initiative (RGGI)	29,793	22,561	42,721	38,436	15,875	32,556	(5,881)
Zero Emissions Credits	50,222	50,867	62,337	59,386	8,519	63,808	4,422
Fuel and Power Supply Management Services	19,934	20,453	20,272	20,831	377	21,216	386
Other	6,286	8,105	6,379	8,587	482	9,641	1,054
Total Other	**185,277**	**168,742**	**193,714**	**190,808**	**22,066**	**187,371**	**(3,437)**
Pass Through Property Taxes							
National Grid (PSA)	203,309	218,430	211,484	211,846	(6,584)	206,889	(4,957)
Fast Track Units	6,912	6,945	6,983	7,174	230	7,382	208
Nine Mile	4,311	4,846	4,458	4,893	47	4,893	0
Total Pass Through Property Taxes	**214,531**	**230,221**	**222,924**	**223,914**	**(6,307)**	**219,164**	**(4,749)**
Total Power Supply Charge	**$ 1,813,110**	**$ 1,776,149**	**$ 2,027,427**	**$ 1,879,216**	**$ 103,067**	**$ 1,873,345**	**$ (5,871)**

Operating Expenses

Total Operating Expenses are budgeted at $883.5 million in 2022 and projected at $878.9 million in 2023.

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 variable 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. PSEG Long Island Operating Expenses for 2022 and 2023 include inflationary increase as well as costs related to initiatives to enhance customer satisfaction, system resiliency and reliability, and clean energy and energy efficiency for customers.

PSEG Long Island Managed Expenses include costs related to New York State assessments, uncollectible accounts, pensions and OPEB costs, and storm preparation and restoration. The 2022 budget for uncollectible accounts decreased from 2021 due to a favorable outlook in the economic recovery related to the COVID-19 pandemic, as well as the resumption of collection activities as a result of the expiration of the customer shut off moratorium. The budget for storm preparation and restoration costs increases to $76.3 million for 2022 and to $79.0 million for 2023 to align with the historical five-year average of storm expenses.

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.

Operating Expenses
(Thousands of Dollars)

Description		2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
PSEG Long Island Operating Expenses	(a)(b)	**$ 530,705**	**$ 556,976**	**$ 552,735**	**$ 609,547**	**$ 52,571**	**$ 617,067**	**$ 7,520**
PSEG Long Island Managed Expenses								
Uncollectible Accounts		29,164	30,362	31,519	28,760	(1,602)	27,113	(1,647)
Storm Restoration	(c)	389,330	70,000	146,453	76,276	6,276	79,000	2,724
NYS Assessment		9,971	10,937	10,477	11,719	782	12,308	589
Accretion of Asset Retirement Obligation		2,398	2,588	2,953	3,706	1,118	3,929	223
Pension (PSEG Operating Expenses)	(b)	19,566	24,304	22,885	18,407	(5,897)	15,440	(2,967)
OPEB (PSEG Operating Expenses)	(b)	41,567	48,307	43,845	42,993	(5,313)	26,721	(16,272)
Miscellaneous		835	188	123	227	39	227	-
Total PSEG Long Island Managed Expenses		**492,831**	**186,685**	**258,255**	**182,088**	**(4,597)**	**164,737**	**(17,351)**
Total PSEG Long Island Operating and Managed Expenses		**1,023,536**	**743,661**	**810,990**	**791,635**	**47,974**	**781,804**	**(9,831)**
LIPA Operating Expenses								
Management Fee (including Variable Compensation)		76,920	78,458	78,458	73,750	(4,708)	75,318	1,568
Capitalized Management Fee		(30,055)	(31,007)	(31,007)	(28,496)	2,511	(29,102)	(606)
LIPA Operating Costs		32,539	43,025	41,857	46,621	3,596	50,922	4,301
LIPA Operating Expenses		**79,404**	**90,475**	**89,308**	**91,874**	**1,399**	**97,138**	**5,263**
Total PSEG Long Island & LIPA Operating Expenses		**$ 1,102,940**	**$ 834,136**	**$ 900,298**	**$ 883,509**	**$ 49,373**	**$ 878,942**	**$ (4,567)**

Note: (a) PSEG Long Island 2021 Approved Operating Expenses have been increased by $6.0 million from $551.0 million to $557.0 million due to a budget amendment for Enhanced Vegetation Management and a new Low-to-Moderate Income Heat Pump Program.

(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 actuarial valuation changes and market and interest rate volatility on such expenses.

(c) Storm Restoration cost for 2020 is the full amount of $389.3 million and LIPA anticipates a FEMA grant for Tropical Storm Isaias of $231.6 million.

Depreciation and Amortization Expenses

Depreciation and Amortization Expenses are budgeted at $427.4 million in 2022 and projected at $473.7 million in 2023.

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 2022 reflects a decrease of $(1.0M) primarily driven by the completion of the accelerated depreciation of conventional meters in 2021. The projected increase in 2023 of $45.8M results from new capital spend adding to the depreciable asset base.

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 served LIPA's customers. These retirement benefit expenses are a contractual obligation of LIPA and are being amortized to align to the remaining life of the contract. See LIPA's audited financial statements for more information.

Depreciation and Amortization Expenses
(Thousands of Dollars)

Description	2020	2021		2022		2023	
	Actual	Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
PSEG Long Island Managed Utility Depreciation	$ 235,086	$ 237,509	$ 229,498	$ 269,455	$ 31,946	$ 315,267	$ 45,812
Accelerated Depreciation of Conventional Meters	35,277	34,007	42,854	-	(34,007)	-	-
Depreciation Expense Related to FEMA Capital Projects	13,571	18,635	17,827	19,702	1,067	19,714	13
Total PSEG Long Island Managed Utility Depreciation	**283,934**	**290,151**	**290,179**	**289,157**	**(994)**	**334,982**	**45,825**
LIPA Depreciation and Amortization							
Amortization of Acquisition Adjustment	111,375	111,375	111,375	111,375	-	111,375	-
Amortization of OPEB & Pension Deferrals	25,014	25,014	25,014	25,014	-	25,014	-
Depreciation - LIPA	655	1,100	1,100	1,810	710	2,370	560
Total LIPA Depreciation and Amortization	**137,044**	**137,489**	**137,489**	**138,199**	**710**	**138,759**	**560**
Total Depreciation and Amortization Expenses	**$ 420,978**	**$ 427,641**	**$ 427,668**	**$ 427,357**	**$ (284)**	**$ 473,741**	**$ 46,385**

Taxes, Payments-in-Lieu of Taxes and Assessments

Payments-In-Lieu of Taxes (PILOTs) and Assessments are budgeted at $711.0 million in 2022 and projected at $717.1 million in 2023.

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 $211.8 million in 2022 and projected at $206.9 million in 2023. 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 units, 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 $7.2 million in 2022.

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 $4.9 million in 2022.

The New York State Assessment recovers costs related to Department of Public Service oversight of LIPA and PSEG Long Island's operations. This cost is $11.7 million in 2022.

LIPA collects sales taxes on behalf of local municipalities. Those taxes are estimated at $130.7 million in 2022 and $133.1 million in 2023.

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

Description	2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
PILOTs - Revenue-Based Taxes	**$ 37,504**	**$ 36,694**	**$ 38,474**	**$ 40,549**	**$ 3,855**	**$ 42,425**	**$ 1,876**
PILOTs - Property-Based Taxes	**295,534**	**302,802**	**297,879**	**303,929**	**1,127**	**309,844**	**5,915**
Property Taxes in Power Supply Charge							
National Grid (PSA) Property Taxes	203,309	218,430	211,484	211,846	(6,584)	206,889	(4,957)
Fast Track Units	6,912	6,945	6,983	7,174	230	7,382	208
Nine Mile PILOTs	4,311	4,846	4,458	4,893	47	4,893	0
Total Property Taxes in Power Supply Charge	**214,531**	**230,221**	**222,924**	**223,914**	**(6,307)**	**219,164**	**(4,749)**
Other Taxes and Assessments							
New York State Assessment	9,971	10,937	10,477	11,719	782	12,308	589
New York State Office of Real Property Services	188	188	227	227	39	227	-
Total Other Taxes and Assessments	**10,158**	**11,125**	**10,704**	**11,945**	**821**	**12,534**	**589**
Total Taxes and Assessments Before Sales Taxes	**557,728**	**580,841**	**569,981**	**580,337**	**(505)**	**583,967**	**3,631**
Sales Taxes (a)	**119,398**	**120,840**	**127,217**	**130,656**	**9,815**	**133,083**	**2,427**
Total PILOTs, Sales, State and Local Taxes and Assessments	**$ 677,126**	**$ 701,682**	**$ 697,198**	**$ 710,992**	**$ 9,310**	**$ 717,050**	**$ 6,058**

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.

Other Income and Deductions

Other Income and Deductions are budgeted at $46.4 million for 2022 and projected at $40.4 million for 2023. The 2022 budget includes a settlement of $4.0 million from the Attorney General related to the new Low-to-Moderate Income Heat Pump Program. The decrease is based on lower earnings on investments due to 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.

Other Income and Deductions
(Thousands of Dollars)

Description		2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
Short-Term Investment Income		$ 10,440	$ 10,689	$ 2,025	$ 3,757	$ (6,932)	$ 3,757	$ -
Interest Income from:								
Suffolk Property Tax Settlement		20,706	19,097	19,097	17,357	(1,740)	15,482	(1,875)
Visual Benefits Assessment		(31)	422	242	212	(210)	180	(32)
OPEB Account		26,295	1,687	9,690	8,987	7,300	8,987	-
PSEG Long Island Funding Accounts		739	1,156	869	1,156	-	1,156	-
Miscellaneous Income and Deductions - LIPA	(a)(b)	4,080	553	24,703	4,075	3,522	75	(4,000)
Miscellaneous Income and Deductions - PSEG Long Island		3,340	2,101	2,408	1,904	(197)	1,788	(116)
Subtotal Other Income and Deductions		**$ 65,568**	**$ 35,704**	**$ 59,033**	**$ 37,447**	**$ 1,743**	**$ 31,424**	**$ (6,023)**
Nuclear Decommissioning Trust Fund		7,741	8,858	9,137	8,923	65	8,970	47
Total Other Income and Deductions		**$ 73,309**	**$ 44,562**	**$ 68,170**	**$ 46,370**	**$ 1,808**	**$ 40,394**	**$ (5,976)**

Note: (a) 2021 Approved Other Income and Deductions has been increased by $0.5 million from $44.1 million to $44.6 million due to a budget amendment for a new Low-to-Moderate Income Heat Pump Program.
(b) The Miscellaneous Income and Deduction - LIPA projected 2021 included the recognition of the non-cash gain recognized on the termination of the basis swaps coupled with favorable mark-to-market adjustments.

Grant Income

In 2022, 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, (ii) subsidy payments totaling $3.2 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 is being amortized to Grant Income in an amount equal to the depreciation expense incurred as a result of the storm hardening program. This amortization is estimated at $17.7 million in 2022 and in 2023.

Grant Income
(Thousands of Dollars)

Description	2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
Build America Bonds Subsidy - U.S. Treasury	$ 3,726	$ 3,470	$ 3,507	$ 3,192	$ (278)	$ 3,098	$ (94)
Efficiency & DER - RGGI Funding	25,000	20,000	20,000	20,000	-	20,000	-
Other Grant Income	3,747	-	-	-	-	-	-
Subtotal Grant Income	**32,474**	**23,470**	**23,507**	**23,192**	**(278)**	**23,098**	**(94)**
Amortization of Deferred FEMA Grant	**12,214**	**16,772**	**16,044**	**17,732**	**960**	**17,743**	**11**
Total Grant Income	**$ 44,687**	**$ 40,241**	**$ 39,551**	**$ 40,924**	**$ 682**	**$ 40,841**	**$ (83)**

Interest Expense

Interest expense is budgeted at $348.4 million in 2022 and projected at $355.1 million in 2023. 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.

Interest Expense
(Thousands of Dollars)

Description	2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
Accrued Interest Expense on Debt Securities	$ 369,797	$ 373,004	$ 366,132	$ 369,547	$ (3,457)	$ 380,140	$ 10,594
Amortization of Premium	(66,125)	(71,405)	(71,734)	(75,929)	(4,524)	(78,742)	(2,814)
Interest Expense on Debt Securities (Accrued)	**303,672**	**301,599**	**294,398**	**293,618**	**(7,981)**	**301,398**	**7,780**
Other Interest Expense							
Amortization of Deferred Debt Issuance Costs	2,905	2,724	2,703	2,470	(254)	2,312	(158)
Amortization of Deferred Defeasance Costs	25,651	15,912	23,839	20,279	4,367	19,080	(1,199)
Other Interest Amortizations	(6,988)	(6,990)	(6,173)	(5,836)	1,155	(5,896)	(60)
Bond Issuance Costs	2,958	3,586	5,105	4,398	812	4,626	228
Other Interest Amortizations (Accrued)	**24,527**	**15,232**	**25,475**	**21,312**	**6,080**	**20,122**	**(1,189)**
Interest Rate Swap Payments	23,372	23,011	30,684	26,478	3,467	26,478	-
Letter of Credit and Remarketing Fees	6,245	4,246	5,856	5,515	1,269	5,515	-
Interest on Customer Security Deposits	62	11	86	86	75	189	103
Bond Administration Costs and Bank Fees	1,118	1,735	1,346	1,379	(356)	1,414	34
Other Interest Costs (Cash)	**30,797**	**29,003**	**37,972**	**33,459**	**4,455**	**33,596**	**138**
Total Interest Expense	**$ 358,995**	**$ 345,834**	**$ 357,845**	**$ 348,388**	**$ 2,554**	**$ 355,117**	**$ 6,728**

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 (positive) (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 on a rolling average basis 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 lease. Since leases are a component in the Fixed Obligation Coverage Ratio, to ensure that the updated value of 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 remained at 1.35x in 2021 and is proposed to increase to 1.40x in 2022 to reduce borrowing pursuant to the Board's 2020 financial policy review.

LIPA has taken steps to minimize debt service costs in 2022 by refinancing and defeasing debt, generating significant saving for customers.

Debt Service Requirements
(Thousands of Dollars)

Description		2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
UDSA Debt Service								
UDSA Debt Service		$ 319,029	$ 367,388	$ 367,388	$ 357,548	$ (9,841)	$ 402,930	$ 45,383
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		319,029	367,388	367,388	357,548	(9,841)	402,930	45,383
LIPA Debt Service								
LIPA Debt Service on Fixed Rate Debt		234,017	217,172	219,826	226,831	9,660	233,633	6,801
LIPA Debt Service on Variable Rate Debt	(a)	21,128	21,108	18,047	8,513	(12,595)	10,468	1,956
Total LIPA Debt Service		255,145	238,280	237,872	235,344	(2,936)	244,101	8,757
Board Policy Target Coverage Ratio on LIPA Debt Service		1.35 x	1.35 x	1.35 x	1.40 x		1.40 x	
LIPA Debt Service Plus Coverage		344,446	321,678	319,988	329,482	7,804	341,742	12,260
LIPA Lease Obligations								
LIPA Lease Obligations		420,664	400,035	407,961	407,415	7,380	402,487	(4,928)
Board Policy Target Coverage Ratio on LIPA Lease Obligations		0.35 x	0.35 x	0.35 x	0.40 x		0.40 x	
LIPA Long-term Obligations Coverage		147,232	140,012	140,833	162,966	22,954	160,995	(1,971)
Revenue Net of Requirements								
Adjustment to Coverage Due to Revenue Net of Requirements	(b)		(5,500)	13,625	-	5,500	-	-
Total Debt Service and Coverage		$ 810,708	$ 823,578	$ 841,834	$ 849,996	$ 26,417	$ 905,666	$ 55,671
Total Projected Debt Service and Coverage								
Total Projected Debt Service		574,174	605,668	605,261	592,892	(12,776)	647,031	54,139
Total Coverage		269,616	217,910	236,574	257,104	39,194	258,635	1,531
Projected Coverage Ratio on LIPA Obligations		1.40 x	1.34 x	1.37 x	1.40 x		1.40 x	
Projected Coverage on LIPA & UDSA Obligations		1.27 x	1.22 x	1.23 x	1.26 x		1.25 x	

Note: (a) LIPA Debt Service on Variable Rate Debt is projected to decrease based on a lower outstanding balance of variable rate debt than assumed in the prior year.

(b) Adjustment to 2021 Coverage reflects the impacts of the approved budget amendments by $5.5 million for Enhanced Vegetation Management Program.

Capital Expenditures

Capital Expenditures are budgeted at $782.8 million in 2022 and are projected at $782.6 million in 2023.

Transmission and Distribution projects are prioritized using a Value and Risk Evaluation protocol. The projects will improve system reliability and resiliency, and meet load and regulatory requirements. The continuation of the Storm Hardening Distribution Circuit Program and the Multiple Customer Outage Program will continue to address customers with poor reliability.

Information Technology (IT) projects include continued investments in operations areas, outage management systems, and replacement of end of life technologies. In 2023, planned IT Capital Expenditures represent investments in business transformation and application upgrades in Customer Information and Billing, Finance, Human Resources, and Work and Asset Management areas.

Nine Mile Point 2 Capital Expenditures relates to LIPA's share of capital expenses for the NMP2 nuclear generating station.

The Percent of Capital Expenditures Funded from Debt will exceed LIPA's target of 64% in 2022 and 2023. LIPA projects the percentage of Capital Expenditures Funded from Debt will decrease steadily over the next few years, achieving the Board target by 2025. This is due to the need to increase Capital investments to meet Board priorities. LIPA is increasing investments in Transmission and Distribution Reliability by $55.9 million, Information Technology systems by $32.1 million, and Storm Hardening by $19.2 million in 2022. To mitigate the impact of the increased Capital spending, LIPA is increasing the Coverage Ratio from 1.35x to 1.40x, which results in an additional $39.2 million in operating revenue being generated to fund the Capital investments. LIPA will continue to monitor its debt financing as a percentage of Capital expenditures and adjust its financial policy, if warranted.

Capital Expenditures
(Thousands of Dollars)

Description		2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
Transmission and Distribution								
Regulatory Driven		$ 56,408	$ 6,000	$ (2,683)	$ -	$ (6,000)	$ -	$ -
Load Growth		215,648	214,349	182,449	178,268	(36,082)	171,680	(6,588)
Reliability		170,361	196,212	217,491	252,069	55,857	272,518	20,449
Storm Hardening	(a)	54,097	50,817	65,787	70,000	19,183	70,000	-
Economic, Salvage, Tools, Equipment & Other	(b)	50,692	54,973	42,030	60,229	5,256	69,182	8,953
Total Transmission and Distribution Projects		**547,207**	**522,351**	**505,074**	**560,566**	**38,215**	**583,380**	**22,814**
Other PSEG Long Island Capital Expenditures								
Information Technology		31,353	49,647	58,029	81,701	32,054	74,675	(7,026)
Customer Operations		25,225	17,282	13,572	10,683	(6,598)	12,410	1,726
Other General Plant		3,793	11,517	5,117	3,072	(8,445)	4,071	1,000
Fleet		8,708	9,719	293	15,974	6,255	22,550	6,576
Utility 2.0		70,674	95,739	70,875	40,013	(55,725)	29,957	(10,056)
Budget Amendment to carry over projects	(b)	-	(22,907)	-	-	22,907	-	-
Pending Project Authorization	(c)	-	-	-	(4,900)	(4,900)	-	4,900
Total PSEG Long Island Excluding FEMA		**686,960**	**683,348**	**652,960**	**707,110**	**23,762**	**727,043**	**19,933**
FEMA Storm Hardening	(a)	44,842	43,597	40,023	2,690	(40,907)	-	(2,690)
Storm Capitalization		21,503	4,468	2,217	4,755	287	5,043	287
Total PSEG Long Island Capital		**753,305**	**731,413**	**695,201**	**714,555**	**(16,858)**	**732,085**	**17,531**
Nine Mile Point 2		14,066	6,910	4,184	27,267	20,357	3,921	(23,346)
Property Acquisition and Development		-	12,000	-	11,000	(1,000)	5,000	(6,000)
LIPA - Other		2,751	6,500	6,500	11,850	5,350	12,443	593
Pending Project Authorization	(c)	-	-	-	4,900	4,900	-	(4,900)
Capital OPEB Adjustment	(d)	(17,715)	(19,711)	(19,355)	(15,290)	4,421	-	15,290
Capitalized Management Fee		30,055	31,007	31,007	28,496	(2,511)	29,102	606
Total Capital Expenditures		**$ 782,462**	**$ 768,119**	**$ 717,537**	**$ 782,778**	**$ 14,659**	**$ 782,551**	**$ (227)**
Funding for Capital Expenditures								
FEMA Contribution (90% of Project Costs)	(e)		$ 39,237	$ 36,021	$ 2,421	$ (36,817)	$ -	$ (2,421)
Coverage from Operating Revenue								
Total Coverage			217,910	236,574	257,104	39,194	258,635	1,531
Less Amount Projected for O&M OPEB Funding	(f)		(31,080)	(31,080)	(33,494)	(2,414)	(19,157)	14,337
Funding Required from New Debt			542,051	476,022	556,747	14,696	543,073	(13,675)
Total Funding for Capital Expenditures			**$ 768,119**	**$ 717,537**	**$ 782,778**	**$ 14,659**	**$ 782,551**	**$ (227)**

Note: (a) The Approved 2021 Storm Hardening budget has been reduced to reflect a transfer of $19.2 million to FEMA Storm Hardening for eligible work.
(b) The Approved 2021 Capital budget of $763.9M has been reduced to reflect (1) $22.9 million budget amendment carry over to 2022 and (2) $27.1 million increase for LIPA's budget amendment for the purchase of Garden City property in Economic, Salvage, Tools, Equipment & Other budget.
(c) Pending Project Authorization are budgeted resources held outside the PSEG Long Island Budget pending enhanced information.
(d) Non Cash cost of Other Post Employment Benefits (OPEB) included in capital expenses above.
(e) Amounts not yet reimbursed by FEMA; pending completion of individual projects.

Capital Expenditures
(Thousands of Dollars)

Description	2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
Percent of Capital Funded from Debt:							
LIPA Target		**64%**		**64%**		**64%**	
Projected Percent of Capital Funded from Debt		**71%**	**66%**	**71%**		**69%**	
Reconciliation of Utility 2.0							
Utility 2.0 2018 Filing	68,660	80,001	70,287	24,918	(55,083)	3,244	(21,674)
Utility 2.0 2019 Filing	2,014	1,906	414	113	(1,794)	978	865
Utility 2.0 2020 Filing	-	13,831	174	4,566	(9,265)	4,374	(192)
Utility 2.0 2021 Filing	-	-	-	10,417	10,417	16,361	5,944
New Program Funding	-	-	-	-	-	5,000	5,000
Total Utility 2.0	**$ 70,674**	**$ 95,739**	**$ 70,875**	**$ 40,013**	**$ (55,725)**	**$ 29,957**	**$ (10,056)**

Major Projects

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

Description	Justification	In Service Date	Cash Flow ($millions)				
			Project To Date Expenditures through 12/31/21	2022	2023	2024 and Beyond	Total Project Cost
Round Swamp Substation: Construct new 69/13kV substation	Load growth in Old Bethpage	2022	$ 18.3	$ 9.4	$ -	$ -	$ 27.7
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	$ 178.5	$ 10.2	$ -	$ -	$ 188.7
Far Rockaway: Install new 33 kV circuit to Arverne Substation	Load growth in Far Rockaway	2022	$ 7.9	$ 14.3	$ 8.9	$ -	$ 31.2
Rockaway Beach: Install new 33 kV circuit to Arverne Substation	Load growth in the Rockaway peninsula	2023	$ 6.8	$ 8.0	$ 11.3	$ 10.8	$ 36.9
East Garden City: Switchgear replacement	Replace aging switchgears for improved reliability in East Garden City	2024	$ 3.1	$ 16.6	$ 12.3	$ 17.0	$ 49.0
North Bellmore: Install 33 MVA bank, switchgear, and feeders	Reduce highly loaded feeders and banks at North Bellmore. Support single bank Roosevelt Substation and Greenfield Substation	2024	$ 0.4	$ 3.8	$ 16.5	$ 8.1	$ 28.8
Navy Rd: Construct new 23/13 kV substation	Load growth in Montauk	2023	$ 27.5	$ 2.3	$ 0.3	$ 0.6	$ 30.8
Massapequa: Establish new 69/13kV substation	Load growth in the town of Massapequa	2023	$ 7.7	$ 11.5	$ 13.8	$ -	$ 33.0
Flowerfield - Terryville: Install new 69 kV cable to Flowerfield	Part of NYISO Class Year 2017. Increase in renewable generation deliverability	2023	$ 2.0	$ 21.5	$ 29.0	$ -	$ 52.5
Belmont: Convert substation from 33 kV to 69 kV	Support continued expansion of the Belmont Arena complex	2024	$ -	$ 7.0	$ 30.0	$ 35.9	$ 72.9
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	2026	$ -	$ 10.9	$ 15.3	$ 78.2	$ 104.5
Fire Island Pines: Install new 23 kV circuit to Ocean Beach	Increase reliability to Fire Island	2024	$ 2.5	$ 1.1	$ 21.4	$ 21.2	$ 46.1
Smithtown: Storm Hardening	Load pocket with significant transmission outages during last 3 major storms (Irene, Sandy, Isaias)	2024	$ -	$ -	$ 1.0	$ 33.1	$ 34.1
Bridgehampton - Buell: Install a new 69kV underground cable	Load growth in the South Fork	2025	$ 3.6	$ 1.1	$ 0.9	$ 39.9	$ 45.5
Elwood: Install new distribution bank and switchgear	Load growth in the Elwood area	2025	$ -	$ 0.2	$ 3.7	$ 28.4	$ 32.3
Customer Accounting System (CAS) Replacement for LI	Upgrade end of life CAS system	2025	$ -	$ -	$ 20.0	$ 60.0	$ 80.0
Enterprise Resource Planning Replacement (HR + Finance)	Upgrade end of life ERP system	2025	$ -	$ -	$ 8.0	$ 20.0	$ 28.0
Enterprise Asset Management System (EAMS)	Upgrade end of life Work and Asset Management system	2025	$ -	$ -	$ 8.0	$ 22.0	$ 30.0
North Bellport: Eastport 23kV conversion	Reliability improvement for this load pocket with significant transmission outages during last 3 major storms (Irene, Sandy, Isaias)	2026	$ -	$ -	$ 0.1	$ 26.3	$ 26.4
Southampton: Install new 138kV cable to Deerfield	Increase in projected South Fork load requirements	2028	$ 0.1	$ 3.3	$ 2.1	$ 137.0	$ 142.4
Total Major Projects			$ 258.6	$ 121.2	$ 202.5	$ 538.7	$ 1,121.0

PSEG Long Island Operating Expenses

PSEG Long Island Operating Expenses are related to five major areas: Transmission and Distribution, Customer Services, Business Services (including IT), Power Markets and Energy Efficiency and Distributed Energy Programs. Total operating expenses are budgeted at $609.5 million for 2022 and projected at $617.1 million for 2023. Pension and OPEB expenses are excluded from the operating costs.

The PSEG Long Island 2022 operating budget, excluding the Utility 2.0 Program as well as the Enhanced Vegetation Management Program amendment, is increasing by $59.2 million. This is driven by inflationary increases of $14.4 million and several new initiatives of $47.2 million, which are primarily to enhance customer satisfaction, system resiliency and reliability, and clean energy and energy efficiency, which are partially offset by productivity savings of $2.4 million. The following are some of the main drivers of the new initiatives:

- Enhanced Vegetation Management Program - $14.9 million
- Information Technology Enhancements and Improvements - $6.9 million
- Low-to-Moderate Income Heat Pump Program - $4.0 million
- Customer Outreach and Satisfaction - $2.1 million
- Asset Health and Inventory Program - $2.0 million

PSEG Long Island Operating Expenses
(Thousands of Dollars)

Description		2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
PSEG Long Island Operating Expenses								
Transmission & Distribution		$ 182,579	$ 169,871	$ 179,488	$ 191,610	$ 21,739	$ 196,722	$ 5,113
Customer Services		108,041	109,840	109,723	116,271	6,431	119,178	2,907
Business Services		146,969	158,310	162,079	179,247	20,937	184,100	4,852
Power Markets		9,647	12,956	11,141	15,645	2,689	16,036	391
Energy Efficiency & DER		81,961	87,243	80,416	92,833	5,590	95,154	2,321
Utility 2.0 Costs		8,108	24,208	15,340	27,563	3,355	23,062	(4,501)
Utility 2.0 Savings		(6,599)	(11,452)	(11,452)	(13,622)	(2,170)	(17,184)	(3,562)
Budget Amendment	(a)	-	6,000	6,000	-	(6,000)	-	-
Total PSEG Long Island Operating Expenses	(a)(b)	**$ 530,705**	**$ 556,976**	**$ 552,735**	**$ 609,547**	**$ 52,571**	**$ 617,067**	**$ 7,520**

Note: (a) PSEG Long Island 2021 Approved Operating Expenses have been increased by $6.0 million from $551.0 million to $557.0 million due to a budget amendment for Enhanced Vegetation Management and a new Low-to-Moderate Income Heat Pump Program.
(b) PSEG Long Island Operating expenses for 2022 may shift between the various lines of business based on potential organizational structure modifications.

LIPA Operating Expenses

LIPA Operating Expenses are budgeted at $91.9 million in 2022 and projected at $97.1 million in 2023. The 2022 plan represents an increase of $1.4 million as compared with the Approved Budget for 2021. The increase is largely driven by additional IT related consulting costs to support an increase in oversight functions during major IT deployments.

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

LIPA Operating Expenses
(Thousands of Dollars)

Description	2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
LIPA Operating Expenses							
PSEG Long Island Management Fee	$ 76,920	$ 78,458	$ 78,458	$ 73,750	$ (4,708)	$ 75,318	$ 1,568
Capitalized Management Fee	(30,055)	(31,007)	(31,007)	(28,496)	2,511	(29,102)	(606)
Total Operating Management Fee	**46,865**	**47,451**	**47,451**	**45,254**	**(2,197)**	**46,216**	**962**
LIPA Operating Expenses							
Employee Salaries & Benefits Expenses	11,939	15,043	14,651	16,308	1,264	17,939	1,631
Insurance	2,492	3,289	2,826	3,109	(180)	3,265	155
Office Rent	1,740	1,740	1,720	1,726	(14)	1,813	86
Other	1,670	1,470	1,371	329	(1,141)	1,501	1,171
Total Labor, General and Administrative	**17,841**	**21,543**	**20,568**	**21,473**	**(70)**	**24,517**	**3,044**
Engineering	1,757	950	987	1,050	100	1,103	53
Legal	5,491	6,280	5,650	5,990	(290)	6,290	300
Financial Services and Cash Management	1,635	2,483	2,129	2,176	(307)	2,285	109
Accounting Services	1,351	3,199	2,924	3,094	(105)	3,249	155
Information Technology	3,421	5,586	6,690	9,606	4,020	10,087	480
Risk Management	181	340	367	357	17	375	18
Grant Administration	211	200	451	260	60	273	13
Outside Services	650	2,444	2,091	2,615	171	2,746	131
Total Professional Services	**14,699**	**21,482**	**21,290**	**25,148**	**3,666**	**26,406**	**1,257**
Total LIPA Operating Expenses	**$ 79,404**	**$ 90,475**	**$ 89,308**	**$ 91,874**	**$ 1,399**	**$ 97,138**	**$ 5,263**

Utility Debt Securitization Authority

The LIPA Reform Act, as amended, created the Utility Debt Securitization Authority (UDSA) to issue restructuring bonds in an aggregate amount not to exceed $8.0 billion to refinance LIPA's debt at a lower cost and fund storm hardening and modernizing.

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.

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.

Utility Debt Securitization Authority
(Thousands of Dollars)

Description	2020	2021		2022		2023	
	Actual	Approved	Projected	Proposed	Change from Prior Year	Projected	Change from Prior Year
Revenues	**$ 350,684**	**$ 349,589**	**$ 365,046**	**$ 344,993**	**$ (4,596)**	**$ 409,445**	**$ 64,451**
Operating Expenses							
Uncollectible Accounts	**1,817**	**1,790**	**410**	**2,801**	**1,011**	**3,153**	**352**
General and Administrative Expense							
Ongoing Servicer Fee	2,250	2,250	2,208	2,250	-	2,250	-
Administration Fees	500	500	542	500	-	500	-
Bond Administration Fees	252	390	188	152	(238)	152	-
Directors and Officers Insurance	272	362	285	330	(32)	347	17
Accounting, Legal & Misc. Fees	89	155	155	155	-	155	-
Total General and Administrative Expense	**3,363**	**3,657**	**3,378**	**3,388**	**(269)**	**3,404**	**17**
Amortization of Restructuring Property	**165,980**	**221,742**	**234,806**	**223,082**	**1,341**	**263,387**	**40,305**
Interest Expense	192,803	187,619	187,619	179,694	(7,925)	170,835	(8,859)
Amortization of Premium	(45,706)	(45,119)	(45,119)	(42,050)	3,069	(38,116)	3,934
Amortization of Deferred Debt Issuance Costs	2,175	2,039	2,036	1,886	(153)	1,740	(145)
Total Interest Expense	**149,272**	**144,539**	**144,536**	**139,530**	**(5,009)**	**134,459**	**(5,071)**
Reserve Fund Earnings	**775**	**1,441**	**37**	**38**	**(1,404)**	**38**	**-**
Change in Net Position	**$ 31,027**	**$ (20,697)**	**$ (18,047)**	**$ (23,770)**	**$ (3,073)**	**$ 5,079**	**$ 28,848**

Projected Borrowing Requirements and Bank Facilities

LIPA will fund $782.8 million of infrastructure investments in 2022 with new debt issuances of $561.1 million, or approximately 71% debt financing. The balance of capital expenditures will be grant and pay-as-you-go funded. LIPA expects to generate funds from operations of $223.6 million and $239.5 million in 2022 and 2023, respectively.

The Percent of Capital Expenditures Funded from Debt will exceed LIPA's target of 64% in 2022 and 2023. LIPA projects the percentage of Capital Expenditures Funded from Debt will decrease steadily over the next few years, achieving the Board target by 2025. This is due to the need to increase Capital investments to meet Board priorities. LIPA is increasing investments in Transmission and Distribution Reliability by $55.9 million, Information Technology systems by $32.1 million, and Storm Hardening by $19.2 million in 2022. To mitigate the impact of the increased Capital spending, LIPA is increasing the Coverage Ratio from 1.35x to 1.40x, which results in an additional $39.2 million in operating revenue being generated to fund the Capital investments. LIPA will continue to monitor its debt financing as a percentage of Capital expenditures and adjust its financial policy, if warranted.

Projected Borrowing Requirements and Bank Facilities
(Thousands of Dollars)

Description		2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
Total Capital Expenditures	(a)	**$ 782,462**	**$ 768,119**	**$ 717,537**	**$ 782,778**	**$ 14,659**	**$ 782,551**	**$ (227)**
FEMA Contribution		(40,358)	(39,237)	(36,021)	(2,421)	36,817	-	2,421
Net Capital Expenditures		**742,104**	**728,881**	**681,516**	**780,357**	**51,476**	**782,551**	**2,194**
Net Coverage Funding of Capital Expenditures		(238,300)	(186,830)	(205,494)	(223,610)	(36,780)	(239,479)	(15,869)
Projected Borrowing Requirements		**503,805**	**542,051**	**476,022**	**556,747**	**14,696**	**543,073**	**(13,675)**
Projected Cost of Issuance on Borrowing Requirements		**2,958**	**3,586**	**5,105**	**4,398**	**812**	**4,626**	**228**
Projected Borrowing Requirements with Cost of Issuance	(b)	**506,763**	**545,637**	**481,127**	**561,145**	**15,508**	**547,699**	**(13,446)**
Series 2014C - Floating Rate Notes		-	-	-	-	-	150,000	150,000
Series 2015C - Floating Rate Notes		-	-	-	-	-	149,000	149,000
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		1,000,000	-	-	100,000	100,000	100,000	-
Revolving Credit Agreement		-	-	-	200,000	200,000	-	(200,000)
Bonds Subject to Mandatory Refinancing & Bank Facilities		**$ 1,200,000**	**$ 175,000**	**$ 175,000**	**$ 300,000**	**$ 125,000**	**$ 599,000**	**$ 299,000**

Note: (a) This reflects LIPA's budget amendment for the purchase of Garden City Property of $27.1 million in 2021 and $22.9 million carry over from 2021 to 2022.
(b) The Projected Borrowing amount is a calculated value. Actual borrowing level may differ due to premium and other considerations.

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 2023.

After funding $3.1 billion in infrastructure investments from 2020 through 2023, total projected debt outstanding for LIPA and UDSA will rise approximately $1.1 billion.

Lease Obligations will decrease by $1.0 billion, from $2.8 billion in 2020 to $1.8 billion in 2023. 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 definition had been revised to reflect a GASB Statement No. 87 – Leases in 2020. As a result, approximately $1.0 billion of lease contracts that had previously not been capitalized were reclassified as Lease Obligations. 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.

Combined debt and lease balances will increase slightly by $81.1million, from $11.4 billion at the end of 2020 to $11.5 billion at the end of 2023.

LIPA's Debt to Capital Ratio decreases from 91.9% in 2020 to 89.9% in 2023. The Debt to Asset Ratio declines from 94.1% in 2020 to 89.8% in 2023. Both ratios are expected to continue to decline over time.

Capital Structure
(Thousands of Dollars)

Description		2020 Actual	2021 Approved	2021 Projected	2022 Proposed	2022 Change from Prior Year	2023 Projected	2023 Change from Prior Year
UDSA Long Term Debt Outstanding		$ 3,882,775	$ 3,703,356	$ 3,703,356	$ 3,525,845	$ (177,511)	$ 3,294,185	$ (231,660)
LIPA Long Term Debt Outstanding		4,462,713	4,628,280	5,016,929	4,943,781	315,501	5,761,208	817,427
LIPA Short Term Debt Outstanding		305,000	174,093	151,194	151,194	(22,898)	151,194	-
Total LIPA Debt Outstanding		**4,767,713**	**4,802,373**	**5,168,124**	**5,094,975**	**292,602**	**5,912,402**	**817,427**
LIPA Long Term Debt To Be Issued	(a)	-	545,637	481,127	561,145	15,508	547,699	(13,446)
Projected UDSA Debt		3,882,775	3,703,356	3,703,356	3,525,845	(177,511)	3,294,185	(231,660)
Projected LIPA Debt		4,767,713	5,348,010	5,649,251	5,656,121	308,111	6,460,101	803,980
Total Projected Debt		**8,650,488**	**9,051,366**	**9,352,607**	**9,181,966**	**130,600**	**9,754,286**	**572,320**
Lease Obligations	(b)	2,791,544	2,457,256	2,472,147	2,122,438	(334,818)	1,768,886	(353,552)
Total Debt and Lease Obligations		**11,442,032**	**11,508,622**	**11,824,753**	**11,304,404**	**(204,218)**	**11,523,172**	**218,768**
Excess of Revenues Over Expenses		**18,820**	**23,533**	**40,983**	**55,185**	**31,652**	**82,211**	**27,026**
Net Position Before Deferred Grants		537,688	539,686	578,671	633,856	94,171	716,067	82,211
Deferred Grants	(c)	470,312	602,546	609,003	591,271	(11,275)	573,528	(17,743)
Net Position		**$ 1,008,000**	**$ 1,142,232**	**$ 1,187,674**	**$ 1,225,127**	**$ 82,896**	**$ 1,289,595**	**$ 64,468**
Debt to Capital Ratio	(d)	**91.9%**	**91.0%**	**90.9%**	**90.2%**	**-0.8%**	**89.9%**	**-0.3%**
Debt to Asset Ratio	(e)	**94.1%**	**94.9%**	**94.6%**	**92.4%**	**-2.5%**	**89.8%**	**-2.6%**

Note: (a) Long-term debt to be issued reflects projected borrowing requirements to fund Capital Expenditures excluding carry over proceeds from the prior year, bond premium, and bond refinancing. 2020 actual debt issuances are included in LIPA Current Debt Outstanding amount.

(b) The 2020 Lease Obligation amounts and the associated Coverage calculation reflect GASB No. 87 (Leases) implementation in 2020. GASB No. 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 in 2020.

(c) 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.

(d) Debt to Capital Ratio is calculated by taking (i) debt and leases and dividing by (ii) debt, leases, and Net Position.

(e) Debt to Asset Ratio is calculated by taking (i) debt and leases and dividing by (ii) utility plant assets and working capital.

2022 Proposed and 2023 Projected Capital Expenditures
(Thousands of Dollars)

Transmission & Distribution	Location	Investment Description	In Service Date	Total Project Cost	Project To Date Expenditures through 12/31/21 (a)	Proposed 2022	Projected 2023
Load Growth Projects							
	South Fork	Upgrade Transmission Lines from 23 kV to 33 kV	May-22	1,100	407	693	-
	Ocean Beach	Install new 4kV circuit	Jun-22	6,708	703	6,005	-
	Arverne	Install new 33kV circuit to Far Rockaway substation	Jun-22	31,186	7,950	14,324	8,912
	Belmont	Install new 13 kV distribution circuit	Jun-22	7,100	-	7,100	-
	Stewart Manor	Upgrade distribution feeder and install step down bank	Jun-22	4,091	2,958	1,132	-
	Round Swamp	Construct new 69/13kV substation	Jun-22	27,736	18,336	9,400	-
	Brightwaters	Install new transformer and switchgear	Jun-22	16,850	5,075	11,775	-
	Rockaway Beach	Install new 33/13 kV bank and switchgear	Jun-22	12,578	3,944	8,634	-
	Southampton	Install new 13kV distribution circuit	Jun-22	7,890	5,398	2,492	-
	Bridgehampton	Replace the control and battery enclosure	Jun-22	3,017	1,907	1,110	-
	Eastport	Reconductor conversion and reinforcement	Jun-22	3,401	422	2,978	-
	Culloden Point	Upgrade substation from 23 kV to 33 kV	Dec-22	3,289	2,754	426	109
	Buell	Upgrade substation from 23 kV to 33 kV	May-23	12,336	3,346	5,153	3,836
	Pilgrim	Reconfigure 69kV Bus	Jun-23	1,107	-	264	844
	Broadway	Upgrade distribution feeder from 4kV to 13kV	Jun-23	4,250	246	1,299	2,705
	Rockaway Beach	Install new 33 kV circuit to Arverne	Jun-23	36,898	6,838	7,978	11,251
	Park Place (2A)	Feeder Extension (Superblock)	Jun-23	4,943	-	2,148	2,795
	Ocean Beach	Conversion and reinforcement	Jun-23	3,057	53	53	2,952
	Massapequa	Construct new 69/13kV substation	Jun-23	33,035	7,746	11,512	13,777
	Garden City	Upgrade distribution feeder from 4kV to 13kV	Jun-23	3,510	326	2,003	1,182
	Bridgehampton	Install 2 new feeders and conversion and reinforcement	Jun-23	11,982	95	5,006	2,493
	Bridgehampton	Install new 3rd bank and switchgear	Jun-23	11,347	3,387	4,187	3,773
	Amagansett	Upgrade Substation from 23 kV to 33 kV	Oct-23	11,867	11,020	602	100
	Navy Road	Install two new 33 kV capacitor banks	Nov-23	1,874	300	1,020	554
	Navy Road	Construct new 23/13 kV substation (Montauk substation replacement)	Dec-23	30,801	27,530	2,341	324
	Hero	Upgrade substation from 23 kV to 33 kV	Dec-23	685	172	70	120
	East Hampton	Upgrade substation from 23 kV to 33 kV	May-24	4,595	1,752	417	1,424
	Hither Hills	Upgrade substation from 23 kV to 33 kV	May-24	12,973	402	2,603	4,077
	Belmont	Convert substation from 33 kV to 69 kV	Jun-24	72,911	-	7,000	30,000
	New South Road	Expand 69/13kV substation & distribution circuits	Jun-24	21,032	6,904	897	6,342
	North Bellmore	Install 33 MVA bank, switchgear, and feeders	Jun-24	28,815	404	3,765	16,530
	Bridgehampton	Install New 69kv Circuit to Buell Substation	Jun-25	45,520	3,604	1,121	878
	Elwood	Install new distribution bank and switchgear	Jun-25	32,287	-	212	3,662
	Deerfield	Reconfigure 69kV double circuit to Canal Substation	Jun-26	2,283	280	182	14
	Southampton	Install new 138kV cable to Deerfield	Jun-28	142,446	93	3,293	2,100
	Various	Distribution facilities to serve new business		-	-	37,073	38,927
	Various	Residential underground development to serve new business		-	-	12,000	12,000
Total Load Growth Projects				**$ 655,499**	**$ 124,353**	**$ 178,268**	**$ 171,680**
Reliability Projects							
	Newbridge (5M)	Bank # 1 failure	Mar-22	2,808	517	2,291	-
	Newbridge	Transformer purchase	May-22	5,394	993	4,401 **	
	Captree	Install New 23kV Circuit to Robert Moses Substation	Jun-22	8,237	5,381	2,856	-
	Northport	Phase Shifter - Replacement LTC controls or perform upgrade	Jun-22	417	245	172	-
	Northport	Replace radiators and oil pumps with associated valving for banks 1 to 4	Dec-22	5,405	2,948	2,457	-
	Greenlawn	Elwood splice upgrade project	Dec-22	1,380	-	1,380	-
	Broadway	Hewlett reconfiguration	May-23	4,232	-	1,000	3,232
	Various	Two Way Radio System 16th Radio Frequency Site	Dec-23	700	-	350	350
	Fire Island Pines	Install New 23 kV Circuit to Ocean Beach Substation	Jun-24	46,143	2,451	1,086	21,365
	East Garden City	Switchgear replacement	Jun-24	49,032	3,119	16,579	12,285
	Various	Distribution Automation Repeater Site Telecom Network Management System	Dec-24	310	-	-	60
	Various	DA Radio Management & Reporting	Dec-24	300	-	-	90

(a) Project to date expenditures includes projects that began prior to 2021
**Includes carry over from 2021. See Carry Over table for details

2022 Proposed and 2023 Projected Capital Expenditures
(Thousands of Dollars)

Transmission & Distribution	Location	Investment Description	In Service Date	Total Project Cost	Project To Date Expenditures through 12/31/21 (a)	Proposed 2022	Projected 2023
	Smithtown	Storm hardening	Dec-24	34,120	-	-	1,000
	North Bellport	Eastport 23kV conversion	May-26	26,435	-	-	125
	Long Beach	Park Place system reconfiguration	Dec-26	15,113	-	-	400
	Huntington Village	Substation supply hardening	Dec-26	16,700	-	-	1,320
	Various	Upgrade supervisory controllers for Capacitor Banks		-	-	3,430	3,560
	Various	Transformer monitoring		-	-	2,950	2,950
	Various	Distribution circuit improvement program (CIP)		-	-	16,000	9,000
	Various	Remote terminal unit replacement/upgrades		-	-	2,796	2,700
	Various	Distribution breaker replacements		-	-	748	748
	Various	Mechanical relay replacements		-	-	685	800
	Various	Substation battery replacements		-	-	540	540
	Various	Substation control power transformer replacements		-	-	262	262
	Various	Transformer major component replacements		-	-	1,750	1,750
	Various	Pipe type cable low pressure trip		-	-	1,366	1,366
	Various	Pipe type cable terminal pressure monitoring upgrade program		-	-	905	-
	Various	Transmission cables cathodic replacements		-	-	374	374
	Various	Transmission pipe type cable pump house upgrade/replacement		-	-	860	860
	Various	Transmission protection and controls upgrades		-	-	2,758	3,200
	Various	Transmission breaker replacements		-	-	2,500	2,500
	Various	Transformer load tap changer replacements		-	-	690	690
	Various	Substation lightning & grounding upgrades		-	-	790	790
	Various	Protection lease line upgrade		-	-	950	800
	Various	Upgrade corrosion protection system for pipe type cable		-	-	2,000	1,750
	Various	Cap and pin insulator replacements		-	-	800	425
	Various	Replace (13) trailer mounted capacitor banks with fixed banks		-	-	5,154	6,154
	Various	Distribution switchgear replacements		-	-	1,500	2,000
	Various	Substation transformers replacements		-	-	5,000	11,150
	Various	Distribution pole mounted switches and RTU replacements		-	-	500	500
	Various	Annunciator replacement		-	-	444	444
	Various	Transmission wood pole replacement on the LIRR right-of-way		-	-	300	3,000
	Various	Transmission wood pole replacement on public/LIPA right-of-way		-	-	70	4,692
	Various	Distribution voltage remediation program		-	-	3,000	3,000
	Various	Substation distribution circuit relay upgrade		-	-	403	500
	Various	Install Transmission 3V0		-	-	2,176	-
	Various	Rear yard distribution circuits relocation/undergrounding		-	-	500	5,433
	Various	Distribution transformers - add/replace		-	-	18,649	19,581
	Various	Distribution system improvements - services, branch lines & customer requests		-	-	30,975	32,524
	Various	Substation equipment failures		-	-	7,000	8,000
	Various	System spares		-	-	14,600	5,800
	Various	Accidents		-	-	12,332	12,949
	Various	Underground distribution cable upgrades		-	-	15,200	17,000
	Various	Public works		-	-	9,293	12,000
	Various	Distribution pole replacements		-	-	13,782	14,196
	Various	Distribution multiple customer outages (MCO)		-	-	7,490	7,715
	Various	Residential underground cables upgrades		-	-	11,400	13,000
	Various	Transmission system failures		-	-	636	668
	Various	Transmission pole replacements		-	-	745	782
	Various	Transmission & Distribution Wood Pole Reinforcement		-	-	1,600	8,400
	Various	Distribution Automation Repeater Network and Site Upgrades		-	-	675	675
	Various	Two Way Radio System Mobile Radios and Antennas for Fleet Vehicles		-	-	104	104
	Various	Replacement of Non-restorable Distribution Wood Pole Rejects		-	-	12,814	6,960
Total Reliability Projects				**$ 216,726**	**$ 15,654**	**$ 252,069**	**$ 272,518**

(a) Project to date expenditures includes projects that began prior to 2021
**Includes carry over from 2021. See Carry Over table for details

2022 Proposed and 2023 Projected Capital Expenditures
(Thousands of Dollars)

Transmission & Distribution	Location	Investment Description	In Service Date	Total Project Cost	Project To Date Expenditures through 12/31/21 (a)	Proposed 2022	Projected 2023
Storm Hardening Projects							
	Various	Storm hardening program		-	-	70,000	70,000
Total Storm Hardening Projects				**$ -**	**$ -**	**$ 70,000**	**$ 70,000**
Tools, Equipment, Other, Economic, Salvage							
	Glenwood Landing	Substation structural modifications	Mar-22	8,492	4,336	4,156	-
	Arverne	MTA Beach 67th Relocation	May-22	3,043	451	2,592	-
	Edwards Avenue	Interconnection costs associated with sPower Riverhead Solar Farm 2	Dec-22	270	-	270	-
	East Hampton	Interconnection costs associated with South Fork wind farm	Apr-23	3,024	24	-	3,000
	Terryville	Install new 69 kV cable to Flowerfield	Jun-23	52,505	2,048	21,474	28,983
	Various	Vacuum Truck Project - Vehicles for Trenching	Nov-23	1,780	-	-	1,780
	Various	Wire Pulling Tool - Pilot New Innovation	Nov-23	440	-	280	160
	Various	Control House HVAC (JMUX Climate Control)	Nov-22	50	-	50	-
	Various	Ground Vehicle Wire Pulling Project (LIRR & Substation Grounds)	Nov-24	1,200	-	-	970
	Hicksville	Transmission operations control room facility replacement	Mar-26	104,450	-	10,907	15,330
	Various	LIRR program upgrade		-	-	-	1,200
	Various	Substation security upgrade		-	-	5,000	5,000
	Various	Capital tools		-	-	3,200	3,200
	Various	Transfer distribution facilities to new telephone poles		-	-	12,800	10,059
	Various	Salvage		-	-	(500)	(500)
Total Tools, Equipment, Other, Economic, Salvage				**$ 175,254**	**$ 6,859**	**$ 60,229**	**$ 69,182**
Grand Total Transmission & Distribution				**$ 1,047,479**	**$ 146,866**	**$ 560,566**	**$ 583,380**

(a) Project to date expenditures includes projects that began prior to 2021
**Includes carry over from 2021. See Carry Over table for details

2022 Proposed and 2023 Projected Capital Expenditures
(Thousands of Dollars)

Information Technology	Investment Description	In Service Date	Total Project Cost	Project To Date Expenditures through 12/31/21 (a)	Proposed 2022	Projected 2023
Transmission & Distribution						
	Cyberark for CNI	2022	1,550	-	1,550	-
	Dragos for CNI	2022	1,150	-	1,150	-
	Industrial Defender for DSCADA	2022	1,450	-	1,450	-
	Outage and Incident Communications - Phase 2	2022	1,300	-	600	700
	AVLS Integration with Physical ID Badge System	2022	800	-	800	-
	CAD & OMS Operational Enhancements	2022	2,000	-	2,000	-
	OMS/CAD 6.7 Upgrade - Storm Remediation Program	2022	24,173	21,373	2,800 **	-
	SAS Upgrade	2022	2,063	1,213	850 **	-
	On Line Application Portal	2023	3,000	-	1,500	1,500
	ADMS Network Model and Roadmap	2023	3,000	-	600	2,400
	CG Concentrator Replacement	2023	3,550	-	2,150	1,400
	E2E Storm Restoration - Resource Allocation and Tracking	2023	2,900	-	500	2,400
	Mobile Timesheets	2023	3,000	-	-	3,000
	Team Center Replacement	2024	4,250	-	250	2,000
	ADMS Advanced Modules	2025	5,200	-	-	1,300
	GIS upgrade	Program	-	3,164	3,079	600
	NEDLI Upgrade	Program	-	-	500	-
	Control room recorder upgrade	Program	-	-	1,250	-
	Refresh the CNI PI system	Program	-	-	2,000	-
	New Business Portal	Program	-	-	1,250	-
	Cybersecurity continuous improvement for CNI	Program	-	-	850	1,050
	MEGA - Additional Functionalities	Program	-	-	250	250
	MEGA - Storm Damage Assessment App	Program	-	-	250	250
	SCADA RTU Work	Program	-	-	525	525
	T&D mobile applications (Field Mobile App)	Program	-	-	1,700	1,200
Total Transmission & Distribution			**$ 59,386**	**$ 25,750**	**$ 27,854**	**$ 18,575**
Customer Service						
	TCPA Preference Management Tool	2022	500	-	500	-
	Sitecore Upgrade	2022	2,675	1,575	1,100	-
	Bill Print & Bill Image Migration - new vendor	2022	1,305	312	993	-
	CDG Billing Automation	2022	1,000	-	1,000	-
	Community Choice Aggregation (CCA)	2022	1,796	546	1,250	-
	Payment Processing	2022	1,000	-	1,000	-
	Solar Communities (FIT 5) bill credits	2022	500	-	500	-
	Suffolk County Sewage Billing Project	2022	400	-	400	-
	Bill Simplification	2022	500	-	500	-
	Digital Channels - Storm Remediation Program	2022	13,072	11,008	2,064 **	-
	AMI to OMS Integration - Storm Remediation Program	2022	4,450	3,509	941 **	-
	Customer Accounting System (CAS) Replacement for LI	2025	80,000	-	-	20,000
	Kubra Enhancement	Program	-	-	500	500
	Mobile app Enhancement	Program	-	402	750	750
	myAccount Enhancement	Program	-	642	750	1,500
	AMI Enhancement	Program	-	1,606	1,500	2,000
	Customer Accounting System (CAS) Enhancement	Program	-	-	500	500
	Rate change product Enhancement	Program	-	-	600	1,000
	Contact Center as a Service (CCaaS)	Program	-	-	4,500	3,000
	CRM modernization - Salesforce Enhancement	Program	-	-	400	500
Total Customer Service			**$ 107,199**	**$ 19,600**	**$ 19,748**	**$ 29,750**

(a) Project to date expenditures includes projects that began prior to 2021

2022 Proposed and 2023 Projected Capital Expenditures
(Thousands of Dollars)

Information Technology	Investment Description	In Service Date	Total Project Cost	Project To Date Expenditures through 12/31/21 (a)	Proposed 2022	Projected 2023
Information Technology						
	Plexos Financial Forecast Tools for PM	2022	250	-	250	-
	Sailpoint Access Control	2022	1,300	-	1,300	-
	Direct Connect to Mulesoft CloudHub	2022	650	-	650	-
	Internet Bandwidth Upgrade	2022	2,550	-	2,550	-
	Oracle Database 11g upgrade	2022	750	-	750	-
	MS 365/Sharepoint Migration	2022	700	-	700	-
	System Resiliency	2022	3,500	-	3,500	-
	System Segregation	2022	3,500	-	3,500 *	-
	Telecom Optimization - Storm Remediation Program	2022	3,847	2,438	1,409 **	-
	Upgrade MAPS/MARS with DR capability	2023	2,700	-	1,100	500
	Config Management Tool	2023	500	-	-	500
	Datacenter Modernization	2023	500	-	-	500
	System Monitoring Enhancements	2023	900	-	-	900
	Replace Sonic ESB with Mulesoft	2023	2,000	-	1,000	1,000
	Cybersecurity NIST-CSF Tier 3 Implementation	2023	3,000	-	2,500	500
	Enterprise Resource Planning Replacement (HR + Finance)	2025	28,000	-	-	8,000
	Enterprise Asset Management System (EAMS)	2025	30,000	-	-	8,000
	Replace Messageway SFTP solution	Program	-	-	600	-
	Oracle DB upgrade LCP	Program	-	-	2,600	-
	Virtual Host Servers LCP Upgrade	Program	-	-	2,500	-
	Windows 2016 Operating System Upgrade	Program	-	-	500	-
	IT Data Analytics 2022	Program	-	-	2,000 *	2,000
	2022+ Cybersecurity continuous improvement	Program	-	-	2,200	250
	Mulesoft platform continuous improvement	Program	-	5,388	-	1,000
	Citrix HW/SW Upgrade LCP	Program	-	500	690 **	-
	Corp Wireless Network Upgrade LCP	Program	-	400	750 **	-
	Firewall LCP	Program	-	-	-	750
	IP Phone LCP	Program	-	-	550	-
	JMUX HW Equipment LCP	Program	-	100	100	100
	Laptop LCP	Program	-	-	300	300
	Legacy Software Remediation Program	Program	-	-	500	500
	Mainframe LCP	Program	-	-	300	300
	Switch/Router LCP	Program	-	-	1,050	1,100
	UPS LCP	Program	-	-	150	150
Total Information Technology			**$ 84,647**	**$ 8,827**	**$ 33,999**	**$ 26,350**
Business Services						
	AMAG Design and Implementation	2022	3,286	3,186	100 **	-
Total Business Services			**$ 3,286**	**$ 3,186**	**$ 100**	**$ -**
Grand Total Information Technology Projects			**$ 251,232**	**$ 54,177**	**$ 81,701**	**$ 74,675**

(a) Project to date expenditures includes projects that began prior to 2021

2022 Proposed and 2023 Projected Capital Expenditures
(Thousands of Dollars)

Utility 2.0	Investment Description	Total Project Cost	Project To Date Expenditures through 12/31/21 (a)	Proposed 2022	Projected 2023
2018 Utility 2.0 Filing					
Empowering Customers					
	Core AMI: Operational	188,724	178,518	10,206	-
	Core AMI: PMO + Change Management	7,813	5,673	2,140	-
	AMI-Enabled Capabilities	13,800	10,397	3,403	-
	Enabled AMI: Rate Modernization	10,300	7,686	2,182	432
	Enabled AMI: Analytics	5,711	4,486	1,225	-
	Total Empowering Customers	**$ 226,350**	**$ 206,761**	**$ 19,156**	**$ 432**
Evolving to the DSP					
	Utility of the Future (UoF) / Conservation Voltage Reduction (CVR) / Joint Utilities (JU)	1,176	801	375	-
	Grid Storage	12,212	4,013	5,387	2,812
	Total Evolving to the DSP	**$ 13,388**	**$ 4,815**	**$ 5,762**	**$ 2,812**
Total 2018 Utility 2.0 Filing Projects		**$ 239,738**	**$ 211,576**	**$ 24,918**	**$ 3,244**
2019 Utility 2.0 Filing					
New Initiatives					
	Energy Concierge Pilot	1,550	-	29	978
	Electric School Bus Vehicle to Grid (V2G) Pilot	84	-	84	-
	Total New Initiatives	**$ 1,634**	**$ -**	**$ 113**	**$ 978**
Total 2019 Utility 2.0 Filing Projects		**$ 1,634**	**$ -**	**$ 113**	**$ 978**
2020 Utility 2.0 Filing					
New Initiatives					
	Commercial and Industrial (C&I) Demand Alert Pilot	1,776	-	-	1,773
	Enhanced Marketplace	1,813	-	-	1,406
	Conservation Voltage Reduction (CVR) Program	648	60	588	-
	Distributed Energy Resources (DER) Visibility	3,947	-	3,947	-
	Total New Initiatives	**$ 10,863**	**$ 1,513**	**$ 4,566**	**$ 4,374**
Total 2020 Utility 2.0 Filing Projects		**$ 10,863**	**$ 1,513**	**$ 4,566**	**$ 4,374**
2021 Utility 2.0 Filing					
New Initiatives					
	Electric Vehicle (EV) Make-Ready Phase II	62,388	-	9,817	16,361
	Suffolk County Bus Initiative	600	-	600	-
	Total New Initiatives	**$ 62,988**	**$ -**	**$ 10,417**	**$ 16,361**
Total 2021 Utility 2.0 Filing Projects		**$ 62,988**	**$ -**	**$ 10,417**	**$ 16,361**
New Program Funding		**-**	**-**	**-**	**$ 5,000**
Total Utility 2.0 Projects		**$ 315,223**	**$ 213,089**	**$ 40,013**	**$ 29,957**

(a) Project to date expenditures includes projects that began prior to 2021

2022 Proposed and 2023 Projected Capital Expenditures
(Thousands of Dollars)

Business Units	Investment Description	In Service Date	Total Project Cost	Project To Date Expenditures through 12/31/21 (a)	Proposed 2022	Projected 2023
Customer Service						
	Purchase Electric Meters	Blanket	-	-	2,500	7,321
	Install/Remove Meters	Blanket	-	-	4,169	4,239
	Tools/Equipment	Program	-	-	500	500
	RF Network enhancements solar/battery backup		-	-	-	100
	Dusk to Dawn		18,100		3,514 **	250
Total Customer Service Projects			**$ 18,100**	**$ -**	**$ 10,683**	**$ 12,410**
Facilities						
	Facilities Services	Program	-	-	3,072	4,071
Total Facilities Projects			**$ -**	**$ -**	**$ 3,072**	**$ 4,071**
Fleet						
	Fleet	Program	-	-	15,974 **	22,550
Total Fleet Projects			**$ -**	**$ -**	**$ 15,974**	**$ 22,550**
Total PSEG LI Projects with Carry Over					**$ 712,010**	**$ 727,043**
FEMA Storm Hardening					**$ 2,690**	**$ -**
Storm Capitalization					**$ 4,755**	**$ 5,043**
Pending Project Authorization					**$ (4,900)**	**$ -**
Grand Total PSEG Long Island Capital Expenditures					**$ 714,555**	**$ 732,085**

2021 Carry Over Costs into 2022
(Thousands of Dollars)

Business Units	Location	Investment Description	2022 Carry Over Amounts
Transmission & Distribution			
Reliability Projects			
	Newbridge	Transformer purchase	4,401
	Total Reliability Projects		**$ 4,401**
Total Transmission & Distribution			**$ 4,401**
Information Technology			
IT-Transmission & Distribution			
		OMS/CAD 6.7 Upgrade - Storm Remediation Program	2,800
		SAS Upgrade	850
	Total IT-Transmission & Distribution		**$ 3,650**
IT-Customer Service			
		Digital Channels - Storm Remediation Program	2,064
		AMI to OMS Integration - Storm Remediation Program	941
	Total IT-Customer Service		**$ 3,005**
IT-Information Technology			
		Telecom Optimization - Storm Remediation Program	1,409
		Corp Wireless Network Upgrade LCP	400
		Citrix HW/SW Upgrade LCP	490
	Total IT-Information Technology		**$ 2,299**
IT-Business Service			
		AMAG Design and Implementation	100
	Total IT-Business Service		**$ 100**
Total Information Technology			**$ 9,054**
Customer Services			
		Dusk to Dawn	700
Total Customer Services			**$ 700**
Fleet			
		Fleet	8,752
Total Fleet			**$ 8,752**
Total Project Carry Over			**$ 22,907**

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. 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 LIPA's T&D system incurred by PSEG Long Island, are paid for by LIPA.

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.
- September and 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.

Certification

I hereby certify that, to the best of my knowledge and belief after reasonable inquiry, the budget information and financial projections contained herein for the years ending December 31, 2021 through December 31, 2023 have been developed based on reasonable assumptions and methods of estimation and that the requirements of 2 NYCRR Part 203 have been satisfied.

/s/
Thomas Falcone
Chief Executive Officer
Long Island Power Authority

Dated: December 15, 2021

Section Three

2022 Proposed Performance Standards

Below is a summary of performance standards that will apply to 2022. For more details, please see the complete metric descriptions available on LIPA's website.

Metric		At Risk Compensation	Metric Objective & Deliverables
Transmission & Distribution			
T&D-1	Asset Management Program Implementation - Asset Inventory	$150,000	Requires PSEG LI to collect and document all Transmission and Distribution (T&D) assets as part of an Asset Management Program in accordance with the the Asset Management Recommendations adopted by the LIPA Board of Trustees.
T&D-2	Asset Management Program Implementation - Governance	$200,000	Requires PSEG LI to develop and implement effective governance of an Asset Management Program in accordance with the Asset Management Recommendations adopted by the LIPA Board of Trustees.
T&D-3	Asset Management Program - Enterprise Asset Management System (EAMS)	$600,000	Requires PSEG LI to plan and implement a full-fledged, electronic EAMS to track all asset, work, maintenance, and inventory activities, to be used for an Asset Management Program, including preventitive and predictive maintenance of the T&D system, providng improved reliability and reduced cost to customers.
T&D-4	Transmission & Distribution System Mis-Operations	$100,000	Requires PSEG LI reduce the number of relay mis-operations on the T&D System by 5% compared to the 3-year average.
T&D-5	Transmission & Distribution Operating Errors	$100,000	Requires PSEG LI to limit the number of operating errors on the T&D System by 5% compared to the 3-year average.
T&D-6	PTCC Replacement	$250,000	Requires PSEG LI to execute deliverables related to strategic considerations and conceptual facility designs for the construction of a new Primary Transmission Control Center (PTCC) and Alternate Transmission Control Center (ATCC) to replace the facilities that manage the electric flows on the Long Island electric grid.
T&D-7	System Average Interruption Duration Index (SAIDI) Reliability	$400,000	Requires PSEG LI to maintain the outages (>5 minutes in duration) experienced by the average customer at under 1 hour annually, which is within the top 10% of peer utilities.
T&D-8	System Average Interruption Frequency Index (SAIFI) Reliability	$200,000	Requires PSEG LI to maintain the number of outages experienced by the average customer at 1 outage (>5 minutes in duration) every 16 months, which is within the top 10% of peer utilities.
T&D-9	Momentary Average Interruption Frequency Index (MAIFI) Reliability	$200,000	Requires PSEG LI to reduce the number of momentary outages (<5 minutes in duration) by 13% compared to the 3-year average. Performance has steadily improved and is now approaching the median level of peer utilities.
T&D-10	Reduce Sustained Multiple Customer Outages (S-MCOs)	$150,000	Requires PSEG LI to reduce the number of customers with more than 4 outages (> 5minutes in duration) per year by 22% to meet the 3-year average, achieving performance that is within the top 25% of peer utilities.
T&D-11	Reduce Repeat Customer Sustained Multiple Customer Outages (S-MCOs)	$200,000	Requires PSEG LI to improve circuit conditions for customers that have had more than 4 outages (>5 minutes in duration) per year for three or more consecutive years. PSEG LI will remediate circuit conditions accounting for at least 80% of these customers.
T&D-12	Reduce Momentary Multiple Customer Outages (M-MCOs)	$150,000	Requires PSEG LI to reduce the customers with more than six momentary outages (<5 minutes in duration) per year by 20% compared to the 3-year average.
T&D-13	Safety – Serious Injury Incident Rate	$200,000	Requires PSEG LI to safely maintain, construct, and operate the electric T&D system without risk of serious injuries and/or fatalities. The target level of performance is within the 25% of peer utilities.

T&D-14	Safety – OSHA Recordable Incidence Rate	$250,000	Requires PSEG LI to maintain employee safety as recorded by OSHA incidents at the 3-year average and increase focus on safety training, employee awareness, and diligence.
T&D-15	Safety – OSHA Days Away Rate	$250,000	Requires PSEG LI to improve employee safety as recorded by OSHA Days Away. The target level is approximately 22% better than the 3-year average.
T&D-16	Safety – Motor Vehicle Accident (MVA) Rate	$100,000	Requires PSEG LI to reduce the Motor Vehicle Accident (MVA) Rate by 5% comapred to the 3-year average.
T&D-17	Work Management Process Enhancements - Short-Term Scheduling	$150,000	Requires PSEG LI to improve work management through short term scheduling in ways that optimize staffing levels, productivity, and overtime.
T&D-18	Work Management Process Enhancements - Workforce Management Plans	$250,000	Requires PSEG LI to improve work management by creating an annual workplan with monthly visibility of all work to be completed in 2022.
T&D-19	Work Management Process Enhancements - Improve Planning and Tracking of Work	$100,000	Requires PSEG LI to improve work management by improving the planning and tracking of work in ways that optimize staffing levels, productivity, and overtime.
T&D-20	Work Management Process Enhancements - Improve and Standardize Compatible Unit Estimating (CUEs)	$100,000	Requires PSEG LI to enhance the governance and use of a detailed estimating process to improve cost and scheduling accuracy.
T&D-21	Work Management Process Enhancements - Work Management KPIs and Dashboards	$100,000	Requires PSEG LI to develop work management metrics and tracking to identify opportunities to improve staffing levels, productivity, and reduce overtime in support of scheduled T&D work.
T&D-22	Work Management Process Enhancements - Clarify and Rationalize Work Management Roles	$50,000	Requires PSEG LI to standardize work management roles/positions and implement consistency across yards.
T&D-23	Employee Overtime	$300,000	Requires PSEG LI to manage T&D employee overtime hours by optimizing employee resources and demonstrating a 2 percentage point reduction in overtime hours worked from the previous 3-year average.
T&D-24	Vegetation Management Work Plan - Cycle Tree Trim With Vegetation Intelligence	$200,000	Requires PSEG LI to develop and execute vegetation management plans to limit vegetation-caused outages using vegetation intelligence.
T&D-25	Vegetation Management Work Plan - Trim-To-Sky (TTS) Circuits	$250,000	Requires PSEG LI to execute enhanced TTS vegetation management techniques that limit vegetation-caused outages.
T&D-26	Vegetation Management Work Plan - Hazard Tree Removal	$400,000	Requires PSEG LI to identify and remove 12,000 “hazard” trees subject to falling and damaging the electric system during a storm, an increase from approximately 3,000 today.
T&D-27	Storm Hardening Work Plan - Overhead Hardening	$250,000	Requires PSEG LI to develop and execute the milestones of the budgeted Storm Hardening Work Plans, which will strengthen the T&D system and improve its ability to withstand storms.

T&D-28	Storm Hardening Work Plan - Underground Hardening	$150,000	Requires PSEG LI to develop a pilot program to identify electric system opportunities for rear-yard branch circuits to be converted from overhead to underground lines.
T&D-29	Storm Hardening Work Plan - Transmission Load Pockets	$150,000	Requires PSEG LI to identify projects that will enhance system resiliency by providing alternate sources of power to transmission load pockets.
T&D-30	Storm Hardening Work Plan - ACRV Commissioning Program	$250,000	Requires PSEG LI to begin a program to operationalize automatic overhead switches as tripping devices to reduce the amount of customers interrupted during a storm.
T&D-31	Storm Hardening Work Plan - LT5H (ASUV) Program	$150,000	Requires PSEG LI to install a minimum of 150 automatic overhead switches that will reduce the amount of customers interrupted during a storm.
T&D-32	Estimated Time of Restoration (ETR)	$200,000	Requires PSEG LI to improve by 10% the accuracy of restoration time estimates in blue sky conditions, giving customers the best available information regarding when their power will be restored.
T&D-33	Real Estate Strategy	$100,000	Requires PSEG LI to execute the long-term strategy for LIPA's real estate and facility assets in accordance with the LIPA Board recommendations related to Real Estate Management.
T&D-34	Construction – Quality and Timely Completion of Project Justification Descriptions (PJDs)	$200,000	Requires PSEG LI to provide timely and complete project justifications for each capital project and program for LIPA review and approval.
T&D-35	Construction – Project Milestones Achieved	$200,000	Requires PSEG LI to complete a minimum of 85% of capital projects on time in accordance with the project milestone schedule, which is an improvement over the 3-year average performance.
T&D-36	Construction – Cost Estimating Accuracy	$200,000	Requires PSEG LI to complete a minimum of 85% of capital projects at the estimated cost, which is an improvement over the 3-year average performance.
T&D-37	Completion of Program Planned Units Per Workplan	$400,000	Requires PSEG LI to complete all units identified and budgeted in the construction program.
T&D-38	Program Unit Cost Variance	$200,000	Requires PSEG LI to complete all units identified and budgeted in the construction programs within budget.
T&D-39	Project Completion Consistent with Project Design	$100,000	Requires PSEG LI to manage capital projects completions such that they meet the approved design.
T&D-40	Double Wood Pole Reduction	$50,000	Requires PSEG LI to maintain the backlog of double wood poles identified in the National Joint Utilities Notification System (NJUNS) at no higher than the 2021 year end result.
Compensation at Risk Based on Performance		**$8,000,000**	

Metric		At Risk Compensation	Metric Objective & Deliverables
Information Technology - Organizational Performance			
IT-1	Organizational Maturity Level – Doing	$250,000	Requires PSEG LI to improve its IT Organizational Maturity to Level 3 in the 'Doing' Category of the Capability Maturity Model Integration (CMMI) model within one year. This improves the capabilities of IT staff to implement IT projects.
IT-2	Organizational Maturity Level – Managing	$500,000	Requires PSEG LI to improve its IT Organizational Maturity to Level 3 in the 'Managing' Category of the CMMI within one year. This improves the capabilities of IT staff to manage IT projects.
IT-3	System Resiliency	$400,000	Requires PSEG LI to complete a well-designed and robust IT System Resiliency Plan that includes thoroughly exercised Disaster Recovery and Business Continuity Plans for all critical systems/processes.
IT-4	System and Software Lifecycle Management	$300,000	Requires PSEG LI to maintain and upgrade all IT and operational technology assets managed on behalf of LIPA, including computers, communications equipment, networking equipment, hardware, software, and storage systems, to be within their active service life and under general support from the product vendor.
IT-5	System Implementation – 2022 Budget Projects	$800,000	Requires PSEG LI to Improve System Implementation Performance to industry standards for projects at or over $1 million in project lifecycle costs.
IT-6	System Implementation – Board PIPs	$500,000	Requires PSEG LI to Improve System Implementation Performance to industry standards for projects related to LIPA Board-adopted recommendations.
IT-7	System Segregation	$250,000	Requires PSEG LI to plan for and separate LIPA IT systems from PSEG New Jersey systems.
Compensation at Risk Based on Performance		**$3,000,000**	

Metric		At Risk Compensation	Metric Objective & Deliverables
Power Supply Programs			
PS-1	Long Range Planning Studies - Integrated Resource Plan (IRP)	$375,000	Requires PSEG LI to complete, per an agreed upon scope and schedule, deliverables associated with the development and issuance of the IRP.
PS-2	Long Range Planning Studies - Energy Storage Request for Proposal (RFP)	$375,000	Requires PSEG LI to complete, on schedule, deliverables associated with the evaluation of proposals for the 180MW Energy Storage RFP.
Clean Energy Programs			
CE-1	Energy Efficiency Plan Savings	$200,000	Requires PSEG LI achieve the Energy Efficiency Plan targeted savings in the Utility 2.0 filing.
CE-2	Utility 2.0 - Distributed Energy Resources (DER) Hosting	$150,000	Requires PSEG LI to complete the hosting capacity study proposed in the Utility 2.0 filing.
CE-3	Beneficial Electrification - Building Electrification	$200,000	Requires PSEG LI to achieve Beneficial Electrification Targets in the Utility 2.0 filing, including: Energy Efficient Products, Home Comfort, REAP (Low-Income), and Home Performance.
CE-4	Electric Vehicle (EV) Make-Ready	$100,000	Requires PSEG LI to achieve the EV Make-Ready targets in the Utility 2.0 filing to accelerate development of EV charging stations.
CE-5	Distributed Energy Resources (DER) Interconnection Process	$200,000	Requires PSEG LI to improve the DER interconnection process and pursuant to LIPA Board-adopted recommendations
CE-6	Time of Use (TOU) Pricing Pilots - Heating and Large Commercial	$200,000	Requires PSEG LI to complete development of TOU Pricing Options for space heating and large commercial customers.
CE-7	TOU Pricing Pilot - Year 1 Marketing	$200,000	Requires PSEG LI to engage and enroll 12,000 new customers in new TOU optional pricing plans.
Compensation at Risk Based on Performance		**$2,000,000**	

Metric		At Risk Compensation	Metric Objective & Deliverables
Customer Service			
CS-1	Delivery of Project Implementation Plans	$500,000	Requires PSEG LI to implement seven strategic customer projects to improve the customer contact and billing experience and drive top 25% utility performance, including implementing smart meter features, upgrading credit card vendors, enhancing the mobile app, and enhancing text messages of outage information.
CS-2	J.D. Power Residential Customer Survey	$200,000	Requires PSEG LI to improve customer satisfaction for residential customers, as measured by the J.D. Power Residential Customer Survey, to 3rd quartile by 2022 year-end.
CS-3	J.D. Power Business Customer Survey	$200,000	Requires PSEG LI to improve customer satisfaction for business customers, as measured by the J.D. Power Business Customer Survey, to 3rd quartile by 2022 year-end.
CS-4	Customer Information System (CIS) Modernization – Phase 1	$600,000	Requires PSEG LI to plan for and deploy a new, flexible, modern CIS capable of effective and efficient customer transactions, billing, and services.
CS-5	Customer Transactional Performance	$400,000	Requires PSEG LI to develop new customer transaction surveys to improve the satisfaction and cost of five (5) common customer transactions.
CS-6	Billing – Eliminate Long Term Estimates (LTEs) - Inactive Accounts	$100,000	Requires PSEG LI to reduce the number of inactive accounts receiving estimated bills for more than 5 months by 90% and maintain accurate billing records.
CS-7	Billing – Eliminate LTEs - Active Accounts	$100,000	Requires PSEG LI to reduce the number of customers receiving estimated bills for more than 3 months by 80%.
CS-8	Unauthorized Use/Advanced Consumption Resolution	$100,000	Requires PSEG LI to reduce by 75% the number of unauthorized use of service cases in a timely manner and in compliance with the rules.
CS-9	Billing Exception Cycle Time	$200,000	Requires PSEG LI to render 95% of customer bills within 3 days of the scheduled date, representing an improvement over the 3-year historical average performance level of 88%.
CS-10	Billing – Cancel Rebill	$200,000	Requires PSEG LI to provide an accurate bill to the customer the first time, not requiring a subsequent adjustment, by reducing cancelled rebills by approximately 23%.
CS-11	Contact Center Service Level with Live Agent Calls	$175,000	Requires PSEG LI to answer 80% of calls with a live agent within 30 seconds during blue sky days and within 90 seconds during storms. This is 2% better than the 3-year historical average performance.
CS-12	Customer Email Closure Rate	$75,000	Requires PSEG LI to answer 70% of emails within 24 hours, an increase from historical average performance of 42%.
CS-13	First Call Resolution (FCR)	$100,000	Requires PSEG LI to resolve at least 80% of calls on the first call, despite higher expected call volume in 2022.
CS-14	Net Write-Offs (Per $100 Billed Revenue)	$250,000	Requires PSEG LI to maintain the bad debt written off for the year below 0.77. This metric was impacted by the COVID-19 moratorium in 2020 and 2021.
CS-15	Accounts Receivable Aging > 90 Days Past Due (AR>90)	$300,000	Requires PSEG to reduce the % of total receiveables that are past due more than 90 days below 30.25%. This metric was impacted by the COVID-19 moratorium in 2020 and 2021.
CS-16	Days Sales Outstanding (DSO)	$200,000	Requires PSEG LI to reduce the days of revenue billed but not yet collected to 39.9 days. This metric was impacted by the COVID-19 moratorium in 2020 and 2021.

CS-17	Low to Moderate Income (LMI) Program Participation	$100,000	Requires PSEG LI to increase participation in the low-income rate discount program by 34% over the 3-year average to improve affordability for vulnerable customers.
CS-18	LMI Program Participation - Automation	$100,000	Requires PSEG LI to improve the ease of enrollment in the low-income rate discount program by automatically enrolling categorically eligible customers.
CS-19	DPS Customer Complaint Rate	$100,000	Requires PSEG LI to perform within the top quartile of its peer group for initial complaints made to the New York Department of Public Service (DPS) to measure whether customers concerns are effectively handled.
Compensation at Risk Based on Performance		**$4,000,000**	

Metric		At Risk Compensation	Metric Objective & Deliverables
Business Services - Risk Management			
ERM-1	Enterprise Risk Management (ERM) Report	$150,000	Requires PSEG LI to develop a comprehensive ERM report that documents the identification and management of the most high-priority risks across the organization that could impede the achievement of business goals and objectives.
ERM-2	ERM Key Risk Indicators (KRIs)	$150,000	Requires PSEG LI to develop a Proof-of-Value Pilot on KRIs for select high-priority risks. This Pilot will enable more proactive monitoring of risks and provide early indicators when management action is warranted.
Business Services - Human Resources			
HR-1	Human Resources Employee Engagement -- Participation Rate	$100,000	Requires PSEG LI to increase the rate of employee participation in the annual Employee Engagement survey to 49% or more, up from 46% today.
HR-2	Human Resources Employee Engagement -- Score	$200,000	Requires PSEG LI to improve the employee rating scores in key areas by 4% year-over-year on the annual Employee Engagement Survey. The Engagement Survey results drive initiatives to attract and retain a motivated workforce.
HR-3	Human Resources Full Time Vacancy Rate	$200,000	Requires PSEG LI to maintain an annual vacancy rate of no greater than 5% overall and no greater than 7% in IT. This metric requires delivering an approximate decrease in vacancy of 3% in Business Services, 34% in Customer Service, and 35% in IT from the June 2021 reported levels.
Business Services - Performance Measurement & Administration			
PMA-1	Contract Administration Manual (CAM) Completion	$50,000	Requires PSEG LI to complete drafts and expedite reviews of the CAM. Completed CAMs will improve day-to-day coordination and communication between LIPA and PSEG LI on operational processes.
Business Services - Budgets			
BGT-1	Affiliate Cost Benefit Justification	$250,000	Requires PSEG LI to justify the use and cost of work done on Long Island by NJ-based PSE&G affiliates. This initiative provides a framework to more closely examine the use of Affiliates compared to alternative methods of providing the same service. If an alternative method is determined to be more cost effective or to provide higher quality, this metric requires the development of an implementation plan resulting in savings or greater value to Long Island customers.
BGT-2	Capital Project Impact Analysis	$100,000	Requires PSEG LI to provide an analysis of the full range of costs and benefits for significant capital projects. LIPA invests over $700 million on capital projects per year. Many of these projects are large, in excess of $25 million, and can result in ongoing operating costs and benefits. The objective of this metric is ensure that the promised financial and operational benefits are identified upfront and realized.
Business Services - Accounting			
ACC-1	Substation Property Tax Report	$150,000	Requires PSEG LI to develop the first Substation Valuation Report on 120 substations, comparing assessed values to actual values for tax purposes.
ACC-2	Substation Property Tax Module Plan	$50,000	Requires PSEG LI to research and map an additional 45 substations for future annual Substation Valuation Reports.

Business Services - Rates & Tariffs			
RT-1	Long Island Choice Reform	$150,000	Requires PSEG LI to implement the reforms to the Long Island Choice program that were recommended by the DPS and adopted by the LIPA Board by the deadlines.
RT-2	Advanced Metering Infrastructure (AMI) Fees	$100,000	Requires PSEG LI to implement accurate and timely billing of AMI fees associated with the substantial completion of AMI deployment.
Business Services - Legal Services			
LEG-1	Information Request (IR) Reponses	$150,000	Requires PSEG LI to respond to at least 90% of IRs from LIPA and DPS within 10 days.
LEG-2	Legal Staffing	$150,000	Requires PSEG LI to implement the results of a LIPA study of the staffing of its Legal department, to ensure adequate staffing of attorneys and paralegals to effectively carry out PSEG LI's obligations on behalf of LIPA.
LEG-3	Contractor Performance Evaluation System	$250,000	Requires PSEG LI to implement a contractor evaluation system to ensure LIPA is benefitting from suppliers who have demonstrated experience in cost controls, performance, quality, risk management, and collaborative efforts to promote innovation and transformation.
Business Services - Performance Measurement & Administration			
E&C-1	Government & Legislative Affairs	$100,000	Requires PSEG LI to develop a system to ensure proposed legislation is effectively monitored and that Long Island customers do not pay for lobbying related to PSEG corporate priorities.
E&C-2	Capital Project Outreach	$200,000	Requires PSEG LI to deploy a survey to evaluate capital project outreach and implement process improvements.
E&C-3	Customer Segmentation and Consumer Priorities	$100,000	Requires PSEG LI to develop targeted marketing and communications to drive measurable increases in program awareness of the household assistance rate, digital payments, and pay station payments and use customer segmentation to improve future marketing.
E&C-4	Reputation Management - Positive Media Sentiment	$100,000	Requires PSEG LI to achieve at least 28% positive sentiment in media stories as measured by an independent third-party evaluation, up from 14.5% today.
E&C-5	Reputation Management - Share of Voice	$100,000	Requires PSEG LI to achieve at least 50% "share of voice" in media during storms and emergency events.
E&C-6	Social Media Engagement and Response Rate	$200,000	Requires PSEG LI to respond to 90% of social media inquiries related to personal health and safety with a live agent within 2 hours on blue sky days and 80% within 3 hours during major storms. Requires 90% of all other inquiries to be responded to with a live agent within 4 hours on blue sky days and 80% within 5 hours during major storms.
Compensation at Risk Based on Performance		**$3,000,000**	

LIPA
Long Island Power Authority

Exhibit "C"

Proposal Concerning Modifications to LIPA's Tariff for Electric Service

Requested Action:

The Long Island Power Authority (LIPA) staff (Staff) proposes to modify LIPA's Tariff for Electric Service (the Tariff) effective January 1, 2022 to implement rate adjustments as determined through LIPA's annual budget process.

Background:

Annual Budget and Rate Process. Pursuant to LIPA's annual budget process, a proposed budget is published each year in early November, the publication of which is followed shortly thereafter by budget workshops with LIPA's Board of Trustees and public comment hearings held in Nassau and Suffolk counties in mid-November, leading to the Board's establishment of the annual budget for the coming year at their December meeting. The proposed budget reflects the programs and initiatives necessary to meet the objectives set forth by the LIPA Board of Trustees in their Board Policies[1] for clean, reliable, and affordable electric service for customers, which are reviewed and approved by the Board at meetings throughout the year. The proposed budget further reflects proposals made by PSEG Long Island's in their annual July 1st Utility 2.0 and Energy Efficiency filing, as adjusted by New York Department of Public Service (DPS) review and recommendations.

Authority to Set Electric Rates. LIPA was created by the New York State Legislature pursuant to the Long Island Power Authority Act, Title 1 A of Article 5 (§ 1020 et seq.) of the New York Public Authorities Law, as amended, including as amended by certain provisions of the LIPA Reform Act. LIPA is empowered under its enabling statute to set rates for electric service in the Service Area. Under the LIPA Reform Act, LIPA and PSEG Long Island were required to submit to the DPS a three-year rate proposal for rates and charges to take effect on or after January 1, 2016. After the 2016-2018 period (the Three Year Rate Plan), LIPA and PSEG Long Island are required to submit a proposed rate increase for DPS review if it would increase the rates and charges by an amount that would increase LIPA's annual revenues by more than two and one-half percent of the prior year's total annual revenues. This proposal does not anticipate the triggering of that requirement.

Proposal:

Annual Budget and Rate Update. LIPA Staff proposes to modify the Tariff for Electric Service to implement rate adjustments as determined through LIPA's annual budget process. Consistent with LIPA's annual budget process, a proposed budget will be published in early November 2021, in advance of the budget workshop for LIPA's Board, which will be held on November 17, and public comment hearings, which will be held in Suffolk County and in Nassau County on or about November 29. The resulting rate adjustments will increase the annual aggregate delivery revenues of LIPA by an amount not to exceed two and one-half percent and will be effectuated through a pro rata increase to all Service Classifications.

[1] LIPA's Board Policies are available at https://www.lipower.org/mission/

Update to the Low Income Household Assistance Rate: LIPA proposes to update its low- and moderate-income (LMI) discount program provided through the Household Assistance Rates based on the principles and policies established by the PSC in proceeding 14-M-0565, *Proceeding on Motion of the Commission to Examine Programs to Address Energy Affordability for Low Income Utility Customers*. LIPA Staff will consult with the Department of Public Service on the appropriate level of LMI discounts accounting for revenue impacts, usage data, and other data specific to LIPA. Any increase in the Household Assistance Rate discounts will be funded by a proportional increase in revenues recovered from all non-participating customers of less than 1%. LIPA's total annual revenues will not be affected by this change.

Financial Impacts:

Annual Budget and Rate Update. The proposed 2022 budget will be developed by LIPA and PSEG Long Island pursuant to LIPA's annual budget process, and subject to review by the DPS, public comment, and approval by the Board of Trustees. The budget and resulting rate adjustments will increase annual aggregate delivery revenues of LIPA by an amount not to exceed two and one-half percent.

Affected Tariff Leaves: 6B, 38B, 184, 185, 190, 191, 195, 196C, 196D, 197, 201, 205, 212, 213, 226, 227, 238, 241, 244, 245, 248, 262, 263, 264, and 279I.

Summary of Proposed Changes:

Staff is proposing to implement rate adjustments as determined through LIPA's annual budget process.

Table of Contents (continued):

ADDENDA

I. General Information (continued):

C. General Terms and Conditions (continued):

1. Low Income Program Discount

a) Customer Requirements and Eligibility

(1) Customers served under Service Classifications No. 1, Service Classification No.1 VMRP(S), Service Classification No. 1 VTOU, and Service Classification No.16 (M188) who provide documentation of enrollment in a qualifying program as listed in Section I.B (Qualifying Low Income Customer) and are eligible for a fixed discount on their bill.

(2) Eligibility and enrollment must be renewed each year. To the extent that the Authority can automatically determine a Qualifying Low Income Customer's continued eligibility, the customer will not need to re-apply.

(3) Qualifying Low Income Customers whose continued eligibility cannot be automatically determined will be notified by the Authority as their enrollments expire. The Authority will allow such customers four (4) months from the expiration of their enrollments (the "Grace Period") to complete the renewal process. During the Grace Period, Qualifying Low Income Customers will continue to receive discounted charges. Qualifying Low Income Customers who do not complete the renewal process within the Grace Period and whose continued eligibility cannot be automatically determined by the Authority will become ineligible for the discounted charges until the renewal process is successfully completed. The Authority may extend the Grace Period in the event a state of emergency affecting the service territory is declared.

(4) The Authority may in its sole discretion limit participation in Long Island Choice by Qualifying Low Income Customers (defined in Section I.B above) as needed for consistency with New York State policy as set forth in Orders of the Public Service Commission.

b) Discounts

(1) The Tier 1 discount is available to all Qualifying Low Income Customers. Customers that have received a HEAP benefit plus one (1) add-on shall receive the Tier 2 discount. Customers that have received a HEAP benefit plus two (2) add-ons shall receive the Tier 3 discount. The Tier 4 discount is reserved for customers with Direct Voucher/Guaranteed Payment. HEAP recipients receive add-ons for households with a vulnerable individual (household member who is age 60 or older, under age 6 or permanently disabled) and/or if the household's gross income meets HEAP Tier 1 income guideline.

(2) The daily discount rate can be found on a separate Statement of Low Income Program Discount.

~~Tier~~	~~Electric Heat (Rate 580)~~	~~Electric Non-Heat (Rates 180, 188, 190, 191, 192, 193 and M188)~~
~~1~~	~~$.93 per day~~	~~$.93 per day~~
~~2~~	~~$1.53 per day~~	~~$.93 per day~~
~~3~~	~~$2.17 per day~~	~~$.93 per day~~

~~4~~	~~$1.60 per day~~	~~$1.60 per day~~

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.

Rate Code 180	June to September Inclusive	October to May Inclusive
Service Charge per Day	$.~~4400~~	$.~~4400~~
Energy Charge per kWh per month		
First 250 kWh @	$.~~0871~~	$.~~0871~~
Over 250 kWh @	$.~~1101~~	$.~~0871~~

VIII.SERVICE CLASSIFICATIONS: (continued):

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

Rate Code 580 (Space Heating)	June to September Inclusive	October to May Inclusive
Service Charge per Day	$.~~4400~~	$.~~4400~~
Energy Charge per kWh per month		
First 250 kWh @	$.~~0871~~	$.~~0871~~
Next 150 kWh @	$.~~1101~~	$.~~0871~~
Over 400 kWh @	$.~~1101~~	$.~~0492~~

Rate Code 480, 481	June to September Inclusive	October to May Inclusive
Service Charge per day	$.~~4000~~	$.~~4000~~
Energy Charge per kWh per month		
12:00 midnight to 7:00 a.m. (Standard Time) or	$.~~0152~~	$.~~0152~~
10:00 p.m. to 10:00 a.m. (Standard Time)	$.~~0169~~	$.~~0169~~

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.

All Rate Codes	June to September Inclusive	October to May Inclusive
Service Charge per Day	$~~2.0100~~	$~~2.0100~~

Rate Codes 184 – Rate 1 Energy Charge per kWh	June to September Inclusive	October to May Inclusive
Daylight Savings Time 8 p.m. to 10 a.m., and Saturday and Sunday	Period 1	Period 2
First 125 kWh @	$.~~0269~~	$.~~0269~~
Over 125 kWh @	$.~~0269~~	$.~~0269~~
Daylight Savings Time 10 a.m. to 8 p.m. Weekdays	Period 3	Period 4
First 125 kWh @	$.~~0826~~	$.~~0826~~
Over 125 kWh @	$.~~3002~~	$.~~0843~~

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 Inclusive	October to May Inclusive
Rate Codes 181 - Rate 2		
Energy Charge per kWh		
Daylight Savings Time*		
8 p.m. to 10 a.m., and		
Saturday and Sunday		
	Period 1	Period 2
First 125 kWh @	$.~~0590~~	$.~~0590~~
Over 125 kWh @	$.~~0590~~	$.~~0590~~
Daylight Savings Time*		
10 a.m. to 8 p.m.		
Weekdays	Period 3	Period 4
First 125 kWh @	$.~~0590~~	$.~~0590~~
Over 125 kWh @	$.~~1470~~	$.~~1062~~

	June to September Inclusive	October to May Inclusive
Rate Codes 182 - Rate 3		
Energy Charge per kWh		
Daylight Savings Time*		
8 p.m. to 10 a.m., and		
Saturday and Sunday	Period 1	Period 2
First 125 kWh @	$.~~0593~~	$.~~0593~~
Over 125 kWh @	$.~~0593~~	$.~~0384~~
Daylight Savings Time*		
10 a.m. to 8 p.m.		
Weekdays	Period 3	Period 4
First 125 kWh @	$.~~0593~~	$.~~0593~~
Over 125 kWh @	$.~~1482~~	$.~~0386~~

* 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.

All Rate Codes	June to September Inclusive	October to May Inclusive
Service Charge per day	$.~~4400~~	$.~~4400~~
Meter Charge per day	$.~~1300~~	$.~~1300~~

Rate Codes 188 Energy Charge per kWh	June to September Inclusive	October to May Inclusive
Daylight Savings Time* 8 p.m. to 10 a.m., and Saturday and Sunday	Period 1 $.~~0557~~	Period 2 $.~~0362~~
Daylight Savings Time* 10 a.m. to 8 p.m. Weekdays	Period 3 $.~~3526~~	Period 4 $.~~0981~~

* 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):

C.1 SERVICE CLASSIFICATION NO. 1-VTOU
Voluntary Residential Service with Time of Use Rates (continued):
(Rate Code: 190, 191, 192, 193)

6. Rates & Charges Per Meter:

a) Schedule of Rates:
The Rates for this service code are set below:

Rate Code 190

Service Charge per Day: $~~0.4400~~ per day

Energy Charge per kWh	Summer Season	Winter Season	Shoulder Season
Peak	$ ~~0.2193~~	$ ~~0.1813~~	$ ~~0.1380~~
Off-Peak	$ ~~0.0949~~	$ ~~0.0949~~	$ ~~0.0949~~
Super Off-Peak	$ ~~0.0569~~	$ ~~0.0569~~	$ ~~0.0569~~

Periods:
Peak: 4:00 PM – 7:00 PM Monday through Friday excluding Federal Holidays
Off-Peak: 6:00 AM – 4:00 PM and 7:00 PM – 10:00 PM Monday through Friday, and 6:00 AM – 10:00 PM on Saturday, Sunday and Federal Holidays
Super Off-Peak: 10:00 PM – 6:00 AM all days

Rate Code 191

Service Charge per Day: $0.4400 per day

Energy Charge per kWh	Summer Season	Winter Season	Shoulder Season
Peak	$ ~~0.1889~~	$ ~~0.1514~~	$ ~~0.1192~~
Off-Peak	$ ~~0.0949~~	$ ~~0.0949~~	$ ~~0.0949~~
Super Off-Peak	$ ~~0.0569~~	$ ~~0.0569~~	$ ~~0.0569~~

Periods:
Peak: 4:00 PM – 8:00 PM Monday through Friday excluding Federal Holidays
Off-Peak: 7:00 AM – 4:00 PM and 8:00 PM – 11:00 PM Monday through Friday, and 7:00 AM – 11:00 PM on Saturday, Sunday and Federal Holidays
Super Off-Peak: 11:00 PM – 7:00 AM all days

VIII.SERVICE CLASSIFICATIONS (continued):

C.1 SERVICE CLASSIFICATION NO. 1-VTOU
Voluntary Residential Service with Time of Use Rates (continued):
(Rate Code: 190, 191, 192, 193)
Rates & Charges Per Meter (continued):

Rate Code 192

Service Charge per Day: $~~0.4400~~ per day

Energy Charge per kWh	Summer Season	Winter Season	Shoulder Season
Peak	$ ~~0.1914~~	$ ~~0.1614~~	$ ~~0.1290~~
Off-Peak	$ ~~0.0949~~	$ ~~0.0949~~	$ ~~0.0949~~
Super Off-Peak	$ ~~0.0569~~	$ ~~0.0569~~	$ ~~0.0569~~

Periods:

Peak:	3:00 PM – 7:00 PM Monday through Friday excluding Federal Holidays
Off-Peak:	6:00 AM – 3:00 PM and 7:00 PM – 10:00 PM Monday through Friday, and 6:00 AM – 10:00 PM on Saturday, Sunday and Federal Holidays
Super Off-Peak:	10:00 PM – 6:00 AM all days

Rate Code 193

Service Charge per Day: $~~0.4400~~ per day

Energy Charge per kWh	Summer Season	Winter/Shoulder Season
Daytime	$ ~~0.1172~~	$ ~~0.0963~~
Nighttime	$ ~~0.0569~~	$ ~~0.0569~~

Periods:

Daytime:	6:00 AM – 11:00 PM all days
Nighttime:	11:00 PM – 6:00 AM all days

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.

Rate Code 280	June to September Inclusive	October to May Inclusive
Service Charge per day	$.~~4400~~	$.~~4400~~
Energy Charge per kWh	$.~~1196~~	$.~~0964~~

VIII.SERVICE CLASSIFICATIONS (continued):

E. SERVICE CLASSIFICATION NO. 2-VMRP
Voluntary Small General Service With Multiple Rate Periods: (continued)
(Rate Code: 288, 292)

6. Rates and Charges per Meter:

a) Schedule of Rates

The rates for this service code are found below

Rate Code 288	June to September Inclusive	October to May Inclusive
Meter Charge per day	$.~~1300~~	$.~~1300~~
Service Charge per day	$.~~4400~~	$.~~4400~~
Energy Charge per kWh		
Daylight Savings Time 8 p.m. to 10 a.m., and Saturday and Sunday	Period 1 $.~~0557~~	Period 2 $.~~0362~~
Daylight Savings Time 10 a.m. to 8 p.m. Weekdays	Period 3 $.~~3526~~	Period 4 $.~~0981~~

Rate Code 292

Service Charge per day $.~~4400~~

Energy Charge per kWh	Summer Season	Winter Season	Shoulder Season
Peak	$ ~~0.2073~~	$ ~~0.1673~~	$ ~~0.1171~~
Off-Peak	$ ~~0.1049~~	$ ~~0.1049~~	$ ~~0.1049~~
Super Off-Peak	$ ~~0.0629~~	$ ~~0.0629~~	$ ~~0.0629~~

Periods:

Peak:	3:00 PM – 7:00 PM Monday through Friday excluding Federal Holidays
Off-Peak:	6:00 AM – 3:00 PM and 7:00 PM – 11:00 PM Monday through Friday, and 6:00 AM – 11:00 PM on Saturday, Sunday and Federal Holidays
Super Off-Peak:	11:00 PM – 6:00 AM all days

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):

F. SERVICE CLASSIFICATION NO. 2-L - General Service – Large (continued): (Rate Codes: 281, 283, 291)

3. Rates and Charges per Meter:

a) Schedule of Rates

The rates for this service code are set forth below.

Secondary Service

Rate Code 281	June to September Inclusive	October to May Inclusive
Service Charge per day	$~~2.34~~	$~~2.34~~
Demand Charge per kW of demand	$~~17.80~~	$~~16.32~~
Energy Charge per kWh	$.~~0305~~	$.~~0123~~

Primary Service

Rate Code 281	June to September Inclusive	October to May Inclusive
Service Charge per day	$~~2.34~~	$~~2.34~~
Demand Charge per kW of demand	$~~16.62~~	$~~15.17~~
Energy Charge per kWh	$.~~0299~~	$.~~0117~~
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)

3. 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	$~~1.93~~
Meter Charge per day	$.~~3100~~

	Rate Periods**		
	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
Demand Charge per kW Total of 3 Rate Periods	none	$~~60.51~~	$~~5.19~~
Energy Charge per kWh Total of 3 Rate Periods	$.~~0037~~	$.~~0264~~	$.~~0221~~
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):

G. 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	$~~1.93~~
Meter Charge per day	$.~~9300~~

Rate Periods**

	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
Demand Charge per kW Total of 3 Rate Periods	none	$~~57.51~~	$~~4.97~~
Energy Charge per kWh Total of 3 Rate Periods	$.~~0034~~	$.~~0238~~	$.~~0200~~
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.

4. 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):

d) The Authority may consider loads with a minimum estimated demand of 10,000 kW for service at 69,000 volts or higher.

e) The Primary Rate will also apply to Customers served at 23,000 or 33,000 volts.

f) The Transmission Rate will apply to Customers served at 69,000 volts or higher.

3. Rates and Charges per Meter per Month:

a) Schedule of Rates

The rates for the service code are set forth below.

Rate Code 285	Secondary	Primary	Transmission
Service Charge per day	$~~10.45~~	$~~10.97~~	$~~10.97~~
Meter Charge per day	$~~3.05~~	$~~7.95~~	$~~7.95~~
		Rate Periods**	
	1 Off-Peak all year midnight to 7 a.m.	2 On-Peak * June-Sept. except Sundays 10 a.m. to 10 p.m.	3 Intermediate all other hours
Demand Charge per kW			
Secondary	none	$~~29.86~~	$~~7.10~~
Primary	none	$~~25.63~~	$~~6.28~~
Transmission	none	$~~21.18~~	$~~5.15~~
Energy Charge per kWh			
Secondary	$.~~0061~~	$.~~0396~~	$.~~0253~~
Primary	$.~~0036~~	$.~~0344~~	$.~~0221~~
Transmission	$.~~0036~~	$.~~0322~~	$.~~0207~~
Minimum Demand Charge 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):

Rate Code 284	Secondary	Primary	Transmission
Service Charge per day	$~~10.45~~	$~~10.97~~	$~~10.97~~
Meter Charge per day	$~~3.05~~	$~~7.95~~	$~~7.95~~
		Rate Periods**	
	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
Demand Charge per kW			
Secondary	none	$~~57.86~~	$~~5.79~~
Primary	none	$~~51.96~~	$~~5.19~~
Transmission	none	$~~38.84~~	$~~3.87~~
Energy Charge per kWh			
Secondary	$.~~0001~~	$.~~0338~~	$.~~0218~~
Primary	$.~~0001~~	$.~~0242~~	$.~~0044~~
Transmission	$.~~0001~~	$.~~0228~~	$.~~0042~~
Minimum Demand Charge 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)

4. 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.

5. Rates and Charges

   a) Rates per Signal Face of Light per Month

   $~~8.52~~ per control mechanism per month.
   $~~2.53~~ per incandescent signal face per month.
   $~~3.47~~ 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.

6. 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.

7. 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):

L. 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 Charges

a) Rates per Mercury Vapor Facility per Month

Type Luminaire	Approximate Lumens	Total Watts	Monthly Rates
Area Light*	7,000	200	$~~15.74~~
Area Light*	21,000	455	$~~22.33~~
Flood Light*	21,000	455	$~~24.37~~
Flood Light*	52,000	1,100	$~~51.13~~

b) Rates per Incandescent Facility per Month

Type Luminaire	Approximate Lumens	Total Watts	Monthly Rates
Flood Light*	100 c.p.	92	$~~6.44~~
Flood Light*	250 c.p.	189	$~~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

   a) Unmetered, single-phase, 60 hertz, alternating current supplied to Authority-owned, operated, and maintained lighting facilities, and

   b) Provided for approximately 4,090 hours per year (4,102 for a leap year), at suitable voltages chosen by the Authority, and

   c) 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

Lamp Type	Type Luminaire	Approximate Lumens	Total Watts	Monthly Rates
HPS*	Area Light	6,400	108	$~~22.90~~
HPS*	Flood Light	27,500	309	$~~28.08~~
HPS*	Flood Light	50,000	476	$~~37.32~~
MH*	Flood Light	36,000	453	$~~37.96~~
MH*	Flood Light	110,000	1093	$~~41.36~~
HPS**	Full Cut-off	4,000	63	$~~31.11~~
HPS**	Full Cut-off	6,300	91	$~~31.21~~
HPS	Full Cut-off	9,500	128	$~~31.65~~

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):

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

*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 $~~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 $.~~0510~~ per kWh, for the monthly kWhs of unmetered lighting service specified in this Tariff.

   b) The Underground Connection Charge per Month is $~~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):	$~~44.60~~
Secondary Voltage (Above 7 KW):	$~~81.08~~
Primary Voltage:	$~~133.81~~

VIII.SERVICE CLASSIFICATIONS (continued):

P. 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:	$~~3.38~~
Primary:	$~~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:	$~~3.38~~
Primary:	$~~2.82~~

VIII.SERVICE CLASSIFICATIONS (continued):

P. 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

	Rate Periods*		
	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	$.~~0024~~	$.~~2476~~	$.~~0359~~
Primary:	$.~~0013~~	$.~~2392~~	$.~~0334~~
Transmission	$.~~0001~~	$.~~2288~~	$.~~0296~~

* 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)

4. 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)

	June to September Inclusive	October to May Inclusive
Service Charge per day	$.~~4400~~	$.~~4400~~

	June to September Inclusive	October to May Inclusive
Energy Charge per kWh		
	Period 1	Period 2
7 p.m. to 2 p.m. weekdays and all day Saturday and Sunday	$.~~0575~~	$.~~0575~~
	Period 3	Period 4
2 p.m. to 7 p.m. Weekdays	$.~~4092~~	$.~~1454~~

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

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.

c) Minimum Charge

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

Long Island Power Authority

Statement of Low Income Program Discount

Applicable to Customers who qualify for the Low Income Program Discount per Leaf 38B of the Tariff.

Tier	Electric Heat (Rate 580)	Electric Non-Heat (Rates 180, 188, 190, 191, 192, 193 and M188)
1	$ per day	$. per day
2	$ per day	$. per day
3	$ per day	$. per day
4	$ per day	$. per day

Effective: January 1, 2022

Exhibit "D"

NEW YORK STATE OF OPPORTUNITY. | **Department of Public Service**

Rory M. Christian
Chair and
Chief Executive Officer

125 East Bethpage Road, Plainview, NY 11803
www.dps.ny.gov/longisland

November 26, 2021

Via Email and U.S. Mail
Honorable Mark Fischl, Vice 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 2021 Update

Dear Vice Chairman Fischl:

I am pleased to provide the recommendations of the New York State Department of Public Service (Department, DPS, or DPS Staff) regarding PSEG Long Island's (PSEG LI, or the Company) annual update to the Utility 2.0 Long Range Plan (the 2021 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 manage their energy usage, utility bills and improving system reliability and power quality more efficiently and effectively. 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 28, 2021 PSEG LI submitted to the Department its 2021 Utility 2.0 Plan Annual Update, including the Energy Efficiency and Demand Response (EEDR) Plan for 2022.[1] In the 2021 Utility 2.0 Plan, PSEG LI seeks funding for six new program proposals: (i)Connected Buildings Pilot, (ii) Bucket Truck Electrification Plan, (iii)Suffolk County Bus Make-Ready Pilot, (iv) an Increasing Hosting Capacity Study, (v) Green Rate (a new initiative of Rate Modernization), and (vi) a new EV Make-Ready Program. The filing also includes an updated budget as described in the Staff Memorandum.

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1 Matter 14-01299, In the Matter of PSEG-LI Utility 2.0 Long Range Plan, PSEG LI Utility 2.0 2021 Annual Update (filed June 28, 2021).

DPS Staff recommends adoption of many of the proposals in accordance with the Staff Memorandum. The Department recommends approval of five of the six newly proposed programs, and budget adjustments for five of eleven of the previously approved ongoing programs where requested. DPS Staff recommends that PSEG LI continue to report to DPS on the status of its on-going Utility 2.0 Plan projects in its quarterly reports and include these new projects in its reports. DPS Staff will continue to monitor the approved programs in accordance with corresponding metrics and quarterly updates.

The total cost of PSEG LI's 2021 Utility 2.0 Plan as proposed, including previously approved programs, running from 2019-2025, is $437.74M. The total cost of PSEG LI's Utility 2.0 Plan represents Capital costs of $327.23M and Operations and Maintenance (O&M) costs of $110.51M through 2025. Of this total, $93.01M represents new funding requested for six newly proposed programs identified above. PSEG LI has also updated its previously approved budgets to reflect funding increases for 10 out of 29 programs through 2025.

Between 2019 and 2020, PSEG LI expended $142.84M on Utility 2.0 programs, which represents approximately 34% of the $437.74M total budget. In addition to the newly proposed programs, PSEG LI seeks to modify the budget of current programs which decreases the overall previous budget by $5.26M. Although the budget is decreasing overall, DPS reviewed the programs for which PSEG LI requested increased funding to determine the reasonableness of such requests. For newly proposed programs, PSEG LI is requesting an additional $64.18M for Capital and an additional $28.83M for O&M programs, for a total increase of $93.01M, over the next five years. Much of the additional cost, approximately 95%, is allocated to the EV Make Ready Program. The total cost of PSEG LI's 2021 Utility 2.0 Plan, as recommended by Staff, for newly proposed programs, is approximately $88.21M through 2025. This reflects an overall decrease of $4.80M.

PSEG LI's EEDR Plan for 2022 includes two new programs: Multifamily and All Electric Homes, as well as eight recurring programs: Energy Efficient Products, Home Comfort, Residential Energy Affordability Partnership (REAP), Home Performance, Commercial Efficiency, Home Energy Management (HEM), Pay for Performance, and Dynamic Load Management (DLM). PSEG LI seeks EEDR funding of approximately $88.9M for 2022 only. Staff recommends adoption of all the EEDR Plan proposals in accordance with the DPS Staff Memorandum.

DPS Staff reviewed the proposals submitted by PSEG LI in its 2021 Utility 2.0 Long Range Plan and the EEDR Plan, including Benefits Cost Analyses (BCA) for all programs for which a BCA was provided by PSEG LI, as well as the substantive aspects of the proposals, for consistency with State policies and goals. These policies and goals include energy efficiency and greenhouse gas emissions reductions required by the Climate Leadership and Community Protection Act (CLCPA), and those included in various Public Service Commission (PSC or the Commission) Orders. DPS Staff also

reviewed the PSEG LI EEDR Plan with specific respect to its alignment with State energy efficiency policies contained in Case 18-M-0084.[2] DPS Staff issued approximately 100 information requests to obtain additional detail in its evaluation of PSEG LI's proposals. As part of its review, DPS solicited public comments on the Utility 2.0/EEDR filing. Public Comments were received from 11 organizations. A summary of the comments received is included in the DPS Staff Memorandum. Comments received are addressed in the DPS Staff Memorandum as appropriate.

Overall, there have been extensive delays to complete programs and continuous underspending on Utility 2.0 programs, especially regarding O&M funding. PSEG LI reports that many of its programs have been delayed or are on hold. Understandably, the COVID-19 pandemic has played a role in some of the delays. DPS found that a consistent cause for implementation delay across several PSEG LI programs has been Information Technology (IT) constraints. PSEG LI stated that these constraints were exacerbated by the need to turn attention to addressing its Outage Management System (OMS), and storm response communication systems issues after Tropical Storm Isaias. Addressing the OMS and other systems impacted by Tropical Storm Isaias is critically important. It is also critically important that PSEG LI pursue the programs in its Utility 2.0 Plan to ensure the State's policies and goals remain on track and are ultimately met. DPS recommends that PSEG LI take appropriate actions to ensure programs are not unduly delayed because of IT constraints.

In addition, from 2019 through 2020, for Utility 2.0 programs, PSEG LI budgeted $141.62M in Capital and $40.67M in O&M funding. Of those amounts, PSEG LI has spent $130.22M in capital and $12.61M in O&M comprising approximately 92% of and 31% of PSEG LI's Capital and O&M budgets, respectively. PSEG LI has returned $13.0M in O&M funding in 2021 and plans to return $15.60M in unspent O&M funds to customers in 2022. Unspent funds should be reconciled and returned to rate payers.

DPS continues to strongly recommend that PSEG LI fully substantiate any request for increases in funding by providing updated BCAs, independent support such as third-party vendor quotes, pricing information, and price comparisons from any utilities that have similar programs in place. PSEG LI must demonstrate that it has performed its due diligence, illustrating the reasonableness and accuracy of its cost estimates so that DPS staff can verify the estimates. PSEG LI also must fully substantiate any material assumptions used as inputs into the BCA.

In addition, consistent with prior Department recommendations, PSEG LI and LIPA's participation in Joint Utility working groups, including the Joint Management Committee, remains critical to ensure PSEG LI and LIPA remain aligned with the State's other Investor Owned Utilities. DPS Staff recommends that PSEG LI and LIPA take appropriate action to meaningfully engage in these endeavors.

Finally, DPS stresses that PSEG LI ensure project costs are reasonable, contain achievable deliverables and appropriate measures to assess progress towards program

[2] Case 18-M-0084, Comprehensive Energy Efficiency Initiative.

goals. 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,

Rory Christian
Chair and CEO

ATTACHMENT

CC: Thomas Falcone, LIPA Chief Executive Officer
Anna Chacko, LIPA General Counsel
Bobbi O'Connor, LIPA Secretary to the Board of Trustees
Justin Bell, LIPA VP of Public Policy and Regulatory Affairs
Dan Eichhorn, PSEG LI President and Chief Operating Officer
Rick Walden, PSEG LI VP of Customer Service
Carrie Meek Gallagher, DPS LI Director
Nicholas Forst, DPS LI Counsel

STATE OF NEW YORK
DEPARTMENT OF PUBLIC SERVICE
INTEROFFICE MEMORANDUM

November 23, 2021

TO: Chief Executive Officer Rory Christian

FROM: DPS Staff (LIPA and PSEG LI 2021 U2.0 and EEDR Plan Review Teams)

SUBJECT: Review and recommendations regarding the Long Island Power Authority and PSEG Long Island's 2021 Utility 2.0 Plan Annual Update and 2021 Energy Efficiency and Demand Response (EEDR) Plan

Table of Contents

Introduction

This memorandum is provided to the Department of Public Service (DPS or the Department) Chair and LIPA (LIPA or the Authority) Board on behalf of the Department of Public Service Staff (Staff) review team who conducted the review, and herein provide their recommendations regarding the Long Island Power Authority and PSEG Long Island's (PSEG LI or the Company) 2021 Utility 2.0 Annual Update (2021 Utility 2.0 Plan) of its Utility 2.0 Long Range Plan, and its 2021 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 annually a plan implementing distributed generation and, energy efficiency (EE) measures, and 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 related rates and charges, including those recommendations concerning energy efficiency and renewable energy programs.

PSEG LI 2021 Utility 2.0 Annual Update Proposal Overview

On July 1, 2021, PSEG LI submitted to DPS its 2021 Utility 2.0 Plan, filed June 28, 2021 and including its EEDR Plan for 2022. In the 2021 Utility 2.0 Plan, PSEG LI seeks funding for six new program proposals: a Connected Buildings Pilot, Bucket Truck Electrification Plan, Suffolk County Bus Make-Ready Pilot, and an Increasing Hosting Capacity Study. Included in these new proposals are scope expansions and budget extensions for two previously approved initiatives (Rate Modernization, EV Make-Ready Program). A new initiative, a Green Rate, is included as an update to the previously approved Rate Modernization effort. The filing also includes a reconciled budget for previously approved initiatives described below.

Staff recommends adoption of many of the proposals in accordance with the recommendations contained herein. Recommendations to approve a newly proposed budget were made with the exception of three of the newly proposed programs, and budget increases were approved for five of 10 of the previously approved ongoing programs where budget adjustments were proposed. Staff recommends that PSEG LI report to DPS on the status of the 2021 Utility 2.0 Plan projects in its quarterly reports, which are currently being filed for its 2019 and 2020 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.

The total cost of PSEG LI's 2021 Utility 2.0 Plan as proposed, which includes previously approved programs, running from 2019-2025, is $437.74M. This consists of Capital costs: $327.23M and operations and maintenance (O&M) Costs: $110.51M. Of this total, $93.01M is for six newly proposed programs. PSEG has also updated its previously approved budgets and reflect funding increases for 10 out of 29 programs through 2025. Of this total budgeted amount, PSEG LI has expended $142.84M for 2019 and 2020, which represents approximately 34% of the $437.74M total budget. In addition to the newly proposed programs, PSEG LI seeks to modify the budget of current programs which overall decreases the previous budget by $5.26M. Although the budget is overall decreasing, DPS reviewed the programs that PSEG LI requested increased funding for to determine the reasonableness of such requests.

For newly proposed programs, PSEG LI is requesting an incremental $64.18M for capital and an incremental $28.83M for O&M programs, for a total of $93.01M, over the next five years. The majority of the cost (95%) is based on the EV Make Ready Program. Staff review and analysis of the programs are discussed in the sections below.

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[1] NYS DPS Document and Matter Management System, Matter 14-01299, In the Matter of PSEG LI Utility 2.0 Long Range Plan, PSEG LI Utility 2.0 Long Range Plan and Energy Efficiency and Demand Response Plan, 2021 Annual Update (filed July 1, 2021).

The total cost of PSEG LI's 2021 Utility 2.0 Plan, as recommended by Staff, is approximately $88.21M through 2025. This reflects a decrease of $4.80M. Staff recommends gross capital costs of Utility 2.0 programs in the amount of $10.42M for 2022, $16.36M for 2023, $16.36M for 2024 and $19.85M for 2025 for a total of $62.99M. Staff recommends gross O&M costs of Utility 2.0 programs in the amount of $3.94M for 2022, $5.88M for 2023 and $6.77M for 2024, $8.64M for 2025 for a total of $25.22M.[2]

PSEG LI's EEDR Plan for 2021 includes two new programs: Multifamily and All Electric Homes, as well as eight on-going programs from previous years: Energy Efficient Products, Home Comfort, Residential Energy Affordability Partnership (REAP), Home Performance, Commercial Efficiency, Home Energy Management (HEM), Pay for Performance, and Dynamic Load Management (DLM). Staff recommends adoption of all of the energy efficiency proposals in accordance with the recommendations contained herein. PSEG LI seeks EEDR funding of approximately $88.9M for 2022 only.

DPS notes that there have been extensive delays to complete programs and continuous underspending especially in regard to O&M funding. Beginning in 2019 through 2020, PSEG LI has budgeted $141.62M in capital funding and $40.67M in O&M funding. Of that amount, PSEG LI has spent $130.22M in capital and $12.6M in O&M representing 92% of capital and 31% of O&M. PSEG LI has returned $13.0M in O&M funding in 2021 and plans to return $15.60M in unspent O&M funds to customers in 2022. PSEG LI reports that many of the programs have been delayed or are on hold. Understandably, the 2020 pandemic played a role in delays, however, DPS urges PSEG LI to pursue the approved programs to ensure the maximum benefit to ratepayers for funding that has been collected in rates.

A consistent cause for delay across several programs is IT constraints. These constraints were generally exacerbated by the need to turn attention to addressing storm response communication systems issues after Tropical Storm Isaias in the fall of 2020. DPS recommends that PSEG LI take appropriate actions to ensure programs are not unduly delayed because of IT constraints.

DPS also recommends that PSEG LI fully support any requested funding increases by providing an updated BCA and any independent support such as third-party vendor quotes, pricing information obtained, and internal workpaper calculations subject to verification by DPS Staff for reasonableness and accuracy to arrive at the projected cost estimates. PSEG LI must demonstrate that it has performed its due diligence for any requested funding increases by reaching out to any utilities that have similar programs in place for price comparisons. PSEG LI also must fully support any material assumptions used as inputs into the BCA.

Staff encourages LIPA and PSEG LI to actively engage with the Joint Management Committee, the Joint Utility working groups. LIPA's and PSEG LI's participation is critical for aligning with IOU best practices.

Staff Review of Utility 2.0 Proposals and Public Comments

Staff conducted an extensive review of the six new proposals submitted by PSEG LI in its 2021 Utility 2.0 Plan. Staff reviewed the substantive aspects of the proposals, for consistency with State policies and goals, related to energy efficiency and greenhouse gas emissions reductions required by the Climate Leadership and Community Protection Act (CLCPA), as well as Public Service Commission (PSC or the Commission) Orders. Staff also reviewed all provided Benefit Cost Analyses (BCA) and cost breakdowns for each program. As noted below, PSEG LI presented certain proposals in the 2021 Plan as pilot programs, to study, and/or test particular hypotheses. As such, a traditional BCA was not developed at this stage of the pilot programs.

Staff simultaneously conducted a review of each program contained in the EEDR Plan, specifically to ensure alignment with New York State energy efficiency policies set out by the PSC in 18-M-0084.[3]

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[2] See, Appendix 1.

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

On July 8, 2021, the Department issued a Notice Requesting Comments on PSEG LI 's 2021 Utility 2.0 Plan, including the EEDR Plan.[4] The Department received comments from eleven organizations including the New York Power Authority (NYPA), the City of New York, Suffolk County, and the Natural Resources Defense Council (NRDC). Comments were also received from industry associations including NY BEST, and the NY Solar Energy Industries Association (NYSEIA), Long Island Drive Electric, and businesses including Greenlots, Sunrun, FreeWire, and Energy Spectrum. Public comments received are available on the Department's Document Matter Management (DMM) website under Matter No. 14-01299.[5] The comments, which were incorporated into Staff review, offered feedback and suggestions on several of PSEG LI's proposals. Staff recommends that PSEG LI consider the public comments concerning each of the proposals.

[4] Matter 14-01299, supra, Notice Requesting Comments (issued July 8, 2021).
[5] Matter 14-01299, supra, Public Comments.

New 2021 Plan Proposals

Connected Buildings Pilot

- Technology pilot to install smart panels in homes and study potential benefits.
- Recommendation: Approve with modifications.
- Requested Budget ($M): $1.19
- Staff recommended adjustment: ($0.55M)

The Connected Buildings Program is a technology pilot proposed by PSEG LI to install smart electric panels in customer's homes to gain insight on the benefits and potential uses of this emergent technology. The proposed budget for this program is $1.19M in O&M costs through 2023. There are no proposed capital costs for this program. PSEG LI did not provide a benefit-cost analysis (BCA) for this program, because "As a pilot, the Connect Building project offers a variety of learning objectives related to several potential resultant benefits of smart panels.... The magnitude of these benefits (including peak reduction, energy savings, reduced DER installation costs, avoided service upgrades, and increased resiliency) all have significant uncertainty, which would make quantification of BCA metrics for this pilot speculative at this time."[6] It is expected that outcomes of the pilot will confirm quantification of the program's benefits.

The program proposes to install the Span smart panel in 150 residential customer's homes. Customers who would otherwise need to upgrade or replace their electric panel or customers seeking whole home backup with storage would benefit from the pilot's incentive covering all or a substantial portion of the installed costs of the panel in exchange for sharing breaker-level data with PSEG Long Island.[7] Staff reviewed the proposal as well as information provided through information requests including vendor quotes, budget support, details of potential benefits, customer protections, and information on the Span smart panel itself, in order to gain a further understanding of the pilot.

Smart panels can offer increased resiliency for customers who have battery storage installed. During outages, the smart panel can extend battery life and functionality by enabling customers to prioritize and control loads while monitoring consumption and battery power. The smart panel also enables customers to utilize the battery for every circuit in their home, whereas current configurations are limited to a few circuits on a dedicated panel. Participants may also realize energy and bill savings resulting from increased insight into their consumption. Smart panels may also reduce DER installation costs by eliminating the need for throw-over disconnect switches, dedicated subpanels, and eliminating the need for service and main panel upgrades in some instances. PSEG LI indicated that it currently doesn't have data on what percentage of customers require service line upgrades or main panel upgrades when installing DER systems, so the extent of these savings is unclear.[8]

PSEG LI seek to understand the degree to which customers may alter their consumption based on breaker level data and price or event signals. One hypothesis of the pilot is that smart panels are capable of responding to Demand Response (DR) events. In response to IR U2.0_DPS-0023, PSEG LI states that pilot participants will not be required to participate in any of the existing Dynamic Load Management (DLM) programs. Staff observes that if pilot participants fail to voluntarily join DLM programs, the pilot will be ineffective in testing this hypothesis.

Additionally, PSEG LI's DLM programs may not be well suited for this pilot. The Commercial System Relief Program (CSRP) and Distribution Load Relief Program (DLRP) require minimum load relief of 50kW and require residential customers to enroll through aggregators, but the programs have been unsuccessful

[6] Response to Staff Discovery Request U 2.0 DPS-0091, item 1a.
[7] PSEG LI Utility 2.0 & EEDR 2021 Annual Update Participant Recruitment p.62.
[8] Response to Staff Discovery Request U2.0-DPS-0024, items 2 and 3

in recruiting customers through aggregators. The Direct Load Control (DLC) program allows the utility to remotely control the customer's device to reduce load. Staff expresses concern and notes potential issues could arise if this is applied to the Span Smart Panel, as the utility or third party would control entire circuits in a home as opposed to a single device. PSEG LI stated that it will advertise the new Time of Use (TOU) rates to participants as well; however, staff notes that participation would be voluntary. Enrollment in a DLM program or TOU rate is important to test the ability of smart panels to help realize peak demand reduction that benefits the grid.

Staff reviewed public comments received regarding the Connected Buildings pilot. NRDC generally supports PSEG LI's Connected Buildings pilot for a few reasons. NRDC states that the program facilitates customer adoption of grid beneficial DER, enables "grid responsive residential load," and considers the array data the pilot can provide to be invaluable. NRDC also expresses concern about some aspects of the program. It notes the pilot won't provide any lessons to increase participation in the DLM programs for existing customers with storage but who are not participating in the pilot. NRDC also points out the high unit cost of the smart panels compared to controllable thermostats which are also used in DLM programs. NRDC also observes that it may be hard to parse data from the multiple loads and DER's involved and accurately attribute the benefits to each individual component. Finally, NRDC reiterates from its 2020 Utility 2.0 comments that it has serious concerns about the utility controlling customer-owned DER.

Staff agrees with many of NRDC's comments. Staff inquired about customers' potential concerns regarding data privacy or utility control. PSEG LI responded that customers must agree to allow Span to share the customer data originating from their panel with PSEG LI. Regarding utility control, PSEG LI stated that customers will be given opportunities to participate in different offerings that may offer more control from the Span smart panel.[9]

Staff also investigated customer protections regarding cybersecurity and cost concerns. The Company stated that data generated from the Span Smart Panel via the Customer network would be subject to PSEG LI's Cyber Security review.[10] In response to Staff's inquiry regarding the system's cost, PSEG LI stated that the pilot funding would cover most, if not all the labor to install the panels. The Company also noted that the Span panel is covered by a 10-year warranty from the manufacturer and any repairs or replacements required during the pilot program would be covered by the Certified installer working with PSEG LI during the pilot program.[11]

PSEG LI's states in its filing that, "Each system will cost approximately $5,400, including installation labor, amounting to approximately $800,000 for 150 participants." PSEG LI substantiated the costs of the Span systems via a vendor quote from the manufacturer, Span, identifying the smart panel cost and estimated installation costs.[12] Staff supports the proposed costs for the system and installation except for an incorrect calculation applying shipping and freight to labor installation costs, which resulted in an overstatement of costs.

PSEG LI also requested $0.25M for Evaluation, Measurement, and Verification (EM&V) and allocated $0.050M in 2022 and $0.2M in 2023.[13] PSEG LI was unable to substantiate this request, noting that the evaluation budget estimate was based upon professional judgement and no quote from a third-party vendor has been obtained. As such, staff recommends a budget of $0.05M in 2022 but does not recommend committing funding to the $0.2M requested in 2023 at this time. Staff recommends that PSEG LI provide a more detailed cost estimate in the 2022 Utility 2.0 filing to support the expected EM&V costs in 2023. EM&V costs should be supported by a third-party vendor quote or an estimated number of FTE hours based on reasonable assumptions or comparison to similar projects.

[9] Response to Staff Discovery Request U 2.0-DPS-0060, items 1a and 1b.
[10] Response to Staff Discovery Request U2.0_DPS-0020 Answer, item 1g.
[11] Response to Staff Discovery Request U2.0_DPS-0060, items 2a and 2b.
[12] Response to Staff Discovery Request U2.0_DPS-0021, item 1a and attachment 1.
[13] Response to Staff Discovery Request DPS-21024, item 1d.

The Connected Buildings budget also includes $0.08M in IT labor which was supported by internal analysis[14], and $0.05M for marketing and outreach to support this program. PSEG LI didn't break down the outreach budget further as it intends to obtain feedback from the partnering companies who will contribute to the development of its Plan and provide insight as to the best allocation of its outreach funding.[15] Currently, PSEG LI has not produced a written outreach plan, but beginning in 2022, intends to develop and implement a targeted outreach plan to recruit participants who meet the criteria identified. The Plan will include collaboration with developers and trade allies, a website, and digital and print communications.[16]

Staff recommends approval of the Connected Buildings pilot with the following modifications aimed at ensuring the pilot effectively tests the hypotheses and provides insights for potential wide scale deployment of smart panel technology. First, PSEG LI should select pilot participants that agree to participate in the DLRP and CSRP Dynamic Load Management programs, or TOU rates, or consider making participation in one of these programs a requirement of the pilot. As an alternative to enrolling through aggregators, PSEG LI should coordinate with LIPA to consider developing a custom tariff, or revise the existing tariff, to enable pilot participants to directly enroll in the DLM programs. Second, PSEG LI should coordinate with contractors to track DER installation costs in the pilot for comparison against baseline costs, as opposed to just offering a survey as proposed. Third, PSEG LI should seek to include customers that would require a service upgrade due to DER installation. PSEG LI should also begin acquiring data on the occurrence rate of service upgrades related to DER installation, which will provide insights to benefits associated with large scale deployment. PSEG LI should also perform a post pilot Benefit Cost Analysis based on data acquired and forecasted benefits over the life of the product to assess the cost effectiveness of the smart panel.

Implementation of the above recommendations may result in a longer participant screening and selection process. Additionally, the Company needs to further develop its outreach plan prior to the recruitment process. In consideration of these observations, as well as the high unit cost of the smart panel, Staff also recommends reducing the pilot participation from 150 customers to 75 customers in 2022. This results in a downward adjustment in the O&M budget of $0.35M in 2022.[17] Taken together with the adjustment noted above to the EM&V costs in 2023, this results in a total downward adjustment of $0.55M, and a recommended budget commitment through 2023 of $0.64M for the pilot at this time. Depending on actual installation costs and participant availability, PSEG LI should modify the number of program participants as appropriate.

Electric Bucket Truck Study

- Proposal to hire a third-party consultant to determine viability of purchasing an electric bucket truck.
- Recommendation: Recommend program, but deny budget requested.
- Requested Budget ($M): $0.10
- Staff recommended adjustment: ($0.10)

[14] Response to Staff Discovery Request U2.0_DPS-0019.
[15] Response to Staff Discover Request U 2.0-DPS-0060, Item 3b.
[16] PSEG LI Utility 2.0 & EEDR 2021 Annual Update, 3.1.4 Connected Buildings Pilot, Item 1. Participant Recruitment, p. 62.
[17] Staff used the full price per panel of $3,520 plus a 12% adder for freight and taxes, and an installation cost of $2,200, for a total unit price of $6,142.40. This unit price was multiplied by 75 for a total equipment cost of $460,680. The adjustment was calculated as the difference between this and the total equipment cost of $810,600 as shown in U2.0_DPS-21024.

PSEG LI proposes to hire a third party consultant to perform a Bucket Truck Electrification study for purchasing an electric bucket truck. PSEG LI requests $0.1M in O&M funding for 2022 only and no capital expense is required. The $0.1M estimate was based upon the budget for a similar study (i.e., EV Make Ready study by Gabel, in 2018).

As part of the study, PSEG LI will hire a consultant to develop an implementation plan to replace its existing diesel-power bucket trucks with electric bucket trucks. The plan will focus on market research for identifying electric bucket truck manufacturers and model, establishing charging infrastructure requirements, determining costs, and funding sources, and drafting a long-term fleet electrification plan.

Staff reviewed PSEG LI's response to IR U2.0_DPS-017, DPS-018, DPS-24, U2.0_DPS-078 along with all documents including workpapers and budget calculations for this program. No BCA can be done because no benefits can be identified without the study. Staff found that PSEG LI currently has 322 diesel-power bucket trucks. Of the 322 diesel-power bucket trucks, 144 trucks are owned by PSEG LI, and the other 178 trucks are leased. PSEG LI purchased most of the bucket trucks it owns starting in 2018. PSEG LI states that there are no electric bucket trucks offered in the market now. The Company is currently working with a chassis and aerial device manufacturer on a prototype. PSEG LI further claims that using an outside contractor will have a more comprehensive outcome for identifying any unique issues and requirements relevant to heavy duty electric vehicles, which might not be apparent from purely a fleet management expertise basis. PSEG LI states its Transportation Department has relevant experts with experience on its fleet needs & operations, but no experience on medium- and heavy-Duty electric vehicles.

Staff agrees that medium- and heavy-duty trucks are more challenging to electrify than cars. Given that no electric bucket trucks are currently available in the market, Staff does not believe there are reasonable benefits to performing this study using an outside contractor instead of using PSEG LI's own experts. Ether one of them will need to work with the manufacturer to conduct this study. In addition, Con Edison has a similar Electric Utility Bucket truck project, in which it is directly partnering with its manufacturer to develop its electric bucket truck rather than using a third-party consultant. In fact, Staff believes that using PSEG LI's own experts to work closely with the manufacturer to perform the study and develop the implementation plan will provide significant benefits to the Company itself. First, the manufacturer can more directly understand the needs and requirements from PSEG LI. Second, by performing this study through partnering with the manufacturers, it will exercise and strengthen the knowledge and experience of PSEG LI's existing EV fleet experts/team, particularly with respect to the medium- and heavy-duty trucks. Third, PSEG LI can have a more in-depth understanding how to meet the New York State Energy Research and Development Authority (NYSERDA) grant's criteria through the chassis manufacturer. PSEG LI will avoid $0.01M of spending, which is aligned with ratepayer's interest. Public comments from NRDC state that the electrified bucket truck program should be widened to encompass "light duty fleet and other utility owned vehicles." Staff agrees the program should be expanded to explore for electrifying all of its owned fleets as EV markets become more mature, especially regarding light- and heavy-duty trucks.

Staff does not support the procurement of services from a consultant to perform this study. However, Staff recommends that PSEG LI undertakes the Bucket Truck Electrification Study by using its own internal experts. Staff, therefore, recommends rejecting the $0.1M of O&M funding request. In the Company's response to IR U2.0_DPS-0017, PSEG LI states that it is not aware of any similar studies from other utilities. Again, Con Edison is currently working with a manufacturer in the process of developing its first electric bucket truck, and expects its first bucket truck to be delivered in the first quarter of 2022.[18] Staff urges PSEG LI to reach out to Con Edison to obtain more information on electric bucket trucks.

Electric Vehicle Make-Ready Program (new)

[18] Staff had a conference call with Con Edison to discuss its Electric Bucket Truck program on 08/20/2021.

- Proposal to support installations of EV Make Ready equipment through 2025.
- Recommendation: Recommend, but fleet assessment should eliminate $0.74 M budget for 2023-2025, and $0.9M to be removed from marketing budget. The 2022 Fleet $0.26 M budget item should be adjusted to be done in-house.
- Requested Budget ($M): $88.11
- Staff recommended adjustment: ($1.64)

PSEG LI has used a consulting firm, Gabel Associates, to develop an implementation a plan to meet the infrastructure needs to achieve LIPA's portion of New York State's Zero Emission Vehicle (ZEV) goal of 850,000 EVs 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. PSEG LI anticipates 4,745 ports to be installed by 2025, allocated as follows, 498 DCFC plugs at 130 locations, 4,247 Level 2 plugs at 708 locations. This goal is different than the calculation made in the 2020 Make Ready Order[19] as was pointed out by Staff in last year's filing. The implementation plan goes on to recommend locations: corridor, community general use, Low Income/Environmental Justice (LI/EJ), and destination for DCFC and Workplace, Public and LI/EJ for Level 2 (L2).

PSEG LI is requesting funding to expand its program to support installations of EV Make Ready equipment through 2025. PSEG LI is requesting a total of $88.11M for both capital and O&M costs. The budget largely consists of the capital cost associated with the deployment of infrastructure ($62.39M) and O&M costs such as incentives ($0.24M), program management and customer interface ($4.50 M), lease management ($8.57M), IT investments ($1.55 M), fleet advisory services ($1.0M), Marketing and Outreach ($1.35M) and contributions to the NYSERDA EV Prize ($8.5M).

The implementation plan recommends a different structure than the one implemented in the Make Ready Order. For DCFC, the Make Ready Order required utilities to rebate the cost of the make ready work to a customer with the customer paying for the remaining cost; however, the implementation plan has LIPA paying for all the make ready costs, and the remaining undiscounted portion of the customer side make ready work is leased back to the customer over a ten-year period. At the end of the lease period, the ownership of the of the facilities is transferred to the customer. For smaller L2 projects simple cash rebates are paid for make ready work like the Make Ready Order prescribed. The 2021-2025 estimated budget for the make ready work is $28.6M for corridor DCFC, $15.6 M of Community DCFC, and $21.5 M for workplace, public, and LI/EJ L2 charger make-ready for a total cost of $65.7 M over five years. PSEG LI proposes that the lease and project management be handled by third-party providers.

In last year's review of the EV Make ready project, Staff recommended that PSEG LI develop a Fleet Advisory Services to help fleet owners convert to EVs as they become more economical. Gabel Associates conducted a study on providing fleet owners advice on site feasibility, rate analysis, cost savings, and bill impacts, and optimized charging strategies. PSEG LI plans to retain a third party expert, who can provide these services to potential customers. The initial budget request is for $1.0M, with $0.26M budgeted for the first year, with the budget to be evaluated and reconciled based on uptake and success of these services in the initial years of the program.

In the Make Ready Order, the Commission created a NYSERDA EV Prize competition to collect the best proposals to address three key areas: Environmental Justice Community Clean Vehicles Transformation; Clean Personal Mobility; and Clean Medium- and Heavy-Duty Vehicle Innovation. The NYSERDA EV Prize was limited to investor-owned utility territories. LIPA filed a Petition for Declaratory Ruling on October 23, 2020 to expand the EV Price competition eligibility to all utility territories in the state. On December 17, 2020, the Commission issued a Declaratory Ruling in Case 18-E-0183 allowing the prize to

[19] 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 (issued July 16, 2020) (EV Initiating Order).

be awarded anywhere across the state, provided that projects selected outside of an investor-owned utility service territory must have an alternative funding source. This proposed Make Ready program establishes that alternative funding source. The $8.5M in contributions will be spread over 2023 through 2025; $2.0M in 2023, $3.0M in 2024 and $3.5M in 2025.

The size of PSEG LI's proposed program is smaller than the program described in the Make Ready Order. While PSEG LI's calculations relied on the same National Renewable Energy Laboratory's (NREL) EVI-Pro Lite model used for the Make Ready Order, PSEG LI relied on different inputs. The biggest change was to use a higher percentage of battery electric vehicles (BEVs) to plug-in hybrid electric vehicles (PHEVs), noting the recent trend toward BEVs over PHEVs. This change reduced the predicted need for L2 installations from 14,316 plugs under the Make Ready Order assumptions, to 4,236 plugs with PSEG LI's calculation. The number of DCFC plugs recommended by the PSEG LI and the Make Ready Order are similar. The landscape of the transportation electrification is changing daily with manufacturers introducing new vehicles and State and National leaders setting higher goals for EV adoption. NYSERDA has engaged NREL to do an updated in-depth study of the EV infrastructure need for New York. That study should come out before the end of this year and should serve as a resource to review the size of the program next year.

While LIPA's territory accounts for approximately 21% of registered light-duty vehicles, it accounts for approximately 30% of EVs in the state. LIPA's territory leads the state in EV adoption; however, it trails the state in public charging. Atlas Policies EValuate_NY tool reports that, statewide, there are 58 BEVs per DCFC port, but in LIPA's territory there are 94.5 BEVs per DCFC port. The statistics are even worse for L2 chargers, with 14 EV per L2 port statewide, and 54 EVs per L2 port on Long Island. As NYPA commented, PSEG LI should be more aggressive with its targets for EV infrastructure.

The structure of the PSEG LI program is different than the program ordered for IOUs in the Make Ready Order. The IOUs were able to manage the incentive costs by using a regulatory asset classification that allowed incentive costs to be capitalized and recovered over a seven-year period. For a not-for-profit such as LIPA, incentives, based on simple cash incentives, must be treated as an operating expense, that result in the ratepayer impacts being concentrated in the year dispersed. The DCFC projects are relatively small in number and are larger and more capital-intensive projects, while the L2 locations are large in number and relatively small in scale in terms of size, cost, and complexity. PSEG LI proposes to capitalize the DCFC make ready on the utility side and customer side. For L2 make ready. PSEG LI proposes a cash incentive as along the line of the Make Ready Order.

The capitalization strategy will require significant origination activity, including negotiations of easements, execution of a more complicated contract, and consideration of customer credit. The origination activities will impose additional costs, and require support from multiple departments within PSEG LI. It is unusual for a utility to own assets on customers' property. This ownership triggers other considerations, such as liability, union work rules, maintenance cost, rights of access, etc.

Another unique design feature of the PSEG LI make ready program is that the program tries to target DCFC stations for corridor locations allotted to key roadways and community locations allocated to municipalities across Long Island. Community DCFC are allocated within three layers: general use, support for clusters near LI/EJ communities, and key destination locations. L2 are targeted for public use, workplace, and in/near LI/EJ communities. The proposed program will use twice-annual competitive solicitations, and the utility will score projects competitively to award make ready incentives.

In last year's forecast of benefits and costs of the Make Ready program PSEG LI estimated a .59 Society Cost Test (SCT) result. Staff found those results questionable. NYSERDA did a SCT for Make Ready for the Make Ready Order that also included Long Island, in the base case calculating a BCA of 1.16 ranging up to 1.36 if there is significant time of use adoption. PSGE LI forecasts a SCT BCA for the current project of

1.18.[20] This BCA may be overstated as it assumes that approximately 161,000 additional EVs will be attributable to the investments made in make ready.

Again, PSEG LI's consultant Gabel Associates proposed that PSEG LI hire a third party to run its Fleet Assessment service. For the Fleet Electrification Service Study, PSEG LI capped the amount at $1.0M from 2022-2025 as developed by Gabel. Staff asked whether PSEG LI received quotes from other vendors. In response to IR U2.0 DPS-0084, PSEG LI noted that no quotes were received from vendors. Staff has concerns about use of a third party. First, PSEG LI has not been achieving its EV goals on a timely basis; a third party would be less accountable and perhaps not as invested in long-term customer relationships as an internal large customer account representative with the Company may be. Second, a third party may not know PSEG LI's large customers, nor the available products and programs for customers interested in converting their fleets to electric vehicles efficiently and economically. NYPA makes a good point in its comments that PSEG LI needs to build a make ready team that can serve as a primary contact for electric vehicle supply equipment (EVSE) developers, a fleet advisor could be a key member of that team guiding customers through the business case for electric transportation conversion and the make ready and infrastructure requirements.

In response to IR U2.0 DPS-0084, PSEG LI indicated that program management and lease management are separate programs that require different vendors to perform services.[21] "Program management" includes 10% of total costs for multiple line items such as customer engagement, energy cloud program management, FTEs for program management, external support, user interface and fleet advisory services. "Lease management" budget include external support for lease management and loan originator fees. Loan origination fees represent approximately 18% of lease management budget. PSEG LI has not selected a vendor to manage lease management but will do so later in 2021. PSEG LI notes that the Company did not receive quotes for program management or lease management but that in the case of lease management, benchmarked against a contractor that NYSERDA uses for on-bill financing, or in the case of program management, benchmarked against the allocated percentage of IOUs budgets for program management.

PSEG LI also provided an internal analysis of its labor calculation to support the cost of $0.69M for an FTE over the period from 2021 thru 2025. PSEG LI noted that it had no tracking mechanism in place to track revenues that will be capitalized and partially reimbursed through lease payments.

Regarding customer engagement, PSEG LI is proposing to initiate the EV Make Ready Program to help EV chargers become more economically feasible for private investments over the long term. Each proposed station must be publicly accessible and accept universal forms of payment. Staff agrees that accepting all forms of payment is a key factor in ensuring EV owners have maximum accessibility.[22]

The Company identified customer outreach and marketing as a key component of program management. The Company stated that its estimated marketing and outreach budget is approximately $1.5M (2021-2025) of which PSEG LI seeks $1.35M for 2022-2025. Staff requested a breakdown of the marketing and outreach activity that has been conducted to date. The Company responded that, to date, outreach efforts include digital web-based content and community engagement. Phase one of the EV Make Ready program is currently on PSEG LI's website. Initial efforts to leverage these channels have been successful in driving charging station developers and other interested parties to program information. Program activity is currently viewed as the main measure of success of the outreach and marketing efforts.[23]

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[20] 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). Pp 54-60 Available at: https://www.nyserda.ny.gov.

[21] Response to Staff Discovery Request U 2.0 DPS-0084.

[22] PSEG LI Utility 2.0 & EEDR 2021 Annual Update, Appendix B. Supporting Documentation for EV Make Ready Program, Eligibility Criteria, p.B-5.

[23] Response to Staff Discovery Request U 2.0 DPS-0058, item 2a.

Staff requested a copy of PSEG LI's EV Make-Ready Outreach and Education Plan (Plan) which was under development in 2020.[24] The Company provided a copy of its Plan, which included most of the key components necessary for Staff to evaluate the need for the $1.35M marketing budget request. The budget request is consistent with PSEG LI's claim that other utilities' EV program budgets are comparable in scope and approach.[25] The Marketing and Outreach budget for $1.5M represents approximately 19% of the Program management budget which includes different channels listed below. This is supported by a detailed budget breakdown of the funding requested for marketing and outreach costs provided in response to IR DPS-0084. The Company's plan will target commercial real estate developers and large retailers to encourage the development of public EV infrastructure and participation in the incentive program. Outreach channels will include the website, social and other digital advertising, e-newsletters, direct mail, bill media, local EV advocacy groups, virtual events, guides, prerecorded videos, and webinars.[26]

The NYSERDA EV Prize project allocates funding so that LIPA can award select third-party projects that promote clean vehicles transformation in environmental justice communities, clean mobility, and clean medium- and heavy-duty vehicle innovation.

Several public comments were received regarding this proposal. Suffolk County states that the EV Make Ready Program's 50% reimbursement for charging infrastructure is too low for local government workplace/fleet charging. The county posits that EV charging is a "new, unbudgeted expense" and it will be a challenge for local governments to achieve. Suffolk County strongly recommends a 90% reimbursement rate be maintained for towns, cities, villages, schools, libraries, and fire districts.

NYPA notes that Department of Motor Vehicles data identifies that at time of writing, there were 22,882 electric vehicles registered in the Company's territory. Because of the gap between the state target and the current number of registered EVs on Long Island, NYPA suggests that the EV Make-Ready Program be expanded. NYPA notes that while DCFCs are more expensive than available L2 charging technology, they will also be able to efficiently charge a much higher volume of EV's. NYPA also posits that the EV-Pro Lite estimation tool used to determine the amount of DCFCs needed across Long Island has underestimated what will be required. NYPA suggests 757 DCFCs will be needed rather than the 557 DCFCs cited by the Company, additionally citing that consumer 'range anxiety' over places to charge an EV is a major barrier to more widespread EV adoption. NYPA recommends more funding be allocated for DCFCs to be installed along major travel corridors.

NYPA also suggested that the Company establish a knowledgeable team that serves as a single point of contact for EV related matters. It seeks the adoption of infrastructure desktop evaluations and a more efficient load letter processing system with a clear DCFC mapping resource. NYPA posits that Long Island's EV goals will not be met at the current rate interconnection requests are being responded to. NYPA posits that the Company's current practice of developing metrics for this program using Distributed Energy Resource monitoring is insufficient. NYPA urges for a more specific load capacity mapping system with resolution down to the feeder level, or data collected directly from individual EV charging units themselves rather than broader, more collective metrics. It also notes that what makes a good site choice for DCFC infrastructure is not always applicable to other distributed energy resources.

NRDC expresses concerns with the lack of details about make-ready infrastructure at multifamily dwellings, which may include LMI households. FreeWire Technologies, Inc. posits that because its Boost Chargers avoid the Make-Ready costs typically associated with this technology, they are ineligible for the make-ready infrastructure benefits PSEG LI is providing. FreeWire references PSEG LI's test benefit to cost ratio of 1.18 for the currently proposed make-ready program and states that it would be prudent to include battery storage equipment in in benefit programs to further reduce program costs.

[24] Response to Staff Discovery Request U 2.0 DPS-20120, 2020 U2.0 EV Make Ready Program, p.2 item 6.
[25] Response to Staff Discovery Request U 2.0 DPS-0058, item 2bi.
[26] PSEG LI Utility 2.0 & EEDR 2021 Annual Update, 3.2.3.3 Funding Request for Expanded Scope, p.79.

In a general statement, Drive Electric LI inquired whether the DPS has a method for comparing the budget levels of each utility in the Joint Utilities to the budget in PSEG LI's Utility 2.0 Plan. It suggests that budgets be compared based on number of registered vehicles in each respective territory and/or based on number of customers in each service territory. Drive Electric LI suggests that developing these comparisons with other New York State utilities would significantly improve determinations on resources and staffing. Drive Electric criticizes the allocation formula used on Utility 2.0 2021's page B-42 that PSEG LI used to determine where DCFC infrastructure should be installed to best serve the owners of EVs. Drive Electric LI believes the analysis puts too much emphasis on size of geography and number of residents while ignoring 'large employment centers' like the Route 110 Corridor and Hauppauge Industrial Park. It recommends PSEG LI Utilize the OntheMap Census Tool to integrate employment density into the above referenced allocation formula. The Make Ready Order depended on EVSE developers to decide on the best locations for charging facilities. This aspect of the program should be reexamined next year.

Regarding the proposal to lease the CR-MR to customers over a 10 year period, to mitigate potential rate shocks, Greenlots states this approach may not be appealing to all DCFC site hosts, as it creates additional costs for them, which is a barrier to DCFC deployment in NY. Greenlots encourages PSEG LI to offer site hosts a choice between a rebate approach similar to other investor-owned utilities (IOUs) in NY State or the PSEG LI proposed lease model. Staff agrees that the configuration of the program adds additional cost to the development of DCFC make ready, but it seems to be the only way to allow LIPA to spend enough on DCFC make ready while moderating the impact on ratepayers.

Overall, Staff believes that PSEG LI is underestimating the EVSE needs for Long Island. This along with the slow implementation of the make ready program, could be slowing adoption of EVs. LIPA should reconsider the goals set by PSEG LI for EVSE infrastructure, as NREL completes a new study of the State's needs for EVSE infrastructure.

Instead of hiring a contractor, Staff recommends that PSEG LI build fleet advisory services within its EV organization. The $0.26M requested for 2022 should be approved, but the program should be adjusted to hire and train a large accounts representative within PSEG LI to provide fleet owners advice on conversion to electric transportation rather than hiring an outside consultant. The remaining $0.74M over 2023-2025 should be eliminated until PSEG LI can supply cost and justification for supporting the fleet advisory position internally.

The DPS EV White Paper recommended that electric utilities conduct effective outreach to Electric Vehicle Supply Equipment and Infrastructure (EVSE&I) developers—not to be confused with public outreach to promote electric vehicles—which should not be funded by ratepayers.[27] As such, Staff agrees that effective and proactive outreach to project developers and stakeholders is essential to deliver the program information and advance the EV Make Ready Program goals. Staff recommends the continuation of the outreach efforts to promote this program's benefits and application process. However, providing peer utility data does not sufficiently justify the budget request of $1.35M. Staff recommends that future filings include a breakdown of the program's marketing funding request; a detailed description of each proposed line-item marketing/outreach cost (i.e. social media, email campaigns, video production, etc.); Computational workpapers, cost proposals or other documents used to forecast advertising costs; and Results from evaluation of the Company's online and print marketing, and communications strategy initiatives. Without this level of detail, Staff cannot provide a fair and adequate needs assessment of the EV Make Ready Program's marketing funding needs. Staff supports marketing funding for 2022 in the amount of $0.45M. The remaining $0.9M should be removed until more supporting documentation is available to demonstrate its outreach funding needs. Acceptable support documentation includes contracts, vendor quotes, or invoices received.

Staff recommends the collection of the $8.5M in order to fund the NYSERDA EV Prize.

[27] Case 18-E-0138, supra, Electric Vehicle Whitepaper (issued 1/13/2020), p.48.

The total recommended budget reduction for this program, given the fleet assessment and marketing adjustments described above, totals $1.64M. Staff recommends that the EV Make Ready Program be adopted consistent with the recommendations discussed above.

Green Rates Program

- A proposed commodity rate (added to ratepayers' bills) to provide LIPA customers with the option to offset their energy use with local renewable energy.
- Recommendation: Do not recommend.
- Requested Budget ($M): $2.51
- Staff recommended adjustment: ($2.51)

PSEG LI is proposing to establish a commodity rate offering to provide LIPA customers the option to offset some or all of their electricity use with local renewable energy in excess of LIPA's commitment under the PSC's Clean Energy Standard (CES). The Green Rate Program offering, as proposed, would be entirely optional and would allow customers to opt in or opt out without limits or penalties. PSEG LI states that the rate offering would be designed to be affordable and would be based on the present market price of Clean Energy Standard-compliant Renewable Energy Credits (RECs). PSEG LI claims that the program would not result in any cost shifts between participating and non-participating customers. PSEG LI anticipates being prepared to offer the Green Rates Program to customers in 2023 and estimates the total cost to establish the program will be $2.51M ($1.19M in capital and $1.32M in O&M expense). PSEG LI proposes to recover the total program costs from all of LIPA's customers indicating the program will benefit all Long Islanders.[28] PSEG LI indicated it will consider modifying the Green Rates price to include the programs administrative costs once the program matures. PSEG LI states that the success of the program will be measured by tracking customer enrollment, Green Rates revenue, and the resulting quantity of RECs retired on behalf of Green Rates customers.

PSEG LI presently offers a Green Choice program, through which customers can enroll in green power offerings through two third-party energy service companies. PSEG LI is not proposing to end the Green Choice program. The purpose of the Green Rate Program is to give LIPA customers an additional option to procure green energy and to promote the State's CES and greenhouse gas reduction goals. PSEG LI states that one of the primary benefits of LIPA offering the Green Rates Program is that it will make it easier for customers to purchase green energy because they will not need to find and vet a third party to procure renewable power on their behalf thereby removing a barrier of participation in green power options. The newly proposed Green Rates Program will be offered alongside the presently available option. Customers would not however be able to participate in both programs concurrently.

PSEG LI proposes that Green Rates be offered as a voluntary option at an additional cost to subscribing customers with subscription levels set to reflect customer preferences. The proposed rate would be based on the present market price of Clean Energy Standard-compliant RECs. PSEG LI would use up to 75 percent of its existing Tier 1 RECs to offset a customer selected percentage of monthly usage. By dedicating some of its RECs to Green Rates Program customers, LIPA would need to replace them by setting aside the Green Rates revenue to pay for future REC purchases. PSEG LI will track customer enrollment, Green Rates revenue, and resulting quantity of RECs retired on behalf of Green Rates customers.

PSEG LI proposes to offer Green Rates to customers beginning in 2023. There are three phases to the proposed implementation plan. The first is preparation and development; the second is training and outreach; the final phase is ongoing reporting and reconciliation. PSEG LI plans to conduct research in the second half of 2021 and continuing into 2022 to further inform pricing options and the messaging and marketing of the Green Rates Program. Customers will be able to enroll in Green Rates through Customer

[28] Matter 14-01299, supra, Section 2.6.1.3 funding request for expanded Scope: Green Rate, p.50.

Service Representatives (CSRs) or self-serve through MyAccount. Billing of the Green Rates will be added to participating customers regular PSEG LI electricity bills. As proposed, all customers may sign up for Green Rates Program with the following exceptions: customers that already have solar or are participants of Community Solar; customers enrolled in the Green Choice Program; and, customers enrolled in the Department of Social Services Direct Payment/Guarantee (Tier 4) of LIPA's Low-Income Program discount.

PSEG LI provided responses to IR U2.0-DPS-0027 and U2.0-DPS-0019, which requested all documents, workpapers and calculations used to estimate $1.19M for capital and $1.32M for O&M for the Green Rate Program. The capital estimate is comprised of $0.85M for internal capitalized labor support related to IT and $0.34M for Risk & Contingency (R&C). Thus, R&C amounts to 40% of the forecasted capital cost. PSEG LI supported the Capital IT estimate of $0.85M with internal analyses provided in response to IR U2.0-DPS-0019. Staff notes there is a discrepancy for the R&C estimate for this program compared to prior practices. PSEG LI estimated in house labor R&C at 40%, or $0.34M, whereas in 2017 NorthStar Management Audit recommendation R&C for in house labor be estimated at 15% for $0.13M.

PSEG LI requested a total of $1.32M in O&M which is comprised of Marketing & Outreach and Customer Research cost. PSEG LI noted that research cost involved a large market segmentation study by customer intelligence team. In its response to IR DPS-0027 PSEG LI provided a breakdown of the O&M estimates for the Marketing & Outreach and Customer Research associated with the Green Rates Program. PSEG LI forecasted Marketing & Outreach and Customer Research cost to be $0.39M in 2022 and $0.93M in 2023. In response to Staff's request for documentation supporting the Marketing & Outreach and Customer Research cost the Company stated that the estimates are based on the strategy from the Rate Modernization Customer Engagement Plan for Time of Use and the estimated for these direct customer communication channels.[29]

PSEG LI conducted research on the interest of green pricing programs across various markets and found a wide range of participation by utilities and a growing rate of interest by customers. PSEG LI also conducted a survey with an online panel of 667 customers to understand the level of interest and understanding of renewable energy. PSEG LI reports that 67% of the panel participants find renewable energy to be important while only 16% were aware of the Green Choice Program, and 33% expressed interest in knowing more about green choice options. The survey further showed that only 23% of the 33% interested in information about green choice options, or about 51 of the 667 customers would consider participating in the program if offered by PSEG LI, or about 8%. Based on the survey results, there appears to be a growing interest in green choice options offered by PSEG LI, however low potential participation in the program.

Staff requested a copy of the Green Rates Program marketing and outreach plan[30], PSEG LI stated that the marketing approach will be multi-channel including Direct Mail, Targeted Email, Social Media, Online video, Collateral, Search Engine Optimization (SEO), and Market and Customer Research. The 2021 Utility 2.0 Plan describes the overall approach to customer engagement including some initial highlights from an outreach study that PSEG LI conducted in late Spring 2021. PSEG LI indicates that additional customer research funding planned for 2022 will be a key factor in finalizing a strategic and tactical customer engagement plan.[31] Communications will be targeted to a prospect population of 380,000 based on benchmarking participation data from other utilities.[32]

PSEG LI plans to continue the customer research to further inform pricing options, messaging, and marketing of Green Rates.[33] PSEG LI proposes a three-phase engagement and communication plan, the planning phase, program promotion phase, and the full deployment. The current planning phase includes

[29] Response to Staff Discovery Request U2.0_DPS-0027 item 1d. vii.
[30] Response to Staff Discovery Requests U2.0_DPS-0027 and DPS- 0069.
[31] Response to Staff Discovery Request U 2.0 DPS-0049, item 1.
[32] PSEG LI 2021 Utility 2.0 Plan Final 07 01 2021, 2.6.1.3 Funding Request for Expanded Scope: Green Rate, p.50.
[33] PSEG LI 2021 Utility 2.0 Plan Final 07 01 2021, Scope Update, p.47

customer research and development of marketing, education, and direct communication design. The next phase which would begin in 2023 would include customer outreach and last through 2025.[34]

The Commission has held that customer choice of commodity offerings/value added services is one of the primary offerings of ESCOs. By allowing ESCOs to offer commodity products that the utility does not offer provides an opportunity for ESCOs to create markets. Further, the Commission has historically only allowed the Commission Jurisdictional Utilities to offer market-based default commodity rate options to customers (primarily default commodity service or time of use rates). The Commission has stated on multiple occasions that ESCOs are generally well suited to provide and should offer value added services for customers seeking a different arrangement than the default service.[35] As such, Staff finds this Green Rates program as an unnecessary program, especially since LIPA already has a Green Choice program, which already provides customer the opportunity to procure green power from ESCOs. Additionally, while PSEG LI states that the program will not cause a cost shift to non-participants, this is not entirely accurate. As PSEG LI notes, it is proposing to recover $2.51M in Capital and O&M costs associated with the Green Rates Program from all customers. Therefore, non-participants will be providing funding towards program costs. Further, PSEG LI has not provided a benefit cost analysis or estimates of greenhouse gas reductions associated with potential customer participation and incremental Tier 1 RECs procured[36] Therefore, additional information was requested to allow.[37] The incremental costs associated with the Capital and O&M to establish a seemingly redundant program with potential for low participation rates should not be allowed if those funds are to come from non-participating customers. Therefore, Staff recommends the incremental program funding be denied at this time

Increasing Hosting Capacity Study

- A study to prioritize the locations and solutions that can be utilized to increase the DER hosting capacity limits on the LIPA distribution system.
- Recommendation: Recommend
- Requested Budget ($M): $0.06
- Staff recommended adjustment: No Adjustment.

PSEG LI is proposing to perform a study in 2022 to prioritize the locations and specific, cost-effective solutions that can be utilized to increase the DER hosting capacity limits on the LIPA distribution system. This study will identify the circuits and substations with high DER interconnection saturation as well as thermal, voltage and protection-related constraints and then prioritize solutions at these locations to increase hosting capacity on the system. The study will include a report describing the approach, findings, and recommendations for increasing hosting capacity and will be submitted to Staff and LIPA in the third or fourth quarter of 2022. PSEG LI has requested $0.06M for O&M to fund the Increasing Hosting Capacity Study for one year, 2022, as its forecasted budget through 2025.

The request is completely comprised of operating expenses and includes $0.02M for internal labor support, and $0.04M for third party support. No BCA was developed because PSEG LI characterizes the program as aligning with the principles of REV demonstration projects. Additionally, PSEG LI states that this study is a "pre-pilot" learning opportunity designed to help them estimate the costs and benefits of implementing various technologies to increase hosting capacity. The cost-benefits estimates resulting from this study may be used in future proposed initiatives.[38] Staff determined through review of IR U2.0 DSP-

[34] PSEG LI 2021 Utility 2.0 Plan Final 07 01 2021, Table 2-16. Green Rates Project Schedule, p.48.
[35] Case 15-M-0127, In the Matter of Eligibility Criteria for Energy Service Companies, Order Adopting Changes to the Retail Access Energy Market and Establishing Further Process. (issued December 12, 2019.)
[36] Response to Staff Discover Request U 2.0-DPS-0091, item 2b.
[37] Id.
[38] PSEG LI response to discovery request U2.0-DPS-0091 question 1b.

0047 that PSEG LI's request of $0.04M for third party consultant support is consistent with their estimated hours or required consultant support and the hourly rate charged by a consultant that PSEG LI has used to provide technical expertise on DER integration in the past.

PSEG LI's proposed Increase Hosting Capacity Study is consistent with recommendations made in the New York Power Grid Report, the 2020 Utility Transmission and Distribution Investment Working Group Report, and the PSC Order on Transmission Planning Pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act, May 14, 2020. These reports and orders seek to identify potential new projects that are necessary or appropriate to meet the States aggressive CLCPA targets by increasing the capacity on the local transmission and distribution system to allow for interconnection of new renewable generation resources.

In its public comments, New York Battery and Energy Storage Technology Consortium, Inc. (NY-BEST), and the City of New York, support the Increasing Hosting Capacity Study proposal. NY-BEST strongly encourages that the study examines the role for energy storage in increasing hosting capacity on the LIPA system. The City of New York believes the study will aid in furthering the CLCPA and recommends PSEG LI coordinate the efforts of this study to the greatest extend possible to complement the initiatives proposed in the Utility 2.0 plan for the benefit of ratepayers. In its public comments, New York Solar Energy Industry Association (NYSEIA) notes that there are high costs and distribution system constraints that are significant barriers to scaling up DER on Long Island and meeting CLCPA goals. NYSEIA proposes that PSEG LI and LIPA should perform a comprehensive study to identify distribution and transmission upgrades necessary to achieve the CLCPA targets, as the NYS IOU's have been directed to do in a recent order (Case 20-E-0197 *Order on Transmission Planning Pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act*, May 14, 2020). PSEG LI's proposed study aligns with many components of the order.

Staff recommends the Increasing Hosting Capacity Study be adopted as proposed, as increasing hosting capacity is an important component of achieving CLCPA targets. At the conclusion of this study PSEG LI will have identified, studied, and prioritized, cost-effective solutions to system constraints. Staff recommends that PSEG LI seek vendor quotes for those solutions that the study has prioritized and propose these as projects in the next U2.0 filing.

Suffolk County Transit Bus Initiative

- A program to install electric transit bus make-ready charging infrastructure in West Babylon and Ronkonkoma.
- Recommendation: approve
- Requested Budget ($M): $1.05
- Staff recommended adjustment: No Adjustment.

In the EV Make Ready Order proceeding,[39] a number of commenters noted the greenhouse gas (GHG) emissions reduction and public health benefits of electrifying public transit for disadvantaged communities, who frequently rely on it for mobility. They urged the Commission to include make-ready funds for transit authorities in its order. The Commission recognized the benefits of transit electrification and agreed that action was merited following the equity mandate outlined in the CLCPA. The Commission authorized make-ready assistance for the Buffalo, Rochester, Albany, and Westchester transit authorities.

In Governor Cuomo's 2020 State of the State address, he committed to electrifying 25% of the fleets of Buffalo, Rochester, Albany, Westchester, and Suffolk transit authorities by 2025 and 100% by 2035.

[39] Case 18-E-0138, supra, EV Initiating Order.

The make-ready infrastructure will support the charging requirements of 40 buses. Suffolk County plans to initially purchase 10 buses in 2021 and begin operation in 2022 when charging equipment is deployed.

PSEG LI is requesting $0.60M for Capital Expenditures and $0.45M for O&M over 2022-2025 for a Suffolk County Bus Make Ready Pilot initiative. PSEG LI noted in IR U2.0-DPS-21024 these are needed to support the below estimates: Capital expenditure of $0.60M were requested for Utility -side make ready cost for 2 bus charging sites; West Babylon at $0.1M and Ronkonkoma at $ 0.5M contained the below costs. The O&M expenditure of $0.45M included $0.4M for customer-side make ready costs for the above 2 bus charging sites, and $0.05M for Evaluation, Measurement and Verification (EM&V).

PSEG LI did not develop a BCA for the Suffolk County Bus Make-Ready Pilot. PSEG LI does not have the needed information to do a full BCA, as it would require collaboration with STS and EV Bus manufacturer. The objective of the pilot is to support the DPS Make Ready Order, which directs utilities to support public transit authorities in achieving 25 percent electrification by 2025. In the Make Ready Order at pages 132-133, the Commission recognized the benefits of transit bus electrification and agreed that action on this subject is merited following the equity mandate outlined in the CLCPA. The Commission directed Consolidated Edison, National Grid, and Rochester Gas & Electric to support the make ready for regional Transit Authorities in their respective territories with a $10M budget allocated among the utilities. The amount requested by PSEG LI is comparable to funding approved for other utilities to support Transit Authorities.

As stated in the filing, PSEG LI is proposing to contribute up to $0.5M to the make ready costs of each site, which is comparable to maximum utility contribution for a DCFC corridor site for the light duty Make-Ready program.

The Utility Side Make Ready (US-MR) costs will be capitalized, and contributions toward the Customer-side Make Ready CS-MR costs will be operating expenses. The West Babylon site requires US-MR work, which would largely consist of installing new switches for $0.10M. The Ronkonkoma site is also expected to require US-MR work. PSEG LI anticipates all $0.50M for this site will be allocated to the US-MR costs. PSEG LI expects $0.40M in the operating expenses to partially fund the make-ready infrastructure at the West Babylon and Ronkonkoma charging sites that will be paid to Suffolk County as a rebate for CS-MR costs.

In its public comments NRDC urges PSEG LI to specifically acknowledge the Medium and Heavy Duty Vehicle Memorandum of Understanding from July 2020 that sets a goal of 100% electric truck and bus sales by 2050. NRDC urges PSEG LI to provide additional support and develop best practices for M&HDV electrification and to prioritize M&HDV projects that serve environmental justice communities.

New York City comments that the 2021 Utility 2.0 Plan does not delineate where funds are being allocated, so it is hard to determine if all communities are benefitting from these initiatives as they should. NYC also notes that programs like the Suffolk County Bus Make-Ready Pilot are specific to a subsection of Long Island's population, possibly putting other areas at risk of inequities.

Staff recommends that PSEG LI proceed with this project as proposed. The Company should document the cost and use this information to estimate the cost of further expansion Suffolk Transportation Services' (STS) electrification project. PSEG LI should track the usage of electricity by the project to further advise STS on how to manage its electric load and costs, and to plan for further expansion of the EV bus fleet. PSEG LI should report on the progress of the project and how the make ready services provided help STS' business case for the conversion and expansion of transit buses to electric propulsions. These reports should be provided as part of the quarterly progress updates to DPS but PSEGLI should also provide a comprehensive report on cost of conversion to EV for the Transit Authority, and the impact on the grid.

Previously Approved Utility 2.0 Programs with Requested Funding Adjustments

AMI Enabled Capabilities

- A program to integrate advanced metering infrastructure into PSEG LI's outage management system, to help coordinate outage response.
- Recommendation: Partial Denial
- Requested Budget ($M): $1.05
- Staff recommended adjustment: ($0.63)

PSEG LI's AMI Integrated Capabilities proposal, includes the use of AMI to verify outages in conjunction with the Outage Management System (OMS). Through the AMI technology, PSEG LI is able to assess the status of reported outages by "pinging" individual AMI-enabled meters to determine if the customer has been restored for storm and non-storm outages to avoid truck rolls. PSEG LI did not provide a benefit-cost analysis (BCA) for this program. Therefore, additional information was requested to allow for a more detailed review of the economics of this program. PSEG LI stated that budget reconciliations and benefits are reported as part of the Annual Filing process as defined and agreed to with DPS.[40] PSEG LI is seeking a net incremental $0.60M in Capital costs and net incremental $0.46M for O&M costs. Staff recommends that until PSEG LI can support the proposed increases, that the requested budgeted funds of $0.60 in Capital costs for the C&I Portal be proposed in the next annual U2.0 filing.

During Tropical Storm Isaias in 2020, PSEG LI's OMS suffered a catastrophic failure that led to significant discrepancies in outage numbers and locations which impacted PSEG LI's ability to develop accurate estimated times of restoration (ETRs) and provide timely restoration to its customers. PSEG LI did, however, use available AMI data technology to assess the status of outages. In doing so, PSEG LI was successfully able to reduce truck rolls, minimize supervisor crew time and customer call-back time, thereby avoiding approximately 12,100 hours of customer interruption time. PSEG LI states that the use of the AMI data, e.g., pinging meters also led to significant cost savings in the amount of $4.78 million in avoided O&M and customer outage costs during Tropical Storm Isaias. PSEG LI's use of AMI Integrated Capabilities illustrates the necessary benefit of having an alternative to OMS should PSEG LI be faced with similar IT failures in the future. Post Tropical Storm Isaias, PSEG LI began developing an alternate system using AMI data to sort and manage outages as a means to provide accurate information to customers. PSEG LI's on-going efforts through this project are integral to the core mission of AMI, and therefore it must be completed.

PSEG LI is seeking a net incremental $0.60M in Capital costs and net incremental $0.46M for O&M costs. This funding is needed to support foundational and discretionary components and PSEG LI provided a break-down of the increases in costs by functional area. PSEG LI, however, after Staff inquiry failed to provide sufficient supporting documentation to verify the need for additional funds related to the C&I Portal. Rather PSEG LI noted that the projected increase was determined from a verbal estimate based on PSEG LI's own internal review. As such, Staff recommends that until PSEG LI is able to support the proposed increases that the requested budgeted funds of $0.63 in Capital costs for the C&I Portal be proposed in the next annual U2.0 filing.

Data Analytics

- A program focused on analyzing data collected by the utility to improve various services (outage response, understanding COVID related energy use changes, etc.).

[40] Response to Staff Discovery Request U 2.0 DPS-0091, item 4c.

- Recommendation: Recommend.
- Requested Budget ($M): $0.30
- Staff recommended adjustment: No Adjustment.

In conjunction with PSEG LI's collection of AMI data, the utility has employed data analytics technologies to leverage AMI data towards potential customer benefits. PSEG LI included data analytics as one of the beneficial uses of AMI in its primary AMI proposal in 2018. PSEG LI did not provide a benefit-cost analysis (BCA) for this program. Therefore, additional information was requested to allow for a more detailed review of the economics of this program. PSEG LI stated that budget reconciliations and benefits are reported as part of the Annual Filing process as defined and agreed to with DPS. [41]Numerous potential areas for use cases of data analytics were identified in the 2018 filing, ,to be further explored as AMI installations progressed. To date, PSEG LI has implemented multiple use cases, and the list for new use cases continues to grow. New use cases added since 2020 include using AMI data to analyze COVID's impact on customers' energy usage, improving ETR accuracy, identifying overloaded network devices, and using data analytics to support storm restoration efforts.

One use case PSEG LI has been studying is how to use AMI data to improve Estimated Times of Restoration (ETRs) for customers. A pilot program was developed to attempt to predict more accurate ETRs under clear or "blue sky" conditions by analyzing current and historical data using AI, and providing more granular ETR's that consider device subtype. The Data Analytics team performed modeling on all outages from 2017 to the present (about 46K outages) under blue sky condition to determine the impact of improving ETR accuracy for mainline restoration and five device subclasses including service point, fuses, overhead transformers, underground transformers, and others. The pilot program achieved its planned outcomes, delivering an analytics model that improved the accuracy of ETRs, and resulting in positive impacts on customer satisfaction in various scenarios. The utility states that more data collection is necessary to prove a successful outcome.

Improving ETR accuracy outside of blue-sky days should be the ultimate goal. Staff recommends expanding the pilot program to enhance the ETR model beyond blue sky conditions. Prior to expanding the pilot program in 2022, the Utility should continue to collect data and refine the prediction modeling. Staff recommends expanding the pilot program to focus on modeling the outages under the gray/black sky days to improve the accuracy of the global ETR, thereby in support of storm planning.

PSEG LI is requesting an additional $0.45M for Capital expenditures through 2022 to support expansion of the pilot program. PSEG LI also reduced its proposed O&M budget from 2019-2022 by $0.15M, totaling an overall budget variance of $0.30M. The recruitment and onboarding of two additional FTEs, support from consultants in the interim, and increased costs for Amazon Web Services and the Data Lake justify the budget adjustments as these efforts have shifted from 2019-2020. PSEG LI intends to continue and improve current use cases including transformer and fuse analytics, enhanced ETR modeling, revenue integrity, and storm response solutions in 2021 and 2022. PSEG LI also plans other use cases in 2021-2022 including asset health analytics for circuit breakers and substation transformers, and analyses on customer load, peak load, and DER impacts on grid performance. Staff recommends approval of the overall budget variance, including the $0.45 of additional Capital budget through 2022 as requested by the Company.

Energy Concierge Pilot

- Outreach program to inform customers of clean energy options; originally planned as a door-to-door program but transitioned to digital due to COVID-19 pandemic.
- Recommendation: Recommend.

[41] Id.

- Requested Budget ($M): $0.24
- Staff recommended adjustment: No Adjustment.

The Energy Concierge program is a residential advisory service that was originally approved as part of the 2019 Utility 2.0 filing. It was established to hire six Staff to make in-home visits to 2,000 customers wishing to learn more about energy efficiency and DER options available to meet their specific needs, including MyAccount, energy insights capability, and rate comparison tools. The goal was a minimum of 100 post-visit purchases or installations of EE and DER. The program was proposed to run from August 2020 through July 2021, however, the Energy Concierge program is currently on hold due to the Covid 19 pandemic. The originally approved budget was $4.08M, spanning three years. ($1.59M capital, $2.49M O&M). Also, as of Quarter 2 of 2021, of the budgeted funding, PSEG LI has not incurred any expenses. No BCA was developed by PSEG LI for this program because it is a pilot program and the Company stated that it is "committed to testing the relevant hypotheses and measuring success of these initiatives against the proposed target metrics."[42] The program metrics include the Number of Energy Visits Conducted and the Number of purchases and installations of EE and DER products.[43]

The Energy Concierge Pilot completed 67 virtual appointments with customers in its 6 weeks of a soft launch to friends, family in 2020, and no follow-up measures were tracked. Only four contractors were trained for this pilot (but were not engaged in program implementation due to the Pandemic), however PSEG LI states that, "When the program re-launches, PSEG LI's intent is to use 6 contractors per the original plan."[44]

The program spent no capital in 2020 but spent $0.14M in O&M on defining requirements, hiring, training contractors as energy concierges, and developing marketing content. The work scope remains as originally proposed, and unspent capital and O&M budget will be shifted to the 2-year period between 2022 and 2024 to reflect a relaunch beginning mid-2022. The forecast for capital expenditure decreased slightly due to energy audits being deferred to start in 2023 through mid-2024. The increase in O&M forecast is due to a "refined marketing and customer acquisition strategy." The total increase being sought is $0.24M. This is due to an increase of $0.28M in O&M but with a decrease of $0.04M in capital through 2025.

The explanation of "refined marketing/customer acquisition" includes utilizing "multi-channel communications via email, direct mail, social media, door hangers, and incentives to encourage customers to sign up for Energy Concierge appointments. To support the Energy Concierge appointments, brochure/collateral packages to leave behind with customers are also included in the budget forecast. The communication channels would be utilized as a phased approach (i.e., channels would be used one after the other based on previous channel performance in the market). A 10% contingency for the marketing budget estimates was also applied."[45] Some of these channels are reiterated on page 37 of the 2019 Utility 2.0 filing. However, there does not appear to be a line in the original budget for these expenses.

Staff reviewed a Funding Reconciliation where the Company stated that $0.14M in O&M was spent on defining business requirements, conducting change management training, hiring, training contractors as energy concierges, and developing marketing and outreach content.[46]

The Company provided a detailed Energy Concierge Customer Outreach Plan.[47] The document responds to some of Staff inquires by providing a general approach to generating leads and acquiring customers. It provides a schedule, the types of customers the Company intends to reach and the number of targets it hopes to reach.[48] However, it does not address the budgetary issues that Staff inquired about.

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[42] Response to Staff Discovery Request U 2.0 DPS-0091, item 3a.
[43] Utility 2.0 Long Range Plan 2019 Annual Update, June 28, 2019, p.35.
[44] U2.0_DPS-0039_Answer.
[45] U2.0_DPS-0013_Answer.
[46] Page 35, Section 2.5.2 Funding Reconciliation, Energy Concierge Utility 2.0 Annual Plan
[47] Response to IR DPS-0057.
[48] Response to Staff Discovery Request DPS-0057 attachment- Energy Concierge Customer Outreach Plan.

Staff inquired about methodologies being used to evaluate the program. The Company provided a survey that was conducted in July of 2020.[49] PSEG LI also indicates that the program will continue to be measured via pilot hypothesis testing, metrics, and measures as described in the 2019 Filing.[50] The adoption rate will be based off the number of customers signed up in MyAccount, which will be promoted as the self-serve option for the Energy Concierge program.[51]

PSEG LI's Energy Concierge Customer Outreach Plan[52] includes a customer acquisition plan through a phased target marketing approach which includes launching new channels. In the Company's 2019 U 2.0 filing, it is mentioned that the approved marketing budget for 2020 and 2021 would be to establish and revise the program's outreach and marketing plan, develop training and customer facing materials, and identify customers.[53] The Company's revised outreach plan was in response to an Energy Concierge Survey conducted to obtain customer feedback in July 2020.[54] The Company's goal was to gain insight on customer's initial reaction and interest in the Energy Concierge Program, and understand customer preferences. The Company reached out to 858 customers of which 661 (77%) completed the survey. The Company reports that 80% of respondents expressed interest in the Program and nearly 90% would like to receive a summary of personalized tips and recommendations, while 60% prefer to have a contact number or website links. According to survey results, most customers preferred to be contacted via phone during and after the pandemic, others preferred virtual contact, and the least preferred method was a home visit. To that end, Staff agrees that a revised and more refined outreach plan was warranted.

An increase in funding in the 2021 U 2.0 filing is reasonable given the targeted marketing approach to reach high bill, seniors, special needs, and low-income customers through internal leads and proactive marketing channels. The Company's internal leads include the Family & Friends employee program, call center, EE Infoline, customer offices and more. External marketing includes direct mail, social media advertising (social boosts), My Account web page pop up bubble, email, and website banners and/or Homepage spotlight. As such, Staff agrees that effective and proactive outreach is essential to deliver the program information and advance the EC Program goals.

Staff supports the Energy Concierge Pilot and recommends that the program move forward with the proposed funding adjustment, and the continuation of outreach efforts to promote this program's benefits and reach participation goals. The 2019 filing included a forecasted marketing budget for 2020 and 2021. Given the program delay due to the pandemic, it is reasonable to assume that funding is needed for future years (2022 through 2024). Staff recommends that future filings include: 1) A breakdown of the program's marketing funding request as provided in Staff discovery response DPS-0013; 2) A detailed description of each proposed line-item marketing/outreach cost (i.e. social boosts, email campaigns, website banners, etc.); 3) Computational workpapers, cost proposals or other documents used to forecast advertising costs; and 4) Results from evaluation of the Company's online and print marketing, and communications strategy initiatives.

Staff recommends that follow-up measures be pursued with the 67 originally contacted customers. Staff also recommends that reporting on costs, outreach and marketing activities, and on each metric defined to measure and track the success of the pilot hypotheses be provided during quarterly updates.

<u>EV Make Ready Program (Previously approved portion)</u>

- A program to support customer EV charging station rebates (DCFC, L2 plugs, and LIPA-owned charging ports), and to collect data provided by the chargers.

[49] Response to Staff Discovery Request DPS-0057 attachment—Energy Concierge Survey Results.
[50] Response to Staff Discovery Request DPS-0057 p.3.
[51] Response to Staff Discovery Request DPS-0057 p. 4.
[52] Response to Staff Discovery DPS-0057, item 1, attachment Energy Concierge Customer Outreach Plan 082521.pptx.
[53] Utility 2.0 2019 Annual Update, Table 3-11. Project Schedule – Energy Concierge, p.36.
[54] Response to Staff Discovery DPS-0057, item 2, attachment Concierge Survey7.6.final.pptx.

- Recommendation: Recommend, but deny 2021 O&M cost increase.
- Requested Budget ($M): ---
- Staff recommended adjustment: ($0.47)

In 2020, $1.83M was approved for O&M to support customer charging station rebates through 2021 and program management through 2025. Also in 2020, $3.19M was approved for make ready Capital to support 20 DCFC plugs and 254 L2 plugs, as well as, 4 LIPA owned charging ports through 2021 and program management through 2025. PSEG LI is requesting an additional $0.47M in funding for 2021 for third party support to aggregate charger data for analysis and reporting of data across all chargers. The preparatory data collection and aggregation work began in 2021 and will continue through the duration of the program. Development of the EV database, originally planned for 2021, will be delayed to 2023. An alternative Captures database will be used until the new Salesforce database is complete. PSEG LI did not provide details of the costs for this program. Therefore, additional information was requested to allow for a more detailed review of the economics of this program, and Staff relied on the BCA used in the Make Ready Order that included an analysis of Long Island. PSEG LI's consultant, Gabel Associates, provided the Company an EV Make-Ready Program Participation Guide and EV Make-Ready Application, which was targeted to be released July 5, 2021. While the Make Ready budget was approved in December of 2020, no applications for Make Ready were received until July or August of this year. The Joint Utilities that were affected by the Make Ready Order, issued and effective July 16, 2020, were given 60 days to file an implementation plans and 30 days to file Make-Ready Program Participant Guides.

Again, PSEG LI's goal for 2021 was to fund 20 DCFC Make Ready plugs and 254 L2 plugs. As of September 7th, 2021, PSEG LI has received applications to build 95 DCFC ports and 25 applications for 49 level 2 chargers totaling 54 ports. PSEG LI reports that for its DCFC Demand Charge incentive it typically takes 9-12 months from application to energization of DCFC plugs, at this rate no Make Ready incented plugs will be energized this year. As yet there do not appear to be enough applications for PSEG LI to make its L2 goal.

Delay in implementing the Make-Ready program has a large impact on developers who are attempting to install networks of chargers, because the other PSEG LI DCFC incentive program to help address DCFC demand charges (described above), has a limited timeframe. The DCFC per plug incentive went into effect in 2019 and will end December 31, 2025. The level of the incentive drops by $1,000 each year (it began at $7,000 in 2019 and will decline to $1,000 in 2025). Therefore delayed implementation of Make Ready impacts developers' access to funds that could potentially make their projects more viable. It also impacts EV drivers and potential EV drivers as they search for chargers, when range anxiety is a frequently cited reason for avoiding choosing an electric vehicle.

PSEG LI did not provide enough information to justify its request for an additional $0.47M in O&M. The implementation has been delayed, so it is not clear if any chargers will be incented by this program in 2021. PSEG LI has also delayed implementation of the Salesforce database until 2023, so it makes little sense to purchase an interim database that may in fact have no installations to track at the current rate. Therefore, Staff recommends declining the additional requested $0.47M in O&M funding for 2021.

Hosting Capacity Maps Stage 3

- A program to gather information at the feeder level to provide granular info such as the maximum megawatts that can be connected at a specific node on the feeder.
- Recommendation: Do not recommend variance.
- Requested Budget ($M): $0.08
- Staff recommended adjustment: ($0.08)

Stage 3 of the hosting capacity maps program builds upon stage 2 maps and will provide feeder level information and granular location-specific information such as the megawatts that can be connected at a particular node on the feeder. PSEG LI is currently on schedule to complete and go live with stage 3 maps by the end of 2021. PSEG LI forecasts capital costs to equal the approved budget of $1.70M, and operating expenses to exceed the approved budget of $1.84M by $0.08M. This requested budget increase is to account for PSEG LI's forecasted extension of third-party O&M support through 2025, instead of through 2024 as originally planned. The third-party consultant will be providing technical expertise to safely integrate DER interconnection on the LIPA system. PSEG LI did not provide a BCA, stating that since Hosting Capacity Maps enable faster and potentially cheaper penetration of solar PV and other DERs on the grid, this supports its efforts in achieving clean energy goals and meeting statewide renewables mandates that a BCA wouldn't account for. Additionally, the Company believes that since this is not a capital asset or customer program it does not require a BCA.[55]

Staff recommends that PSEG LI re-submit the request for $0.08M in a future filing if at that point it still believes the additional year of O&M support is required for the completion of the program.

Next Generation Insights Pilot

- A program to deploy technology to disaggregate usage data on devices/ appliances in a customer's home, and provide energy management tips based on that information.
- Recommendation: Recommend.
- Requested Budget ($M): $0.47
- Staff recommended adjustment: No Adjustment.

The Next Generation Insights Pilot program was approved in 2019. The amount of funding originally approved was approximately $3.27M spanning three years through 2022, including $0.71M for Capital funding and $2.56M for O&M, to reach 100,000 customers. This program uses technology to disaggregate signatures on the home energy waveform and provide personalized budget alerts to customers via email and/or text at certain intervals during the month illustrating how much energy appliances/EV chargers are using and the associated cost. No BCA was developed by PSEG LI for this program because it is a pilot program and the Company stated that it is "committed to testing the relevant hypotheses and measuring success of these initiatives against the proposed target metrics."[56] Metrics for this program include customer web engagement, customer survey responses, and reduced high bill calls.[57]

According to the filing, PSEG LI has completed the procurement of a third-party vendor, the initial rollout to pilot participants, and the integration of the budgeted third party software as a service (SaaS) platform with existing systems. The next step is to expand the program to more customers and add additional features. The Utility plans to include bill or budget alerts and further expand the Next Generation Insights pilot to an additional 100,000 customers in 2021-2022.

Though the original scope of this pilot has not changed, PSEG LI is seeking an additional $0.41M for O&M costs related to Top Up Digital Alerts and the CARE Module (call center tool) and $0.06M for Capital costs totaling $0.47M through 2022. The variance in O&M is a result of 2 issues - an increase in the budget for 1) a call center module and 2) the expansion of the program to an incremental 100,000 customers. This expansion to another 100,000 customers was part of the original plan and budget; however, PSEG LI states that additional funds are requested for Top Up Digital Alerts to additional 35,000 customers to "mitigate opt-out requests, as per lessons learned to-date, in order to help ensure target of 200,000 customers is reached

[55] Response to Staff Discovery Request U2.0-DPS-0091, question 3b.
[56] U2.0-DPS-0091_ Answer.
[57] Utility 2.0 Long Range Plan 2019 Annual Update, June 28, 2019, p28.

in 2021.[58] PSEG LI states that "the pilot's target level [of] 200,000 participants which will potentially require 235,000+ enrollments to achieve.[59]

For the call center, approval is sought for a CARE module that will "assist representatives with being able to quickly provide customers with additional AMI insights to identify non-efficient appliances or categories within customer's household. The representatives will also be able to provide the customers with next best actions to find a resolution to the high bill calls and increase customer satisfaction." PSEG LI explains that the CARE module, for a cost of $0.15M per year, is an enhancement to the Bidgely SaaS solution, offered at a flat licensing fee, and can be accessed by call center representatives through the Bidgely portal (it is not integrated with PSEG LI systems). This will "enable personalized customer experience and an added degree of insights of customer energy use... i.e. the high bill analyzer for high bill calls... ability to co-browse the portal with customer on the phone, and the ability to conduct a remote energy audit of the customer's home."[60]

PSEG LI explained that the capital "budget was further adjusted with additional $0.061M (net increase from the original budget) to help ensure sufficient funds are available as the pilot experienced an added level of complexity. The full $200,000 [including an additional $124,393 of capital from 2020 carried over to 2021] will be utilized in delivering the 2021 scope..."[61]

In its public comments, NRDC suggested that a portion of the 100,000 target customers for the pilot be LMI (Low and Moderate Income) customers, citing the emphasis New York State is putting on assisting such customers under the CLCPA. NRDC also suggests PSEG LI roll out this project to larger groups of customers than the proposed increments of 100,000 to avoid having the program taking up to eight years to cover all PSEG LI customers.

Staff finds that this pilot is worthwhile, and that PSEG LI has justified the reasoning for additional funding, so recommends that the program move forward with the proposed budget adjustments. However, Staff questions why the CARE Module, which seems essential to the pilot's success was not incorporated in the original proposal. Also, the filing states that PSEG LI is also developing an evaluation plan (to assess energy savings from modified behavior). DPS' original Recommendation letter (November 12, 2019) stated "Beyond the proposed online engagement and a reduction in high bills complaints as measures of progress achievement, DPS recommends that energy savings metrics for this program should also be established to assess project success." DPS again encourages PSEG LI to develop such a performance metric.

Electric Vehicle Programs

- Programs that offer incentives for smart charger purchases and for customers to charge their vehicle during off- peak times.
- Recommendation: Recommend.
- Requested Budget ($M): $0.20 (Already used, overspend)
- Staff recommended adjustment: No Adjustment.

This suite of customer facing EV programs began in 2019 with the DCFC per plug incentive designed to give DCFC providers a break on demand charge costs as its stations were starting out and building a customer base. The incentive is designed to taper off and phase out at the end of 2025. The Smart Charge program was launched in 2020 and has two elements: a rebate to purchase a smart charger and an incentive for residential customers to charge off peak. The rebate program runs until 2022 and accepts enrollment through 2021 and provides rewards through 2022. The Electric Vehicles Program spent approximately $0.9M

[58] U2.0 DPS-0016 Breakdown of OM – Confidential.
[59] Response to Staff Discovery Request: U2.0-DPS-0043, CONFIDENTIAL Next Generation Insights Pilot IT Response.
[60] Id., Response to Staff Discovery Request: U2.0-DPS-0043, CONFIDENTIAL Next Generation Insights Pilot IT Response.
[61] Response to Staff Discovery Request: U2.0_DPS-0022; August 6, 2021.

in O&M in 2020. The spend was $0.2M higher than planned, largely driven by increased costs for program participation and marketing. PSEG LI did not provide an updated benefit-cost analysis (BCA) for this program that included additional marketing expenses. Therefore, additional information was requested to allow for a more detailed review of the economics of this program. PSEG LI stated that budget reconciliations and benefits are reported as part of the Annual Filing process as defined and agreed to with DPS.

The DCFC per plug incentive has fallen far short of its goal of 300 DCFC plugs by 2020. PSEG LI had 118 applications for the incentive but energized only 48 plugs over five station locations. Six plugs were energized in 2019 and the 42 were energized in the last quarter of 2020.[62] Over half of the plugs, 28, are Tesla plugs. The Smart Charge Rewards and Smart Charge Rebate programs beat expectations by almost 50% for both programs. PSEG LI credits adding a $50 enrollment bonus to the Smart Charge Rewards and increasing the digital advertising spend for Smart Charge Rebates.

In its comments, the National Resources Defense Council (NRDC) stated it's concerned with the Company's lack of specifics for the outcomes of its Smart Charger Program. It notes there are no details on how PSEG LI plans to manage charging or what the Time of Use rates will be for customers.

DPS Staff notes that the additional spent will be captured in the unspent funds from other programs from 2020. PSEG LI is updating its budget to reflect the overspend in Electric Vehicle Rebates. Staff selected a sample of rebates to verify the overspent funds and no issues were noted as a result of the review.

Program Implementation Support

- Support for the Program Management Office (PMO) and associated vendors that manages, tracks, and reports on the Utility 2.0 initiatives.
- Recommendation: Recommend.
- Requested Budget ($M): $0.41 for Capital, ($0.40) negative adjustment for O&M
- Staff recommended adjustment: ($0.23) for Capital, ($0.05) for O&M

Funding under this category supports the Program Management Office (PMO) and associated vendors that manages, tracks, and reports on the Utility 2.0 initiatives. The approved and forecasted 2019 to 2022 capital budget was $7.64M and O&M budget of $0.55M. PSEG LI has updated the forecast to include actual vendor cost and to account for O&M spend to date. PSEG LI now proposes a 2019 to 2022 capital budget of $8.04M and O&M budget of $0.15M. The Department Staff has reviewed the updated cost estimates, including a review of the response found in DPS-77 and DPS-91. For the capital budget, PSEG LI provided justification in DPS-77 for the cost of the vendor used to assist with management of the Utility 2.0 initiatives. However, there is no justification or discussion provided in DPS-77 and the Utility 2.0 filing for adding a second internal FTE to PMO in 2022. In DPS-91, PSEG LI stated that the variance requested in this year's filing is not included in the previously performed BCA and considering the PMO is used for multiple projects/programs, it is unclear how it is allocating this cost across all the projects/program cost. PSEG LI has already hired one FTE, has vendor support, and the AMI mass deployment will be sunsetting so the need or purpose for the second FTE is unclear. DPS recommends a downward capital adjustment of $0.225M in 2022 to remove funding for the second FTE. For O&M, PSEG LI has not spent any of the funding allocated since 2019 and in response to DPS-77, has not identified how the $0.15M was calculated or for what purpose the funding will be used over the 2021 to 2022 period. PSEG LI forecast a budget of $0.1Min 2021 and $0.05M in 2022. Therefore, DPS recommends no O&M funding for PMO in 2022, which results in a downward adjustment of $0.05M.

[62] Response to Staff Discovery request U2.0 DPS-0081.

Rate Modernization – Time of Use Rate (TOU)

- A program to roll out new rate options such as TOU, and enhance customer enrollment of such rates as a means to help lower customer bills and lower system peaks.
- Recommendation: Recommend.
- Requested Budget ($M): $2.81
- Staff recommended adjustment: ($2.33)

In its 2018 Utility 2.0 Plan, PSEG LI sought the funding of a Rate Modernization program for an Advance Billing Engine and its associated customer outreach & marketing costs. In 2018 DPS adopted the Rate Modernization program and also recommended for any future rate design or tariff proposal should be subjected for DPS review. In 2018, $9.5M in Capital and $17.97M in O&M were approved for the Advanced Billing Engine and Marketing & Outreach for 2019 through 2023. In 2020, the Capital budget was increased to $10.06 and the O&M budget was reduced to $16.12M.

In 2021 Utility 2.0 filing, PSEG LI is requesting an increase of $2.5 M for capital budget and $0.31M for O&M for rate modernization for 2019-2023. The increase of $0.31 M for O&M is to develop an evaluation plan. Staff notes that PSEG LI provided a detail break down of the increases in costs but the support did not accurately reflect the increase requested. In the response to Staff's Information Request for support of the $0.31M funding increase PSEG LI stated that the increase was based on approximately 2% of the prior approved Rate Modernization budget. DPS recommends that PSEG LI postpone adjusting the budget until appropriate support is obtained for the cost.

The increase of capital budget for rate modernization is mainly attributed from two portions: First, the actual spending in 2020 exceeded its approved budget by $0.24M. This was due to additional work required in 2020 for implementing the advance billing engine. Second, the remaining $2.26M of the increase requested for 2021-2023 is based on the updated budget forecast. Due to the change of scope for rate modernization, the overall capital budget is anticipated to exceed the original approved budget for 2019-2023 by 25%, about $2.5M. The requested increase of capital budget is related to detailed business and technical requirements for enhancing the rate selection tools and TOU MyAccount content, providing personalized comparisons on the bill, developing a new MyAccount TOU dashboard, rolling out additional rate options, and updating the PSEG LI website to have a more dynamic customer experience for enrollment. In the response to DPS-21024 & DPS-093, PSEG LI has not updated its BCA for reflecting the increase of $2.5M for capital cost. In the response to DPS-93, PSEG LI also indicated that it would shift $2.24 M from the 2021 underspend budget to 2022. The resulting of $2.24 M underspend budget in 2021 is due to the delay of launching TOU to customers. PSEG LI's proposed budget for 2022 is $2.18M. In fact, PSEG LI therefore would have enough funds more than its proposed 2022 budget to cover the deliverable items it plans in 2022 and even having additional $60K budget that can enable it to do some items beyond the 2022 scope.

Staff therefore recommends approving only $0.24M as part of the increased capital budget request resulting from the overspending in 2020 but recommends rejecting the $2.26M remaining amount of the increase requested for capital through 2023. Staff further recommends PEGLI come back in next year filing for 2023 additional budget with providing its update BCA. Staff also recommends that PSEG LI move forward with a $0.24M requested funding increase for O&M, not the original $0.31M funding request. PSEG LI was only able to support $0.24M in costs resulting in a decrease in funding of $0.066M. The total recommended budget reduction for the Rate Modernization program is $2.33M.

Super Savers

- A program to reduce peak on specific constrained circuits, via marketing a variety of programs (Home Energy Audits, Smart Thermostat, Smart Plugs, Direct Load Management Program).

- Recommendation: Recommend, but deny cost increase.
- Requested Budget ($M): $0.29
- Staff recommended adjustment: ($0.29)

In 2017, the Super Savers program in North Bellmore was adopted with $5.0M approved budget for Capital & O&M from 2019 through 2022. The North Bellmore Super Saver program is administered by PSEG LI directly and is targeted to reduce customers' peak load on four circuits with a 4 MW peak reduction goal, through strengthening existing programs such as Home Energy Audits, Smart Thermostat, Start Plugs, and Direct Load Management program. In 2018, LIPA approved an expansion of the Super Savers program to the Patchogue area with $1.65M of O&M budget for 2019 and 2020. The Super Saver program in Patchogue is targeted to reduce load on two distribution circuits through same initiatives as described above, but it is administered by a third party contractor through a performance-based contract. PSEG LI states that the Super Saver program in Patchogue is delayed a year due to contracting delays and the impacts of the pandemic. Accordingly, the budget for the Patchogue Super Saver program will be pushed back to span from 2021 to 2023.

In the 2021 U.2.0 filing, PSEG LI requests an additional budget of $0.29M for the current year 2021 to continue strengthening the Super Saver program on the four North Bellmore Circuits through 2022 by providing more incentives and free smart devices. PSEG LI claimed the actual spending was slightly less than the approved budget, mainly due to the impacts of the pandemic on marketing and installation efforts. In the Company's response to IR U2.0-DPS-0048, in 2019 PSEG LI budgeted $1.99M and only spent $0.48M and in 2020 budgeted $0.98M and only spent $0.27M for its North Bellmore Super Saver program. By the end of 2020, PSEG LI achieved a 1.8 MW peak demand reduction, about 45% of the 4 MW peak reduction goal. PSEG LI did not provide an updated BCA for this program to reflect the additional funding request. Therefore, additional information was requested to allow for a more detailed review of the economics of this program. PSEG LI stated that budget reconciliations and benefits are reported as part of the Annual Filing process as defined and agreed to with DPS.[63]

Staff recommends that PSEG LI does not move forward with the requested funding increase, as the Super Savers program was budgeted for $1.25M in 2021 and as reflected in the 2021 Quarter 2 U2.0 Progress Report PSEG LI has incurred only $0.197M in costs. Staff recommends that the PSEG LI utilize any underspent funding for 2021 to address the costs proposed.

Utility Storage- Miller Place

- A project to install energy storage (batteries) to increase the capacity of Long Island's Miller Place Substation
- Recommendation: Recommend.
- Requested Budget ($M): $2.97 (Incremental)
- Staff recommended adjustment: ($0.05)

The utility scale storage project was proposed in 2018 as an alternative to a traditional capital investment to upgrade capacity at the Miller Place substation. PSEG LI issued the RFP in 2019 for a 2.5MW/12.5MWh battery storage system and anticipates an in-service date of 2023.

In the 2021 filing, PSEG LI updated the costs for the storage project based on vendor costs to procure the battery resulting from the RFP process. PSEG LI also provided a detailed cost estimate for the interconnection requirements associated with connecting the battery to the grid. The updated budget results

[63] Response to Staff Discovery Request U 2.0 DPS-0091, item 4f.

in an increase in total incremental cost of $2.97M, which includes an increase to the capital budget of $2.76M, and an increase to the O&M budget of $0.21M. In the response to DPS-0015 PSEG LI provided a cost breakdown of the current capital and O&M costs for the Miller Place Storage project. New O&M line items in the updated costs include annual software patches for years 1-5 of operation, an IT contract for hardware and/or software upgrades if equipment becomes unsupported over time, and an Email/SMS communication system. A BCA of 1.02 was provided in 2018 and was adjusted in 2021 to 0.84.[64] While the current BCA is under 1.0 which indicates the project is not cost effective, Staff notes this project provides multiple benefits that are not quantified in the BCA. This project will offer invaluable experience and data regarding construction and operation of grid scale storage that will inform future projects and help the state reach its long term goals. Accordingly, Staff continues to support this project and recommends that the program move forward. Staff notes that in IR U2.0_DPS-0089 PSEG LI acknowledged a budgeting error of $0.05M in capital costs. To correct for this error Staff recommends a reduction of $0.05M to the proposed capital costs. Staff also recommends that PSEG LI continue to reconcile the project budget against updated costs on an annual basis as the project progresses.

2019 -2025 Utility 2.0 Program Progress Update

The following are general project updates where no funding variance is requested.

AMI Customer Experience and Engagement Plan

Engagement with customers is critical to the deployment of AMI meters. PSEG LI initiated customer engagement in 2019 with the deployment of the smart meter program. For 2021, the Company intends to follow the scope of the plan that was introduced in 2018.[65]

Due to COVID-19 pandemic, communications with customers were modified to adhere to federal social distancing recommendations. Use of the My Smart Energy Lab and customer segmentation research was also delayed due to the pandemic. The mobile lab's main purpose is to inform and educate Long Island communities about Utility 2.0 programs.[66] The lab was used briefly in the 2nd half of 2019 to provide information on AMI deployment and the benefits of AMI technology.[67] In response to a Staff inquiry, the Company stated that My Smart Energy Lab stations are being reevaluated, overall customer communications have increased in light of an accelerated smart meter installation schedule.[68] The Company further states that the AMI Customer Engagement has resulted in 2.5 million touchpoints with customers regarding the AMI program.[69]

Staff reviewed the Company's budget and spending trends using historical data from 2019-2022.[4] [70]In 2019, the Department approved funding of $4.66M for Customer Engagement Capital and Operating Expenses for 2019-2020. The Company states that delays in customer segmentation research, the delayed use of My Smart Energy Lab, and the impact of the Pandemic led to below-budget spending in 2020. Increased spending is anticipated for 2021 and 2022 due to increased customer communications costs and additional expenses for the My Smart Energy Lab and segmentation research. However, the Company is not requesting additional funding. The additional cost for the My Smart Energy Lab was based on vendor

[64] Response to Staff Discovery Request U 2.0 DPS-0089, attachment 2.

[65] Page 32 Section 2.5.1 AMI Customer Engagement Plan Utility 2.0 Annual Filing 2021.
[66] Response to Staff discovery request DPS-0061 AMI Customer Engagement Plan Question 3, item a.
[67] Response to Staff discovery request DPS-0061 AMI Customer Engagement Plan Question 1, item a.
[68] Response to Staff discovery request DPS-0061 AMI Customer Engagement Plan Question 1, item a.
[69] Page 34 Section 2.5.1.3 Performance Reporting AMI Customer Engagement Plan Utility 2.0 Annual Filing
[70] Page 34 Section 2.5.1.2 Funding Reconciliation Table 2-11 AMI Customer Engagement Capital and Operating Expenses Budget and Forecast Utility 2.0 Annual Filing.

estimates and the initial proposal provided in 2018.[71] The total forecasted spending for 2019-2022 is $8.64M which is $0.08M less than the overall approved budget.[72] Of the $8.64 million, $2.48M is forecast to be spent for 2022.[73] In response to Staff's inquiry regarding escalated costs for video production (a Virtual Tour of My Smart Energy Lab),[74] the Company replied that the higher cost was due to unforeseen expenses due to the COVID 19 pandemic. [75] No further detail was provided regarding these expenditures. While additional cost estimates and budget breakdowns were provided, the Company did not provide items requested such as workpapers and vendor cost proposals that were requested by Staff.[76]

In response to Staff's request for a breakdown of the customer engagement activities that have been conducted to date, the Company stated it uses direct mail, email, social media, educational videos, and meetings with local and community leaders. These efforts are targeted to all customers receiving a meter, and customers with an email address on file. The Company further stated that External Affairs Staff continue to engage elected officials and community leaders in the service areas with all the activities related to AMI programs.[77] These methods were suggested by customers during surveys and focus groups conducted in 2018 and 2019.[78]

As the My Smart Energy Lab's deployment was delayed, the goal of the virtual video is to deliver the content provided in the lab and serve as a promotional tool for the mobile lab going forward.[79] The Company is incorporating the video based on customer feedback that indicated interest in videos explaining how to use the new capability and technology.[80] A Customer Research AMI Survey stated that 54% of customers preferred video communications.[81]

Staff inquired whether AMI outreach material is available in other languages. The Company responded that outreach materials are only available in English and Spanish, and there are Spanish speaking customer service representatives in the call center who can address customer inquiries. However, the Company subscribes to a language interpretation service that can be utilized for callers who speak languages other than English or Spanish.[82]

Staff further inquired about methodologies used to evaluate the success of the Company's customer engagement activities. PSEG LI replied that efforts were successful based on information delivered to customers on time (direct mail and email), low call volume at the call center, low customer opt-out rate and lack of negative media coverage.[83] In the Implementation Update section of the Annual Update Plan, the Company points out that engagement has been successful as the AMI opt-out rate has continued to decline. The opt-out rate was 0.53% at the end of 2020, down from 0.77% at the beginning of 2019.[84]

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[71] Response to DPS Staff Discovery Request DPS-0061 AMI Engagement Plan Question 2, Item C My Smart Energy Lab Proposal 2018 Confidential response.
[72] Page 34 Section 2.5.1.2 Funding Reconciliation Table 2-11 AMI Customer Engagement Capital and Operating Expense Budget and Forecast.
[73] Response to Staff Discovery Request DPS-0061 AMI Customer Engagement Plan Question 2 an Excel Spreadsheet Marketing Costs Breakdown 2021-2022.
[74] Response to Staff Discovery Request DPS-0061 AMI Customer Engagement Plan Excel Spreadsheet Marking Costs Breakdown 2021-2022.
[75] Response to Staff Discovery Request DPS-0061 AMI Customer Engagement Plan Question 3, item a.
[76] Staff Discovery Request DPS-0061 AMI Customer Engagement Plan Question 2, item c.
[77] Response to Staff Discovery Request DPS-0061 AMI Customer Engagement Plan Question 4, item a.
[78] Page 32 Section 2.5.1.1 Implementation Update AMI Customer Engagement Plan Utility 2.0 Annual Filing 2021; Response to Staff Discovery Request DPS-0061 Customer Research Survey 2018-2019; Response to Staff Discovery Request DPS-0061 AMI Customer Research Survey, Report on Focus Groups August 27, 2019.
[79] Response to Staff Discovery Request DPS-0061 AMI Customer Engagement Plan Question 3, item a.
[80] Page 32 Section 2.5.11 Implementation Update AMI Customer Engagement Plan.
[81] Response to Staff Discovery Request DPS-0061 AMI Customer Engagement Plan Customer Research AMI Survey 2019 Question 3 Item b.
[82] Response to Staff Discovery Request DPS-0061 AMI Customer Engagement Plan Question 4 Item b.
[83] Response to Staff Discovery Request DPS-0061 AMI Customer Engagement Plan Question 1, Item b.
[84]Page 32 Section 2.5.1.1 Implementation Update AMI Customer Engagement Plan Utility 2.0 Annual Filing 2021.

The health, safety and privacy concerns are still contributing to the opt-out rate as stated in the Company 1st Quarter 2021 Utility 2.0 Quarterly Report.[85] The report also points to continued engagement efforts such as meetings with state and local officials, and continuing to provide information on smart meter deployment, and responding to questions have contributed to successful installations and a low-opt out rate. The report states the opt- out rate in the 1st quarter of 2021 was .0.50%.[86]

Staff recommends continuing robust outreach including quarterly updates to DPS Staff and targeted activities to communities and leaders regarding upcoming installations. While quarterly reports do provide O&M costs for customer engagement,[87] they do not break down outreach and marketing costs. Staff recommends that these costs be broken out and included in future reports.

As the plan also states that the My Smart Energy Lab and customer segmentation research have been delayed due to the Pandemic,[88] Staff recommends that future reports include future plans and reports on customer segmentation research and a listing of the My Smart Energy Lab's schedule and locations, descriptions of the specific information that will be provided, and updates to information that will be provided in the lab's stations.

AMI Technology and Systems

PSEG LI launched full-scale deployment of 1.1 million smart meters across its service territory in 2018. By the end of the first quarter in 2021, PSEG LI installed 870,000 smart meters and is on track to achieve 95% deployment across its customer base by September 2021. PSEG LI states it is on track to surpass its originally planned full-scale deployment schedule by approximately one year with lower overall capital cost due to installation efficiencies. Specifically, PSEG LI aims to complete mass deployment by calendar year 2021 rather than the original target of calendar year 2022 with a forecasted overall project cost of $188.72M in capital expenditures, or $5.26M less than budgeted, and O&M expenses of $9.91M, or $0.41M more than budgeted. The shortening of the deployment schedule allows for benefits to be materialized sooner. In 2021 and 2022, PSEG LI proposes to incorporate additional advancements to the AMI system, including a solar and battery backup power source for the communication system, security advancement for transmission of AMI data, the installation of routers that are able to transmit data wirelessly and via fiber optic lines, and the install of fiber optic lines for use by the routers.

The AMI meters currently being deployed by PSEG LI can detect micro-arcing and hot socket conditions using an embedded circuit and temperature sensor. The meters also have the capability to detect tampering from external magnetic sources (e.g., rare earth magnet). The aforementioned meter capabilities are in line with meters being deployed by other utilities and is the industry standard. Furthermore, external magnetic tamper detection is a Commission requirement for meter approvals in New York State.

To ensure the accuracy of new electric meters being deployed, PSEG LI has established acceptance criteria for electric meters based on the number of meters in a shipment and American National Standards Institute (ANSI) Z1.4 - *Sampling Procedures and Tables for Inspection by Attributes*.[89] Sample test size (or the number of meters to be tested) is determined by *Table 1 – Sample size code letters* in ANSI Z1.4, where General Inspection Level II is utilized. The acceptance criteria is based on the test sample size and *Table II-C – Single plans for reduced inspection* where the *Acceptance Quality Limit* of 1.0 is utilized. PSEG LI provided a procedure detailing how electric meters, from shipment pallets, will be randomly selected for testing. Staff agrees with PSEG LI's acceptance testing procedure; however, Staff recommends that PSEG LI provide annual in-service meter test reports, in order for Staff to review the performance of the meters deployed in its service territory.

[85] 2021 Q1 Utility 2.0 Quarterly Report pdf page 11.
[86] 2021 Q1 Utility 2.0 Quarterly Report pdf page 12.
[87] PDF page 10 2021 Q1 Utility 2.0 Quarterly Report AMI Customer Engagement.
[88] Page 33 Section 2.5.1.I Implementation Update AMI Customer Engagement Plan Utility 2.0 Annual Filing 2021.
[89] Response to Staff Discovery Request DPS-0029 Metering Question 5.

In 2019, $7.53M was approved for the years 2019-2022, to support Meter Pans, Meter Inventory Management System (MIMS), Command Center, Meter Data Management System (MDMS) , and Radio Frequency FTE costs. In 2020, PSEG LI revised the budget by an additional $1.97M for a total of $9.53M. This was due to costs for the MDMS that are higher than forecasted during deployment years due to the accelerated deployment schedule. PSEG LI is requesting an additional $0.41M in 2022 for an increase in the hosting fee for both the AMI and MDM systems due to the accelerated installation of AMI Meters. This program is scheduled to be completed in 2022. Staff recommends that this be approved as appropriate for the continued development of AMI.

The Department recommends that PSEG LI implement the AMI advancements proposed for 2021 and 2022 as it allows for a more resilient and secure AMI system. In addition, to maximize the benefits achieved by the install of the fiber optic lines, the Department also recommends that PSEG LI assess what would be required to allow for other utility equipment that are currently not communicating via fiber optic lines, to do so where fiber optic lines are installed for AMI. Where it is determined to be cost effective to connect other utility equipment to the fiber optic lines, PSEG LI should present a proposal for implementation starting in calendar year 2022.

BTM Storage with Solar

The Behind-the-Meter (BTM) Storage with Solar program was proposed in 2018 and began in 2019. The program uses tariff-based DLM programs, specifically the Commercial System Relief Program (CSRP) and Distribution Load Relief Program (DLRP), to incentivize customers to discharge the battery during called events by the utility. Customers participating in the BTM Storage with Solar program are expected to enroll in the DLM Programs through third party aggregators that can help customers manage their storage systems to be responsive to events. The current tariff allows both storage paired with solar, and standalone storage systems to participate. While nearly 500 BTM storage systems have been installed in PSEG LI's territory through the BTM Storage with Solar program, through the end of 2020 none of these customers have enrolled in the DLM Programs.

According to PSEG LI, aggregators state that the costs associated with aggregation and enrollment outweighed the compensation they would receive through the tariff, leading to a lack of aggregators available to enroll customers in the DLM Programs. PSEG LI also states that the pandemic inhibited enrollments in 2020. PSEG LI is currently working with developers and aggregators to increase enrollment in the DLM tariff and anticipates enrollments prior to the summer of 2022.

Staff continues to support using the DLM Programs to incentivize use of storage assets to benefit the grid but has developed recommendations for the existing DLM tariff. Public comments and Staff's recommendations related to use of the DLM programs to incentivize load relief enabled by customers participating in the BTM Storage with Solar program are explained in detail below, in the DLM section of the PSEG LI Energy Efficiency and Demand Response (EEDR) review.

C&I Demand Alert Pilot

The C&I Demand Alert Pilot will test to what extent real-time demand alerts with actionable insights helps commercial customers manage energy costs incurred through demand charges. In its 2020 U2.0 filing, PSEG LI proposed the project be implemented in 2021; Staff recommended that the project be deferred to 2022, after PSEG LI completed prerequisite meter data management system (MDMS) and command center upgrades. Due to internal resource constraints, PSEG LI is proposing to defer the project one additional year to 2023 with the same forecasted spend.

Conservation Voltage Reduction (CVR) Program

The CVR program was proposed and approved in 2020 to reduce the energy consumption through voltage optimization on distribution circuits at targeted locations. It was originally planned to be implemented on three targeted substations in 2021, which include Baldwin, Far Rockaway, and Valley Stream substations. However, based on the AMI voltage analysis conducted in 2020 and 2021, the three targeted substations proposed in the 2020 U.2.0 plan need greater grid optimization prior to performing CVR. PSEG LI will focus on substations requiring less optimization on both the primary and secondary system. As a result, PSEG LI has selected the Arverne substation as its initial location for implementing CVR instead of the three substations initially selected in 2020. Accordingly, the approved Capital and O&M budget was revised and shifted from 2021 to 2022. This is to reflect deployment of CVR on the Arverne substation only. The Capital budget is decreased by $0.29M, from $0.94M to $0.65M. The O&M budged was also decreased by 67%, from $0.09M to $0.03M. Given that AMI data is available for most areas, PSEG LI will conduct system-wide voltage evaluations to identify locations where less voltage optimization is needed before implementing CVR. Staff recommends PSEG LI continue to evaluate the feasibility of other substations once all smart meters are installed, and the budget should be reconciled once the project is completed.

DER Visibility Platform

DER Visibility was proposed in the 2020 Utility 2.0 filing and was scheduled to be implemented in 2021. The platform is a tool to manage increasing levels of DER on the system without adverse effects to the electric system. In the 2021 update filing for Utility 2.0 PSEG LI stated that this program has been delayed by one year due to IT resource constraints. The total proposed budget remains unchanged for the DER Visibility program, however, the delayed start has resulted in reduced O&M costs projected through 2025. DPS continues to support this program and recommends that PSEG LI implement it beginning in 2022 as proposed.

Electric School Bus V2G Pilot Background

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.[90] PSEG LI stated that this program is currently on hold due to electric bus design, the Pandemic, and school district funds.

Suffolk Transportation Services (STS) School Bus Operations has continued to work with Electric School Bus manufacturer Blue Bird and applied for funding from New York Energy Research and Development Authority (NYSERDA) for a grant to purchase seven EV School buses to service the Bay Shore, Brentwood, and Central Islip school districts. In response to IR U2.0 DPS-0082, STS expects seven EV School buses, plus an additional four buses replacing EV school buses purchased in 2019 for the Bay Shore School District that had insufficient climate controls, to be delivered in October of 2021. According to the Blue Bird website,[91] Blue Bird has changed the design of the EV buses so that all its EV buses are capable of V2G. Blue Bird partnered with Nuvve to provide software and chargers to provide bi-directional flow of power from the buses to the grid. Blue Bird and Nuvve have already deployed this technology in Illinois in March of this year.

The original project was approved for $0.08M in Capital cost and an additional $0.64M in O&M expenses over 2020-2022 time period, with a BCA of 0.33. The structure of this funding of this project will have to change as, from conversations with PSEG LI, DPS has learned that incentives for school bus

[90] PESG LI, Utility 2.0 Long Range Plan, 2019 Annual Update filed June 28, 2019, pp. 51-62.
[91] www.Blue-Bird.com

purchase are not critically needed to make the purchase of the buses viable, but other V2G infrastructure and a new plan will be needed.

PSEG LI states that the project can demonstrate several stacked applications, including localized distribution peak reduction, system peak reduction, customer bill savings, backup power, and ancillary services. Furthermore, information obtained about costs and benefits from this pilot will provide insight into potential future business models that will support scalable growth of V2G infrastructure for e-buses and other EVs. For example, future projects or programs could use LIPA financing or employ ownership models with varying ownership between e-buses, e-bus batteries, or EVSE. This pilot will also help to identify target costs for e-buses and related infrastructure to become economical at scale.

The purpose of the project should be to help STS School Bus Operations monetize the above benefits to help to improve the business case and BCA for switching to electric school buses. This would help school districts across Long Island and across the state make the switch to electric buses and reduce GHG emissions. As is discussed in the Dynamic Load Management Programs section, PSEG LI's CSRP and DLRP programs require more work to become customer friendly. PSEG LI should be working with STS to help them utilize TOU rates, DLM programs, and facilities design to minimize electric cost for fueling EV buses and maximizing the value of the energy storage of the buses provide to the network. While PSEG LI may manage the discharge of electricity back to the grid, the program should include training for STS facilities managers to take over this duty in order to provide a long term revenue stream for the bus operator.

Drive Electric LI has suggested in a public comment that future pilots be conducted in districts that own and operate their own buses, as the above proposed pilot is working through a school district contractor. It posits that this will provide a more complete assessment of the technology and DER benefits. PSEG LI states: This is a pilot initiative intended to continue progress toward the State's transportation electrification goals and leverage the potential to utilize these resources to provide valuable grid services. Under the BCA framework principals discussed above, and given that this project was put on hold during COVID-19, PSEG LI does not have an updated BCA for this initiative.[92]

The structure of this program will change significantly as STS has secured funding to purchase EV School Buses from NYSERDA and other sources. The BCA for a reformulated V2G EV School Bus plan should be better than the original 0.33 of the 2019 proposed program. But PSEG LI has not laid out the costs and benefits of a reformulated plan. The $0.72M funding of the EV School Bus V2G plan should be refunded back to customers until PSEG LI can produce a revised plan with a revised budget, BCA, and reporting requirements.

Enhanced Marketplace

The Enhanced Marketplace program was originally proposed in the 2019 Utility 2.0 filing. The purpose is to modernize PSEG LI's existing online energy marketplace of efficient products and services, and expand it with enhanced features (such as point-of-sale instant rebates, a program enrollment center, and an online product advisor) to improve the user experience. The original requested budget was approved for $4.65M in Capital and $4.51M in O&M, totaling $9.16M through 2025, and the BCA was 1.08. An RFP was issued in early 2021 for contractor services but the procurement was not completed and the project has been put on hold until 2023 due to internal/IT resource constraints after Tropical Storm Isaias in fall of 2020.

In IR Response U2.0-DPS-0080, PSEG LI states that the Company plans to reduce some of the more costly features from the original scope of this project, and this is planned to be completed by mid-2022.[93] "The overall budget from 2021 to 2025 is expected to be approximately $2.8 million and $1.9 million lower

[92] Response to Staff Discovery Request U 2.0 DPS-0091, item 4a.
[93] Response to Staff Discovery Request U2.0-DPS-0080.

than the approved budget for capital and O&M, respectively, and that this decrease is due to "refined cost estimates for the software platform integration and associated license and management fees."[94] PSEG LI states that for now, "the existing marketplace is functioning well," and given existing resources, other programs have been made a higher priority, including Rate Modernization, Community Choice Aggregation, and Meter Data Management. It explains that, "There are resources with expertise in the PSEG LI mainframe and Customer information and billing systems that have been constrained in 2021 due to the priority on OMS Remediation and other high priority Regulatory-driven work. Utility 2.0 projects that are impacted include On-Bill Financing, the Enhanced Marketplace, and DER visibility."[95] The Company expects that another $2M in mostly O&M may potentially be needed to operate the program in 2026-2027 to complete the scope.[96]

Staff IR Response U2.0-DPS-0080 inquired further into the delayed timeline. The Company stated in its response that expanding the Enhanced Marketplace "requires data integration with Mainframe-based Customer Information and Billing System [and] the customer-facing "My Account" online system." In response to U2.0-DPS-0044, PSEG LI stated that "Planning will begin in 2022 for technology modernization of the PSEG LI Customer Information and Billing systems...This plan will be developed in 2022." PSEG LI also states that the delay of implementation to 2023 is based on experience and industry average for similar efforts. It says, "A technology modernization effort of this type represents a significant investment and drives significant change across multiple business and technology areas. A thorough planning effort will include requirements analysis, evaluation of technology solution alternatives, business and technology team member training, demonstration of complex business processes in candidate systems, and the development of implementation cost and schedule."[97] The Company expects that this work will help provide sufficient information to make decisions on the overall program scope and investment needed, and Staff agrees this is reasonable.

NYSEIA offered comments on this program, urging for it to be used to advance customer engagement in community solar opportunities. It opposes PSEG LI and LIPA owning any products being offered there. Staff urges PSEG LI to consider these comments and agrees that a centralized system to collect contact information for customers interested in community solar would streamline engagement.

Staff recommends that PSEG LI pursue the described budget decrease and continue to pursue this program on a timely basis to avoid further delay. Any budget future program scope and budget adjustments should be clearly detailed and presented to DPS for review.

Flexpay Planning

In 2019, DPS recommended, and LIPA approved, $0.25M for PSEG LI to develop an implementation plan for FlexPay, pursuant to its FlexPay Utility 2.0 proposal. Of the $0.25M approved budget, PSEG LI spent $0.08M in support of the program. In 2020, PSEG LI proposed to implement FlexPay which was an opt-in pilot program with adapted Home Energy Fair Practices Act (HEFPA) requirements. However, DPS Staff did not recommend the adoption of this program; thus, PSEG LI did not pursue the program. Due to PSEG LI not pursuing the pilot program, there is a variance of $0.17M for FlexPay Capital and Operating Expense budget. A public comment was submitted by NRDC inquiring about PSEG LI's decision not to move forward with the FlexPay Pilot in 2020. NRDC's 2020 FlexPay program (Program) public comment stated that although it was in support of the Program, it felt that there was a need for additional customer research to test the Company's hypotheses around energy and bill savings. Consistent with its concern about customer research,

[94] Matter 14-01299, In the Matter of PSEG LI Utility 2.0 Long Range Plan, PSEG LI Utility 2.0 Long Range Plan and Energy Efficiency and Demand Response Plan, 2021 Annual Update (filed July 1, 2021), p. 59.
[95] Response to Staff Discovery Request U2.0-DPS-0080.
[96] Matter 14-01299, supra, PSEG LI Utility 2.0 Long Range Plan and Energy Efficiency and Demand Response Plan, 2021 Annual Update (filed July 1, 2021), p. 59.
[97] Response to Staff Discovery Request U2.0-DPS-0080.

Staff determined that the Company 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. Therefore, DPS did not recommend the implementation of the Flexpay Pilot. More details can be found in DPS's November 6, 2020 recommendation on PSEG LI's 2020 Utility 2.0 and EEDR Proposal.

Heat Pumps Control Pilot

The Heat Pump Controls Pilot was proposed in 2019 and was planned to be implemented in 2020. In 2020, the pilot faced contracting delays as well as delays due to the Coronavirus pandemic. In the 2021 update filing, PSEG LI states that the project has been cancelled because the product has been discontinued by the manufacturer. Staff notes that the product appeared to have thermostat control capabilities and was not able to provide the integrated control functions proposed by this pilot. Moving forward, PSEG LI should review and implement, where beneficial, similar pilots implemented by the Joint Utilities. An example of a current pilot is the NY Clean Heat programs Integrated Control incentive adder currently being developed by the JMC that provides incentives for integrated controls in an effort to increase heat pump utilization.

Hosting Capacity Maps Stage 2

Stage 2 of the hosting capacity maps are circuit maps that provide feeder level information on the DER capacity that can interconnect at a particular location without resulting in thermal or voltage constraints. PSEG LI completed stage 2 of its hosting capacity maps on schedule in 2020. The project was completed for $1.45M, $0.36M under budget, mainly attributed to the elimination of ongoing maintenance that will no longer be required because of the development of Stage 3 maps. No BCA was provided for this program. Therefore, additional information was requested to allow for a more detailed review of the economics of this program. PSEG LI responded that a BCA test would not be performed as it would not account for statewide renewable mandates, understating the imperative value of meeting DER penetration goals.[98]

IOAP (Interconnection Online Application Portal)

The IOAP allows interconnection customers to apply online, upload required documents, and obtain real-time status updates on their DER interconnection projects. The project was proposed in 2018 for implementation in 2019 and then deferred to 2020 based on LIPA's budgeting. The project was completed for $2.11M and the portal went live in February 2021, two months behind schedule, and $0.16M under the total budget.

Locational Value Study & Tool

The Locational Value Tool captures and analyzes load information from the T&D system. Utilizing this information, it calculates the value of interconnecting DER to support effective relief of grid constraints. The project was proposed in 2018 for implementation in 2019 through 2020. The Locational Value Study and its associated tool and report were completed on schedule in late 2020. The project was completed for $0.57M, $0.11M under budget, mainly attributed to lower than expected ongoing support.

[98] Response to Staff Discovery Request U 2.0 DPS-0091, item 3b.

Non-Wires Solution Planning Tool

The NWS Planning Tool offers PSEG LI the ability to assess the feasibility of NWS as an alternative to planned capital investment. The project was proposed in 2018 for implementation in 2019 through 2020. The tool was delivered in early 2021, however, the scope of the project was slightly expanded to enhance the tool while maintaining the original approved budget of $0.20M. The tool along with the enhancements is forecasted to be completed later this year.

NWS Process Development

Through a third party consultant, PSEG LI is developing a formalized, replicable, and transparent process for identifying, selecting, procuring, and deploying NWS. This project is forecasted to be completed by the end of 2021, on schedule, and at the approved budget of $0.50M.

On-bill Financing Plan

In 2020, PSEG LI proposed 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 supporting heat pump deployment, with loans repaid through customers' electric bills. If successful, PSEG LI may consider expanding the program following the 2-year pilot phase. To fund the Pilot, LIPA plans to issue $10.0M of debt to create the fund. DPS Staff recommended approval of this program to facilitate additional saturation of heat-pumps in the service territory and other measures to decrease fossil fuel usage.

Although PSEG LI developed an implementation plan according to scope in 2020, and even though the scope remains as originally proposed; the launch of the pilot has been delayed to 2022 due to internal resource constraints. According to PSEG LI, its ability to deliver the planned scope of work on time was due to the impacts of the COVID-19 pandemic. PSEG LI indicated that if it is able to procure additional resources, the pilot start date may be accelerated.[99]

The initial Plan identified the program would operate from 2021-2025 and included $1.82M in O&M costs to support implementation. Due to the delay in launch of the Pilot, PSEG LI reduced its budgeted O&M for the Pilot to $1.62M reflecting a modification to the proposed Pilot years of 2022-2025, compared with the initial 2021 launch. No additional modifications to the Pilot have been identified at this time.

Utility of the Future (UoF) Team

The UoF team was staffed with five FTEs in the first half of 2019 and designed to be a team that proactively drives REV-related capabilities and objectives. The team continues to deliver on its scope without any schedule changes. The team is forecast to spend $1.18M in capital through 2022, $0.12 over budget. This overage is due to updates to labor rates and supported by PSEG LI's response to IR U2.0_DPS-0056. However, the total forecasted spend for O&M through 2022 is $2.05M below the approved budget of $4.52M. This significant variance is attributed to the removal of the Joint Utilities (JU) membership fees and represents a projected savings of $0.50M annually. PSEG LI will no longer be joining the JU as a full member as originally planned, instead it will join information sharing meetings as needed and on an ad hoc basis. The change in plans was the result of the JU not extending PSEG LI an invitation due to what it believes are confidentiality issues, and is supported by PSEG LI's response to IR U2.0_DPS-0056.

[99] pp. 52-53, Section 2.6.3, On-Bill Financing Plan and Pilot Energy Concierge Utility 2.0 Annual Plan.

Public Comments on Utility 2.0

Comments on the 2021 Utility 2.0 Plan, inclusive of the EEDR Plan, were received from eleven organizations or individuals. This summary of comments supplements the more specific discussion of program comments addressed within the individual topics above. Staff strongly recommends reading the full set of Public Comments located in the DPS Document matter Management system (DMM) for the most comprehensive representation of each party's feedback.

New York City (NYC) and the Natural Resources Defense Council (NRDC) both emphasized the importance of equitable distribution of program resources with an emphasis on aiding Low-to-Moderate Income (LMI) customers on Long Island. NRDC requested that a percentage of customers targeted for participation in the Next Generation Insights Pilot be LMI customers, and that the program be accelerated to encompass LI in a shorter timeframe. It also urges for more make-ready infrastructure at multifamily dwellings, which are more likely to be LMI households. New York City noted that none of the new or expanded initiatives in the 2021 Utility 2.0 Plan are focused specifically on disadvantaged communities or LMI customers. NYSEIA requested the Community Credit and Community Adder incentives be extended for Community Solar on Long Island.

The NRDC, New York Solar Energy Industries Association (NYSEIA), NYC, Long Island Drive Electric Coalition (LIDEC), New York Battery and Energy Storage Technology Consortium (NY-BEST) and NYPA have all emphasized the need for increased detail and granularity concerning a wide range of proposal aspects, as well as a closer examination and possible revaluation of how data is obtained and analyzed. For example:

NRDC notes the filing does not contain enough specifics concerning the Smart Charger Program nor Make Ready Infrastructure Program, and that the Connected Buildings Pilot may not provide accurate cost-benefit data due to the diversity of types of DER (Distributed Energy Resources) within the program. NYSEIA seeks the establishment of a roadmap for solar and wind projects, as well as detailed quarterly and annual accountings of Long Island's electric generation and load with a breakdown of the contribution of renewable energy. NYC suggests PSEG LI should track its spending by geographic location and break down where funds for individual programs are being allocated to ensure equity for LMI customers. NYPA suggests data used to create metrics be specific down to each class of DER device instead of a blanket monitoring of all DERs. Long Island Drive Electric queried about the development of metrics that can be used to compare budget levels between Joint Utilities and PSEG LI to improve resource allocation. NY-BEST proposes PSEG LI performance an analysis of the electric grid to accurately determine future needs for energy storage.

Six commenters expressed support for increased investment in electric vehicle infrastructure and technology, beyond what is currently proposed in the 2021 Utility 2.0 Plan. Many found the currently proposed EV charging infrastructure, including the number and capacity of charging stations, to be insufficient to meet Long Island's climate goals and spur consumer adoption. Suffolk County and LIDEC both suggested that a 90% reimbursement incentive for EV Fleet Infrastructure should be maintained for public institutions. LIDEC, Greenlots, and NRDC all suggested an increased focus on electrifying Medium Duty (MD) and Heavy Duty (HD) vehicles to meet the goals set by New York's Climate Leadership and Community Protection Act (CLCPA). NYPA suggests that PSEG LI incorporate desktop evaluations on EV infrastructure proposals, efficient load letter processing, and an EV hosting capacity map. NYPA suggests a team of subject matter experts be formed by PSEG LI to efficiently handle the above. NRDC, Drive Electric, and Greenlots would like further programs to be considered outside the scope of the make-ready order. FreeWire Technologies, Inc. encourages PSEG LI to consider and support proposals for DCFC infrastructure that utilize integrated batteries.

2021 Energy Efficiency and Demand Response (EEDR) Plan Programs

Introduction

As part of its overall goal of reducing greenhouse gas emissions by 40% by 2030, New York State established a statewide energy efficiency target of 185 TBtu by 2025. The Commission's New Efficiency: New York (NENY) Order (Case 18-M-0084) was issued in 2018.[100] It 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.

PSEG LI's proposed 2022 EEDR portfolio consists of incentives, rebates, and programs designed to help participating PSEG LI residential and commercial customers lower their energy usage and electric bills. PSEG LI contracts TRC Companies (formerly Lockheed Martin) to administer several EE programs. PSEG LI and LIPA have offered the majority of the programs contained in the EEDR Plan for several years but do propose two new programs: the All Electric Homes and Multi-family programs. While PSEG LI is specifically proposing budgets for 2022 only, in some instances, PSEG LI included the expected future year costs to provide additional context and insight into the future of the EEDR portfolio. Staff conducted a review of PSEG LI's proposed 2022 EEDR portfolio, and Staff's findings and recommendations are detailed below. For all programs, Staff recommends that energy efficiency savings be tracked and made readily accessible in terms of both gross and net savings at site for all programs. Additionally, although the plan adopts a total MMBtu focus rather than solely kWh savings as in the past, reporting should be done is such a way so that kWh and MMBtu savings, by fuel type, align with reporting approaches of other programs operating in the State. Public comments are addressed within each respective section as appropriate.

EEDR Portfolio Budget and Target Summary

PSEG LI's proposes a 2022 budget for EEDR of $88.9M, which is approximately equal to its 2021 budget. Most of the proposed programs have associated MMBtu savings, but PSEG LI has also budgeted for three initiatives that will not have direct programmatic MMBtu savings associated with them: the Direct Load Management program at $1.38M; the Solar Community Adder at $0.4M; and Religious Buildings at $0.40M. For the first time in 2022, savings from Pay for Performance partnership with NYSERDA are expected. Of the total $88.9M proposed for the 2022 EEDR plan, $20M is funded from the Regional Greenhouse Gas Initiative (RGGI), a multi-state marketing effort to reduce greenhouse gas emissions. The remaining $68M will be collected through the Distributed Energy Resources (DER) rider on customer bills.

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 (DACs), when identified. The CLCPA requires state agencies and authorities, to the extent practicable, to direct available and relevant programmatic resources to achieve a goal for disadvantaged communities to receive 40% of overall benefits of spending of various areas, provided 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. The formal criteria for defining DACs as well as associated benefits is expected to be established by the Climate Justice Working Group by the end of 2021. The Commission recently adopted interim criteria to be defined as communities located within census block groups that meet the US Housing and Urban Development (HUD) 50% Adjusted Median Income threshold, that are also located within the DEC Potential Environmental Justice Areas; or are

[100] Case 18-M-0084, supra, Order Adopting Accelerated Energy Efficiency Targets (issued December 13, 2018).

located within New York State Opportunity Zones.[101] The Commission also instructed Staff to work with program administrators to baseline current program operations against Disadvantaged Communities criteria and benefits, develop a process for addressing any associated program modifications, and update reporting guidance to appropriately address reporting against these metrics.

Based on information provided to Staff, PSEG LI has begun the process of baselining its activities and determining how to better targets their programs to DACs. PSEG LI should further ensure its process includes opportunity for meaningful input from stakeholders, including representatives of Disadvantaged Communities. This work should continue in earnest and be coordinated with Staff activities with the other Program Administrators to ensure a consistent approach and shared learnings. Lastly, Staff notes that while LMI programming is expected to be applicable to this metric, benefits to Disadvantaged Communities are anticipated to result from investments in non-LMI programs within the portfolio as well.

The following table summarizes the anticipated energy efficiency savings (on a MMBtu and MWh basis), along with the associated proposed budgets, by program for the residential and commercial components of PSEG LI's EEDR portfolio:

Table A-1. 2022 EE and Beneficial Electrification Goals

Program	Savings (MMBtu)	Savings (MWh)	Program Budget ($M)
Energy Efficient Products	612,027	206,010	24.4
Home Comfort	129,673	2,776	11.5
REAP (Low-Income)	5,953	2,361	1.35
Home Performance	31,917	2,633	4.56
Multifamily	2,423	437	0.25
All Electric Homes	560	17	0.05
Commercial Efficiency	262,559	82,757	32.4
HEM (Behavioral)	101,952	29,881	2.70
Pay for Performance	606	178	0.20
Total, Budget Components with Programmatic Savings	**147,670**	**327,049**	**77.43**
DLM Program	N/A	N/A	1.38
Community Solar	N/A	N/A	0.40
Religious Buildings	N/A	N/A	0.40
PSEG Long Island Labor, Outside Services, Advertising	N/A	N/A	9.28 *
Total, Budget Components Not Associated with Programmatic Savings	-	-	**11.47**
Total	**1,147,670**	**327,049**	**88.90**

** The listed program budget in table A-1 for PSEG LI Labor, Outside Services, and Advertising is incorrectly shown as $10.08M in the filing. However, $9.28 is correct, as acknowledged by PSEG LI in an e-mail correspondence to DPS dated July 2, 2021. All other numbers on the chart, including totals, are accurate.*

The overall BCA reported for the proposed suite of 2022 programs results in a Benefit-Cost Ratio (BCR) of 1.49. Staff notes, however, the inclusion of non-energy benefits in some BCR calculations and recommends that future filings include BCR calculations that are fully consistent with the Commission's Benefit Cost Framework.

[101] Case 14-M-0094 Proceeding on Motion of the Commission to Consider a Clean Energy Fund, Order Approving Clean Energy Fund Modifications, issued September 9, 2021.

2022 Energy Efficiency Programs

Energy Efficient Products (EEP) Program

- A program intended to increase the purchase of energy efficient products through rebates and incentives.
- Recommendation: Recommend funding the program, however, PSEG LI should discontinue rebates for battery-operated lawn equipment.
- Requested Budget ($M): $24.40
- Staff recommended adjustment: No Adjustment.

The Energy Efficient Products (EEP) program is intended to increase the purchase and use of EE appliances and lighting by providing rebates or incentives for ENERGY STAR-certified lighting & appliances, and for battery-operated lawn care equipment through upstream and downstream promotions. The program also educates customers about the benefits of using EE products in their homes through a variety of marketing channels. The program's proposed 2022 budget is $24.4M (0% Capital, 100% operations and maintenance (O&M,)) a 29% increase from its 2021 budget. The associated 2022 annual savings target of 612,027 MMBtu including 206,010 MWh, a 26% increase from its 2021 savings target. The proposed annual program budget for 2022 comprises 27% of the total annual portfolio budget; the program's associated savings target comprises 53% of the total portfolio savings target. This is a continuation of a program that PSEG LI has been administering since 2014 and which LIPA has been operating since 2000. Over 2016 to 2020, the program achieved 123% of its targeted savings and expended 124% of its program budget.

Through discovery, data and narrative details were obtained for a review of prior year program performance, current year savings & targets broken down by measure type, the extent of proposed program activity in the multifamily sector, the extent to which the proposed budget and savings target relate to low- and moderate-income (LMI) customers, the estimated useful lives (EULs) of the program's measure types, and efforts to decrease unit costs.

Most of the IOUs and NYSERDA have programs with comparable components of PSEG LI's EEP program and have generally achieved savings targets to-date with relatively low unit costs. Over 2016-2020, PSEG LI's EEP program performed at a comparatively low unit cost of $36.89 expended per first-year MMBtu-equivalent of EE savings achieved (i.e., acquired.) For 2022, PSEG LI is proposing that the program will operate at a slightly higher unit cost of $39.87/MMBtu-equivalent of savings in part due to a decreased reliance on lighting measures. The proposed programmatic unit cost, however, remains the second lowest of the portfolio's EE programs, higher only than its behavioral program. Regarding similar programs operating in other service territories, and the extent to which PSEG LI has reviewed them to understand best practices, PSEG LI has indicated that it has undergone an annual evaluation from a third party, combining insights from previous evaluation cycles as well as other recommendations to shape future year programs.

This program appears in conformance with DPS policy and aligned with IOU/NYSERDA offerings. The low unit cost and proposed overabundance of potential savings makes this program offering appear very successful, but a large percentage of the projected savings continues to come from lighting measures. The EEP program budget equals nearly 32% of the total 2022 budget with associated programmatic savings, while over 70% of the EEP program budget is associated with lighting. BCA data was provided to indicate an overall program societal cost test (SCT) benefit cost ratio (BCR) of 1.87.

PSEG LI indicated that the program was originally developed by LIPA in 2000 and that no records of research/customer outreach activity which may have been originally undertaken are in PSEG LI's custody. However, PSEG LI indicated that a comprehensive potential study was conducted in 2018. The results of this

effort, along with the results of a third-party program evaluation, were reported as having been used to shape the measures and products proposed to be offered in 2022 EEP Program.

The budget and unit-cost controls in place as described by PSEG LI include monthly measurements using key performance indicator (KPI) reports to track progress towards year-end goals, 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 although long-term success of the program may be an issue due to an apparent overreliance on lighting measures.

The EEP program includes the Residential Appliance Recycling Program (RARP) as a sub-component. RARP's proposed 2022 budget, included within the EEP program budget, is $150K, equal to its 2021 budget. RARP's associated 2022 annual savings target of 10,467 MMBtu, including 3,068 MWh, represents a 145% increase from its 2021 savings target. RARP comprises 1.7% of the EEP program's proposed budget and less than 1% of its savings target. RARP's proposed unit cost for 2022 is $14.33/first-year MMBtu-equivalent.

Some products of the Residential Appliance Recycling Program are in fact available to customers beyond the residential sector, such as small commercial customers. Regarding the BCRs for RARP, the universal cost test (UCT) and societal cost test (SCT) for each of the measures associated with the program result in values that greatly exceed 1.0; the rate impact measure (RIM) for these measures, however, continues to result in a value of approximately 0.2. In response to IRs regarding these BCRs, PSEG LI indicated that it "looks at benefit-to-cost ratios on a portfolio basis, which allows for the inclusion of products, services, or programs that may be individually challenged to pass screening tests" and that those products, services, or programs may be included because they meet policy objectives, contribute to customer satisfaction, or provide additional savings."

As mentioned, the EEP program budget equals 32% of the total 2022 portfolio budget with associated programmatic savings, while 70% of the EEP program budget is associated with lighting. In Staff's review, an overreliance on lighting measures is more of a concern for future years rather than the current year as long as the market is as robust as PSEG LI's plan suggests. PSEG LI has indicated that it intends to mitigate and address the issue by continuing to promote and incentivize beneficial electrification equipment which began in 2020.

Staff has some concern regarding the inclusion of rebates or incentives for battery-operated lawn care equipment, as well as the extent to which such measures align with desired direction and strategies for statewide energy efficiency. The EEP program's budget for 2022 does include rebates for 18% more units of battery-operated lawn care equipment than its 2021 budget did. However, those rebates comprise only 0.6% of the program's 2022 budget and 0.1% of the total portfolio budget for 2022. If PSEG LI does not remove such battery-operated lawn equipment from the program, PSEG LI should not exceed its projected expenditures for those measures.

There is 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 such customers reside in, there is not a segregation of sub budgets and goals based upon anticipated customer 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 program are not included as part of the calculation of LMI spending.

RARP's RIM value would be more of a concern if it were a stand-alone program rather than a sub-component of the EEP program. Considering its comparatively low budget and the relatively low proposed unit costs, the RARP's BCA ratios do not appear to be obstacles to the program's success.

The Company is seeking $17.23M for Program Administration Costs which includes an unknown amount of advertising funding for the EEP program which raises awareness about the use of energy efficient appliances and lighting.[102] The Company states that its outreach strategies have proven to be

[102] Response to Staff Discovery Request DPS-083, item1.

effective in engaging and educating customers about the program's benefits. The Company plans to increase social media presence to engage customers and promote the EEP program. PSEG LI has indicated that it has not been conducting EEP program-related outreach activities in languages other than English, but that it plans to begin outreach communications in Spanish in 2022. Under the umbrella of the EEP program, the RARP program will continue to be promoted along with other programs such as the EEP, REAP, and Home Performance. The program distributes palm cards at all public events, social media, and first-class mail. TRC intends to launch giveaway promotions to increase participation.[103] No public comments were received that specifically addressed the EEP program or RARP.

Staff is in general support of the proposal for the EEP program, including its proposed 2022 budget of $24.4M and associated savings target of 612,027 MMBtu, including 206,010 MWh. Staff recommends that PSEG LI confer with the IOUs and NYSERDA regarding ways of pursuing EE savings beyond lighting measures. Staff also recommends the consideration of some segregation of sub-budgets and goals based upon anticipated customer participant housing scenarios to fully account for the multifamily sector. 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 the LMI sector. Additionally, Staff recommends that PSEG LI consider allowing contractors to directly receive rebates, and then directly pass the savings to the homeowner, in instances where professional installation of a measure is required. Lastly, Staff recommends that program savings be tracked and made readily accessible in terms of both gross and net savings.

Residential Home Comfort Program

- A program to incentivize customers to install high efficiency ASHP, ductless mini split heat pumps, and ground source heat pumps (GSHP).
- Recommendation: Recommend.
- Requested Budget ($M): $11.5
- Staff recommended adjustment: No adjustment.

In the spring of 2019, PSEG LI rebranded the Cool Homes Program to the Home Comfort Program. Since 2019, the Home Comfort Program has evolved each year to align more closely with New York State's aggressive GHG reduction goals as found in the CLCPA. The CLCPA calls for an 85% reduction in GHG emissions by 2050. The rebranding of the program was coincident with the shift of focus from cooling systems such as central air conditioning to Air Source Heat Pumps (ASHP) and the proper use of ASHPs as a combined primary heating and cooling system. The primary objective of the program is to influence PSEG LI customers to make high efficiency choices when purchasing and installing ASHP, ductless mini split heat pumps, and ground source heat pumps (GSHP). The program encourages contractors to recommend whole house solutions, such as weatherization projects coupled with ASHP, geothermal systems, and integrated controls. Manual J load calculations are required are required to ensure all equipment is properly sized for the home and rebate calculations are based on 17° F rated heating capacity found on the AHRI certificate. The proposed budget for this program is $11.5M, and the proposed savings are 129,673 MMBtu and 2,776 MWh. From the proposed budget, approximately $7.5M is allocated to rebates and incentives and approximately $4.0M is allocated to program administration. The reported Societal Cost Test benefit-to-cost ratio is 1.69 and the Rate Impact Measure benefit-to-cost ratio is 1.72.

The Home Comfort Program provides a participation pathway for all customers by offering whole house solutions, partial house solutions, and low-income solutions. To simplify the application process, the Home Comfort and Home Performance with Energy Star Weatherization programs are offered in one

[103] PSEG LI Utility 2.0 & EEDR 2021 Annual Update, A.2.1.4 Outreach, p. A-13.

application. In addition, the Home Comfort team works directly with partners, distributors, and manufacturers to educate and train them on program offerings and requirements. This level of engagement and collaboration ensures that all customers who interact with a member of the Home Comfort team or a trusted partner are educated on the benefits of the technology and have the support to make energy efficiency decisions. Program guidelines will be re-evaluated quarterly to ensure offerings remain engaging, promote state objectives, and encourage program participation.

Geothermal projects are completed on the standalone Geothermal Rebate Application. The application accommodates both Residential and Commercial projects since most geothermal market partners service both residential and commercial customers. Rebate levels and contractor incentives are the same for both project types, but savings are driven by the selection of a residential or commercial installation.

The Company is seeking a $3.97M for Program Administration Costs which includes an unknown amount of advertising funding for the Home Comfort Program. This covers costs associated with traditional and digital media advertisements, website, and industry networking events, speaking engagements, and NYS's Clean Heat Marketing and Advertising. In addition to partners, distributors, and manufacturers, the Home Comfort Program outreach strategy includes a variety of other public platforms such as banners on high traffic webpages, radio advertisements, and newspaper advertisements. Additionally, the Company intends to develop more outreach materials to provide contractors and customers a better understanding of heat pump technology and its benefits.

Staff recommends approval of the Home Comfort Program as proposed. Staff reiterates its previous recommendation of LIPA and PSEG LI's engagement and collaboration with the NYS Clean Heat Program's Joint Management Committee and industry stakeholders, to provide an environment of shared learning and knowledge transfer increasing the ability to effectively meet the New Efficiency: New York goals. This engagement and collaboration should support continuous improvement of program elements such as, but not limited to, standardized rebate and installation contractor applications, and a standardized income eligible verification document.

REAP/LMI Program

- A program that offers low-to-moderate income customers incentives on energy efficiency measures.
- Recommendation: Recommend.
- Requested Budget ($M): $1.35
- Staff recommended adjustment: No adjustment.

PSEG LI offers low-to-moderate (LMI) customers incentives and rebates through various energy efficiency programs, consisting of the Residential Energy Affordability Partnership (REAP), Home Comfort, and Home Performance w Energy Star (HPwES) Programs. REAP is PSEG LI's stand-alone LMI program which provides direct install of specific measures. The Home Comfort Program offers Low-Income Enhanced rebates and loans provides for Heat Pumps and Weatherization measures. HPwES is intended to help homeowners improve the efficiency, safety, and comfort of their homes using a comprehensive, whole-house approach. Additionally, LMI customers are eligible to participate in the Appliance Recycling Program. In the filing, PSEG LI identifies that in 2022 it plans to expand its Multifamily Program to include an LMI component, however details, targets, and budgets are not yet known.

REAP:

The REAP Program is a Program available to income-eligible low-to-moderate income (LMI) homeowners and renters. REAP provides direct install incentives for electric only measures. In 2022 PSEG LI

plans to provide incentives for LED lighting, air purifiers, air conditioning, power strips, refrigerators, thermostats, and audits. Combined, for limited scope and full scope audits, the Company is budgeting $566,000 of the $1.35 million REAP budget for audits. These measures are similar to direct install measures provided in the Statewide LMI Program 1-4 family home offering. REAP provides direct install incentives for electric only measures. The REAP Program encourages whole-house improvements to existing homes by promoting home energy surveys and comprehensive home assessment services. This process identifies potential efficiency improvements and are provided at no cost to the customer.

REAP appears to be successful, though 2020 was impacted by COVID-19. The Company identified that the REAP team and implementation contractor developed a targeted marketing plan for specific homes and areas. Factors included in identifying these customers are, high intensity usage, underserved regions or populations and specific need profiles such as low-income. Customers who are identified through these efforts are offered a free comprehensive home energy survey and energy savings educational materials. These materials and a free energy survey are intended to influence the customer toward REAP program participation. In 2020 and 2021, in response to the pandemic, the REAP program pivoted traditional in-person participation methods to virtual. Customers were offered remote energy surveys and a curbside delivery option for direct install measures. In 2022, remote energy surveys will still be offered to customers who feel more comfortable participating virtually.

In years previous to 2020, PSEG LI met its gross energy savings target, however in 2020 PSEG LI only achieved 66% of its targeted MMBtu savings. In 2020, PSEG LI targeted 3,800 MMBtu. For the year, it reported savings of 3,048 MMBtu-e (all incentive measures are believed to be from electric kWh savings converted to MMBtu, based on review of 2020 EEDP Plan). Evaluated Verified Gross Savings were found to be 2,577 MMBtu, equating to an 84% realization rate, which was nearly identical to 2019's realized savings percentage. The net effect of both the realization rate and failure to meet its target is that PSEG LI achieved 66% of its 2020 goals for the REAP Program. The 2020 Plan identified that the SCT was budgeted to be 0.66, however the actual results indicated a SCT result of 0.47.

LMI Aggregated:

For program year 2022, PSEG LI proposes increasing spending on LMI programs by about $145,000, to $5.4 million. In 2020 PSEG LI proposed spending $5.23 million on LMI related programs for program year 2021.

For 2022, PSEG LI plans to offer enhanced measure rebates through its existing portfolio of energy efficiency programs. PSEG LI is modifying incentives to LMI customers in 2022 to account for policy objectives related to energy affordability, to which the Company states it has developed initiatives focused on energy solutions for LMI customers, enhanced heat pump rebates, and made programmatic changes to REAP and Home Performance with Energy Star (HPwES).

Total LMI spending and MMBtu-e savings for 2022 EEDR Plan:

PSEG LI Program Component	Measure Incentives	Total KWh	Beneficial Electrification	Total MMBTUe*	$/MMBTu
REAP	$ 1,350,413	2,361,251		5,953	$ 227
HPwES (Assisted + Enhanced)	$ 3,000,000	677,268		13,828	$ 217
Home Comfort (LMI)	$ 1,049,520	254,063	(1,026,236)	9,632	$ 109
	$ 5,399,933	$ 3,292,582	(1,026,236)	29,413	$ 184

*PSEG Does not use a straight KWh to MMBTUe coversion, instead it identifies MMBTus by measure/fuel type from TRM

**Used equation in DPS IR-2 to identify amount in Summary [104]

Combined, the Company's LMI programs are targeting 29,413 MMBtu-e. For REAP's 2021 program, PSEG LI is targeting not only electric energy efficiency measures but also fuel neutral building electrification measures, a change from 2020's program year. As illustrated below, the total $/MMBtu for the LMI offerings have a combined average unit cost of $184/MMBtu. Comparatively, NYSERDA's 1-4 Family homes program reported unit costs of $235/MMBtu for 2020. PSEG LI identifies the estimated number of measures, by measure type and size, that will be installed for the program year to develop the estimated energy savings. Staff believes the energy savings estimate methodology is consistent with other Program Administrators in the State.

Few public comments were received in response to the Company's LMI proposal within the EEDR Plan. NRDC submitted comments identifying that it is supportive of PSEG LI's LMI programming, however, notes that it would like to see more initiatives specifically targeted at LMI customers, and further recommends that PSEG LI develop initiatives in the near term, detailing how it will serve the market and not wait until after 2022 to do so. The City of NY also identifies that PSEG LI should be more focused on providing more robust programs directed to benefit disadvantaged communities and LMI customers. To facilitate this focus, the City further recommends PSEG LI incorporate a tracking mechanism to monitor the funds allocated towards initiatives centered on disadvantaged communities and LMI customers. From the City's review of the Plans, the Company does not separately track how much of its budget will be allocated for the benefit of disadvantaged communities and LMI customers, and its reported LMI spending is difficult to follow. The adoption of a tracking mechanism will provide transparency to stakeholders, as well as ensure the Company's initiatives align with the CLCPA's focus on a just transition.

Regarding program advertising, the Company is seeking $0.09 million for Program Administration Costs which includes an unknown amount of advertising funding for the REAP program to continue extensive customer energy outreach and education activities. This includes partnerships with non-profits, government agencies, faith-based institutions, and public libraries to name a few. The Company's intent is to build larger referral potentials and relationships with community liaisons, community councils and board members, housing authorities, Department of Social Services, and other government organizations that serve low-income and senior citizen communities. For 2020-2025, the Company intends to continue utilizing outreach strategies including postcard mailings targeting low-income areas as well as door hangers and brochures delivered to food banks. The Company also partners with social service agencies, sponsors an annual forum for Energy Advocates (held virtually this year in response to the pandemic), and attends and conducts presentations at central community locations.[146]

Staff noted that consumer information is provided in English and Spanish. Staff inquired if information is provided in any additional languages in accordance with NYS Language Access Policy and were informed that information is not available in any other additional languages. The Company further stated that it endeavors to work with all eligible customers who qualify for the program. The only specifics

[104] Compiled by DPS Staff.

that are provided are in the descriptions of general outreach initiatives in the Annual PSEG LI Outreach and Education Plan and the Utility 2.0 Filing.148 The Company did not specifically state how it will reach consumers who speak other languages besides English and Spanish.

As detailed earlier, PSEG LI should adopt the tracking and reporting of metrics associated with Disadvantaged Communities comparable with other Program Administrators in the State. PSEG LI should also provide clarity on these metrics in future EEDR plans.

Staff's review of the Plan finds that the proposed spending, savings estimates, measure offerings, and unit costs are parallel, with noted differences discussed above, to other like programs in the state authorized by the PSC. Staff suggests PSEG LI align its incentive structure as close to the Statewide LMI offerings available through NYSERDA and the IOUs as much as practicable, to provide a consistent eligibility approach throughout the State. Staff continues to support coordination between PSEG LI and the IOUs to implement consistent tracking and reporting of information, including benefits to disadvantaged communities. The Company should explore and determine the need for outreach to communities where English and Spanish are not the predominant languages.

Staff is supportive of PSEG LI's REAP Program, however, notes the slight reduction in funding for this program compared to the prior year's plan. This reduction is more than offset by increased budgets for LMI in the Home Comfort program. Staff believes this is intended to result in more substantive work in LMI households but recommends the results be closely monitored to ensure climate and affordability goals are paramount in future budgeting proposals.

Home Performance with Energy Star (HPwES) Program

- A program intended to improve the energy efficiency of homes by providing energy audits and incentives towards follow-up weatherization, controls, and equipment upgrades.
- Recommendation: Recommend.
- Requested Budget ($M): $4.56
- Staff recommended adjustment: No Adjustment.

PSEG LI is proposing to continue sponsoring and administering the U.S. Department of Energy's HPwES program in 2022 and beyond. The program is intended to help homeowners improve the efficiency, safety, and comfort of their homes using a comprehensive, whole-house approach, including weatherization and HVAC upgrades, by providing rebates for heat pumps, controls, and weatherization measures. The program's proposed 2022 budget is $4.56M (0% Capital, 100% O&M) an 18% decrease from its 2021 budget. The associated 2022 annual savings target of 31,917 MMBtu, including 2,633 MWh, represents an 11% increase from its 2021 savings target. The proposed annual program budget for 2022 comprises roughly 5% of the total annual portfolio budget; the program's associated savings target comprises less than 3% of the total portfolio savings target.

This is a continuation of a program that PSEG LI has been administering since 2014 and which was designed with the assistance of NYSERDA, which had administered its own HPwES program activities in LIPA territory until 2017. Over 2016 to 2020, PSEG LI's HPwES program achieved 92% of its targeted savings and expended 172% of its program budget.

Through interrogatory information requests, data and narrative details were obtained for a review of prior year program performance, current year savings & targets broken down by measure type, the extent of proposed program activity in the multifamily sector, the extent to which the proposed budget and savings target relate to low- and moderate-income (LMI) customers, the estimated useful lives (EULs) of the program's measure types, and efforts to decrease unit costs.

PSEG LI's HPwES program was designed using NYSERDA's HPwES program as a model at a time when a lower percentage of the latter's program activity was specifically geared towards LMI customers.

Both the PSEG LI and NYSERDA HPwES programs have since seen an increase in program spending associated with LMI. PSEG LI's response to IRs indicated that it is proposing that roughly 86% of its HPwES program budget be dedicated to LMI customers in 2022; approximately 60% of the program's savings target would be associated with LMI customers. The HPwES program operated at a unit cost of almost $1,400 expended per first-year MMBtu-equivalent of EE savings achieved (i.e., acquired) from 2016 through 2020.

For 2022, however, PSEG LI is proposing a unit cost of slightly less than $510/first-year MMBtu-equivalent of savings for the program. While this is unquestionably an immense decrease from prior year program performance cost, the program is projected to have the third highest unit cost of the programs in LIPA's EE portfolio and operate at slightly more than twice the portfolio's average program unit cost. In response to IRs related to the program's comparatively high unit costs, PSEG LI responded that the main contributor to this is that most of the planned measure incentives for HPwES are for the LMI sector and are meant to cover a much greater percentage of a project's cost for this population.

This program appears generally in conformance with DPS policy and largely consistent with the administration of the U.S. Department of Energy's HPwES program by other program administrators outside of LIPA's service territory. Although the program's historical unit costs were almost inexplicably high for PSEG LI, the unit costs proposed for 2022 show a greater cost efficiency than that achieved to-date by other program administrators for comparable programs. In light of the relatively small percentage that the program's budget represents with respect to the entire portfolio budget, and the even smaller contribution to the total portfolio savings target, and particularly considering the significance of the program's alignment with the CLCPA, the moderately high unit cost proposed for 2022 seems to be a minor detail that can be overlooked. The same can be said for the program's proposed benefit cost ratios for 2022: societal cost test (SCT:) 0.85, universal cost test (UCT): 0.38 & rate impact measure (RIM): 0.19.

The budget and unit-cost controls in place as described by PSEG LI include monthly measurements using KPI reports to track progress towards year-end goals, 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.

PSEG LI indicated that the program was originally developed in 2005 and that no records of research/customer outreach activity which may have been originally undertaken are in PSEG LI's custody. However, PSEG LI indicated that it does regularly communicate with NYSERDA and the contractor base to ensure the program is maintained collaboratively and effectively. 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. Staff notes that the HPwES program continues to not be made available for homeowners who do not have central air conditioning and have natural gas as their primary heating fuel.

As discussed above, the unit costs proposed for the program for 2022 are high while simultaneously being significantly lower than for both PSEG LI and other program administrators in prior years. Similarly, the program's BCA ratios would be more of a concern if not for the relatively high percentage of its program budget allocated towards LMI customers and the program's general alignment with the CLCPA.

The Company seeks $0.94 million for Program Administration Costs which includes an unknown amount of advertising funding for the HPwES program which focuses on promoting the free Home Energy Assessment (HEA) component of the program and the enhanced rebates for income-eligible customers who install weatherization measures and whole house cold climate air-source heat pumps. The Company intends to increase the adoption of home energy retrofits through a partnership with a third-party contractor that can help customer finance key home improvements.[105] The Company's outreach activity includes sponsoring events, such as home shows and street fairs; direct mailings; the PSEG LI website; and

[105] PSEG LI Utility 2.0 & EEDR 2021 Annual Update, A.2.5.1 Notable Changes, p. A-31.

through the Home Performance Partners. The Company continues to conduct virtual training to maintain its contractors informed during the pandemic. The sessions offered education about specific program components such as financing offers, and direct access to TRC subject matter experts. PSEG LI has indicated that it has not been conducting HPwES program-related outreach activities in languages other than English, but that it plans to begin outreach communications in Spanish in 2022. No public comments were received that specifically addressed the HPwES program.

Staff is in general support of the proposal for the program, including its proposed 2022 budget of $4.56M and associated savings target of 31,917 MMBtu, including 2,633 MWh. Staff recommends that PSEG LI very closely monitor the program's spending and achieved savings considering the sheer magnitude of the proposed increase in cost-effectiveness as compared to prior year program performance, and that it confer with NYSERDA and other energy efficiency program administrators regarding ways to maximize HPwES program cost 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. Additionally, Staff recommends that PSEG LI confer with NYSERDA and explore the feasibility of a Co-Op Marketing program component. Staff further recommends a consideration of reevaluating the HPwES program with respect to a more intensive, collaborative approach with KeySpan Gas East Corporation d/b/a National Grid (KEDLI) to expand offerings to gas customers, and, additionally, recommends reconsideration of its requirements of program participant involvement associated with central air conditioning in light of the incorporation of heating electrification. Lastly, Staff recommends that program savings be tracked and made more readily accessible in terms of both gross and net savings.

Multifamily Program

- A program to support the electrification of multifamily homes, such as high/low rise buildings, by offering incentives for efficient electric measures such as common area lights and pool equipment.
- Recommendation: Recommend.
- Requested Budget ($M): $0.25
- Staff recommended adjustment: No Adjustment.

In the Company's 2020 EEDR filing, PSEG LI proposed a Multifamily Program. PSEG LI launched the Multifamily Program in October 2020, as a component of the Commercial program. In the Department's 2020 Recommendation Letter to the LIPA Board, DPS recommended that PSEG LI investigate the market and potential additional offerings to multifamily customers, specifically recommending PSEG LI earmark funds for multifamily properties, based upon anticipated housing scenarios to fully account for the multifamily sector, to the extent possible; target building energy efficiency measures; and that funding and targets for multifamily programs be tracked and reported separately from residential efficiency programs.

In the Company's 2022 EEDR Plan, the Company proposed that the Multifamily Program be a standalone program beginning in 2022, but still operate under the umbrella of the Company's Commercial Programs. The purpose of the standalone Multifamily program is to streamline and simplify offerings for multifamily buildings into a single application. The Company identifies the benefits of the standalone program is primarily found in the efficiencies gained by streamlining the application into one workbook for multifamily project owners. Further, the Company verifies that no additional administrative costs are incurred as a result of the establishment of the standalone Multifamily program.

The Plan also notes that the Company anticipates launching an LMI component of the Multifamily Program in 2022, however in DPS IR-0028 the Company identified it is not yet able to provide details or identify anticipated funding levels. Beyond 2022, PSEG LI is considering expanding its current on-bill financing pilot to include multifamily customers and measures. It would seek to identify a financing option to help mitigate the upfront cost barrier for energy upgrades as well as the unique issues faced by these

customer segments. No specific details are available at this time as the program is not yet being considered beyond potential.

The Multifamily program was designed utilizing current measure offerings from both the Company's Residential and Commercial programs. Eligible measures include Common Area Lighting (Indoor and Outdoor), Common Area Heating and Cooling, Common Area Pool Equipment, Common Area VFDs, In-Unit HVAC and Water heating. In response to DPS IR-76, the Company stated that the Multifamily Program includes fuel neutral measures, such as heat pumps of various typologies, water heaters, and pool heating. The Company stated that in general it does not offer rebates or incentives for fuel neutral measures that involve converting or substituting one non-electric source of energy for another non-electric source. Additionally, all multifamily business owners also are eligible to participate in the Technical Assistance program.

PSEG LI proposes to fund the Multifamily Program with $0.25M in 2022. As detailed in DPS-002, the Company is forecasting that for 2022 the Multifamily Program will achieve 2,423 MMBtu of energy savings. The projected MMBtu savings estimate includes the net impact of 437 MWh of electric savings as well as the net impact of 102 MWh of Building Electrification additions. The Company identified that approximately $198,000 would go towards incentives while $52,000 would go to contractor service fees.

The average cost per MMBtu-e, PSEG LI's 2022 program budget estimates an average cost of $103/MMBtu-e. The $/MMBtu-e ranges between measures and are estimated as follows: in-unit lighting ($20/MMBtu-e); in-unit appliance and water heating ($253/MMBtu-e); in-unit HVAC ($75/MMBtu-e); Common Area Lighting ($100/MMBtu-e); and other miscellaneous common area measures ($50/MMBtu-e).

The Company's weighted average EUL of the proposed Program is identified as 10 years. The Company explained in IR 76 that the energy savings assumptions utilized to derive rebates and savings for the standalone Multifamily program are the same assumptions utilized in the Residential and Commercial program offerings. But that the operating hours for Multifamily are different for a subset of measures. This may result in a slightly different $/MMBtu for that subset of measures. Per DPS IR-28, the Company identified that it anticipates the average $/MMBtu-e to decrease as the program becomes more active.

The Company's forecasted measures and unit costs appear comparable, to related utilities and measure offerings between PSEG LI, Con Ed electric and National Gid electric for program year 2020. In regard to Con Ed's 2020 realized electric MMBtu-e savings identified, the average cost was found to be $94/MMBtu-e. National Grid's average electric MMBtu-e unit cost for 2020 were found to be $75/MMBtu-e. NYSERDA's market rate multifamily program isn't directly comparable to PSEG LI's offering, with NYSERDA's program is primarily targeting market transformation and development of tools, though for direct energy savings, as identified in NYSERDA's active multifamily program, the Investment Plan identifies an expected average cost of $105/MMBtu-e.

No comments were received specifically commenting on the Company's Multifamily Program proposal. Regarding program advertising, through the CEP, the Company's Major Account Executives will engage multifamily developers and building owners using traditional outreach methods such as email marketing and meeting with industry associations. However, the Company is not seeking advertising funding for this program.

Overall Staff is supportive of PSEG LI's inclusion of a standalone Multifamily Program. The level of expected customer uptake, resulting budget, and expected energy savings is too low at this time to make a meaningful impact on market transformation of energy efficiency and building electrification on multifamily properties in the PSEG LI territory. While PSEG LI stated it attempts not to limit rebates to any one program and that it will continually monitor performance of all programs and shift funds as necessary, the Company did not include a thorough outreach and advertisement plant to indicate how it plans to target and market the program to eligible properties.

In regard to measure offerings, in 2020 DPS recommended the Company shift away from non-energy efficiency related incentives. In its plan for 2022, it does appear that the targeted measures for the

sector are related to efficiency and beneficial building electrification. A significant percentage of the planned savings, however, are earmarked towards lighting. Given the level of market saturation for efficient lighting, reduced availability of non-efficient lighting, and increased cost effectiveness of efficient lighting, PSEG LI should further evaluate its measure mix in future program years and evaluate the incentives for such measures, to reduce free ridership of utility ratepayer funds for efficiency gains that are likely to happen regardless of ratepayer supported conversions.

The primary benefit of a multifamily program within its territory would be one that specifically targets and earmarks funds to LMI customers. PSEG LI does not yet have its plans for a LMI multifamily offering identified. The Company should engage with the LMI Joint Management Committee that is actively designing and implementing a statewide affordable multifamily program offering to coordinate PSEG LI's offering into that framework. PSEG LI should further consider direct coordination with KEDLI, including co-advertising and use of a single application, given that in many locations both entities are attempting to target the same customer and a partnered approach may reduce redundancy, confusion, and competition while achieving greater deployment of targeted measure upgrades. PSEG LI should continue to engage in conversations with NYSERDA, Staff, and the IOUs to identify and implement tracking of applicable spending and benefits to disadvantaged communities as programs targeting LMI and DAC begin to make modifications to better target and serve those populations.

PSEG LI should market its Multifamily Program to target appropriate properties. Staff is aware of ongoing disparities affecting LMI customers living in housing where the utility costs are included in a customer's rent, therefore the customer is the building owner and not the tenants, which continues to create incentive barriers to implementing energy efficiency measures. Staff recommends PSEG LI coordinate with the Statewide LMI efforts to further coordinate efforts including opportunities to work with New York State Housing & Community Renewal (NYSHCR) which oversees a number of multifamily LMI properties and has the ability to facilitate identification of LMI multifamily properties and potentially facilitate comprehensive upgrades to those properties. Further, DPS recommends that PSEG LI include building feature information on its application request to facilitate its knowledge of building typology within its territory, further enabling targeting and outreach to potential building owners and portfolio managers.

<u>All Electric Homes Program</u>

- A program to incentivize the construction or retrofitting of homes to be "All Electric," relying only on electricity for energy needs as opposed to other fuels such as natural gas, oil, or propane.
- Recommendation: Recommend.
- Requested Budget ($M): $0.05
- Staff recommended adjustment: No Adjustment.

PSEG LI introduced the All Electric Homes program in April 2021 to support the retrofit or construction of a single-family home to be "All Electric" by converting all existing fossil fuel equipment in an existing residence or installing electric-end use equipment in a New Construction residence. This program leverages existing relationships with contractors that participate in PSEG LI's Home Comfort, Home Performance, and Multi-Family programs. The proposed budget for this program is $50,000 and the proposed savings are 560 MMBtu and 17 MWh. The total rebates for eligible heat pumps and heat pump water heaters are projected to be $0.03M, and the program administration cost from Table A-38 is the $0.02M value, which when added to the rounded heat pump portion of Table A-2 produces the total program budget of $0.05M. PSEG LI is estimating that this program will support the construction or retrofit of up to ten homes for the 2022 program year. The BCA for this program is 2.05.

Tables A-14 and A-15 in the EEDR Plan list the required and optional measures for program eligibility. Incentives are not provided for all required or optional measures, but for measures where incentives are available the incentives are consistent with the other programs (Home Comfort, Home Performance with ENERGY STAR, Energy Efficient Products) that provide incentives for those measures. There are two tiers of eligibility - Tier I provides a 10% bonus for all incented measures and Tier II provides a 25% bonus on all incented measures. The program is promoting the installation of Cold Climate Air Source Heat Pumps (ccASHPs) and electric end-use equipment. Installation of a Ground Source Heat Pump (GSHP) system instead of a ccASHP system is also allowed in this program and does not impact the project Tier level. For retrofit projects, all existing fossil fuel connections must be disconnected, and backup fossil fuel connections are not allowed for New Construction projects. A fossil fuel connection for a backup generator is allowable in the event of a power-outage.

Table A-14. Required Measures for All Electric Homes Program Eligibility[106]	
All Electric Homes – Tier I	**All Electric Homes – Tier II**
Cold Climate Air Source Heat Pump*	Cold Climate Air Source Heat Pump*
Smart Thermostat*	Smart Thermostat*
Tankless Water Heater*	Heat Pump Water Heater*
ENERGY STAR Electric Dryer*	Most Efficient Heat Pump Dryer*
ENERGY STAR Clothes Washer	Most Efficient Clothes Washer*
ENERGY STAR Dishwasher	Most Efficient Dishwasher
ENERGY STAR Refrigerator	Most Efficient Refrigerator
ENERGY STAR LED Lighting	ENERGY STAR LED Lighting
Standard Electric Cooking Range	Most Efficient Induction Cooktop/Oven

*Indicates a rebate is available

Table A-15. Optional Measures for All Electric Homes Program Eligibility[107]	
Geothermal Ground Source Heat Pump**	ENERGY STAR Dehumidifier
Variable Speed Pool Pump	ENERGY STAR Room Air Purifier
Heat Pump Pool Heater	Battery Operated Leaf Blower
Battery-Operated Lawn Mower	Battery Operated Weed Trimmer
Weatherization	

** Customers can elect to install a Geothermal Ground Source Heat Pump in place of a Cold Climate Air Source Heat Pump and still qualify for the All Electric Homes Program and bonuses.

In addition to traditional outreach to promote the program, the Company leverages existing partners through other programs such as Home Comfort to promote the program. The Company's Residential Team intends to develop educational materials to provide to developers, lead partners, and customers.

The All Electric Homes program is aligned with the electric-end use elements of the federal ENERGY STAR single family new construction program, and NYSERDA's New Construction-Housing program. Staff recommends this program as proposed and encourages PSEG LI to share insights from implementation of this program with the other electric utilities in New York State.

Commercial Efficiency Program (CEP)

[106] Matter 14-01299, supra, PSEG LI Utility 2.0 Long Range Plan and Energy Efficiency and Demand Response Plan, 2021 Annual Update (filed July 1, 2021), page A-36.
[107] Ibid.

- A program to incentivize adoption of efficient measures in non-residential locations via incentives for efficient lighting, heating, etc. solutions.
- Recommendation: Recommend funding the program, however, PSEG LI should focus on building energy needs as opposed to lawn and landscaping equipment.
- Requested Budget ($M): $32.40
- Staff recommended adjustment: No Adjustment.

PSEG LI has administered the Commercial Efficiency Program (CEP) 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 equipment including air source and ground source heat pumps, and chillers; variable frequency drives, compressed air equipment, kitchen equipment; refrigeration equipment; water heating and conservation measures; data centers; and Beneficial Electrification. 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 Beneficial Electrification measures include non-road electric vehicles like golf carts and forklifts, heat pump pool heaters, and battery-operated lawn care equipment. The proposed 2022 budget is $32.4M. The proposed savings targets for 2022 are 262,559 MMBtu and 82,757 MWh. The proposed budget comprises 42% of the total annual portfolio budget and its proposed savings target comprises 23% of the total portfolio BTU savings target for 2021. The reported BCA results in a BCR of 1.41.

PSEG LI provides weekly open-house meetings to facilitate contractor engagement via discussion of program and application requirements and to gather feedback on participant experience. PSEG LI makes training sessions available for new technologies and when there are program changes. These engagement opportunities were offered virtually in 2020 due to the pandemic. The Prime Efficiency Partner network continues to promote contractors who have been trained to effectively deliver the CEP offerings. These contractors drive small business participation and help to ensure a positive customer experience.

Staff notes that the savings achieved by the CEP continues to be driven by lighting measures, which account for almost 90% of projected savings. Prime Efficiency Partners provide access to the Fast Track Program, which offers prescriptive rebates for CEP lighting measures without pre-approval or pre-inspection. From June to October 2020, the Small Business First program was offered to provide enhanced rebates for lighting projects and paid nearly $4 million in rebates for 925 projects. PSEG LI states that LED lighting programs will begin to phase out between 2022 and 2025.

To help meet NY State climate goals, the CEP continues to introduce beneficial electrification measures. These measures include heat pumps for space and water heating, commercial kitchen equipment, battery-operated lawn care equipment, and battery-operated non-road electric vehicles (golf carts and forklifts). Fossil fuel distributed generation projects like fuel cells are no longer included in the CEP.

The Company is seeking $7.81 for Program Administration Costs which includes an unknown amount of advertising funding for the Commercial Efficiency Program (CEP). The Company stated that the CEP team continues to focus on engaging and educating the small and medium business customers through building assessments. The CEP team works with participating lead partners to drive program awareness and participates in Community Partnership Program events (e.g., trade shows, business expos, fairs and more) to promote the CEP and other programs.

Staff recommends approval of the CEP program as proposed. Staff does not recommend providing incentives for battery-operated lawn care equipment and battery-operated non-road electric vehicles;

these funds should be reallocated for measures that lead to building energy use efficiency, especially as savings from LED lighting programs is expected to decline.

Behavioral Initiative (Home Energy Management)

- A program intended to provide residential customers with reports containing useful information about their energy usage.
- Recommendation: Recommend.
- Requested Budget ($M): $2.70
- Staff recommended adjustment: No Adjustment.

The Home Energy Management (HEM) program, which was originally launched in the third quarter of 2017, aims to motivate PSEG LI residential customers to take active control of their energy usage through the distribution of a Home Energy Report (HER), as well as access to the HEM My Energy portal and online Home Energy Assessment function.[108] The paper or electronic reports compare a customer's energy consumption to similar neighboring households and provide targeted tips on reducing energy use. In this current filing, PSEG LI seeks $2.7M for the HEM program, an increase of less than 1% from 2021, and 3.0% of the $88.9 M total portfolio budget. The proposed savings are identified as 101,952 MMBtu (which includes 29,881 MWh of energy efficiency savings) which is 8.9% of the total portfolio savings target for 2022. The reported Societal Cost Test (SCT) results in a BCR of 1.23. Although HEM is not a critical driver of the full energy efficiency portfolio SCT BCR of 1.74, the 2020 realization rate for electric savings of 44% for HEM was highlighted as contributing to the overall 86% portfolio realization rate.

In 2020, the HEM program identified a planned savings goal of 233,883 MMBtu and Staff approved the proposed program budget of $2.4 million. The actual evaluated savings were 105,204 MMBtu, resulting in a 44% realization rate. PSEG LI attributes the low realization rate to the approximately 6.5% lower-than-expected customer participation and overstated planning assumptions. PSEG LI assumed a savings of 1.5% per household in annual energy use to calculate estimated savings. This was based on anticipated incremental increases in savings from 2018 evaluation results that showed per household savings of 1.06%. The 2019 evaluation however, indicated the actual savings were lower than expected at 0.7% of annual consumption. PSEG LI asserts that by the time the evaluation results were available for 2019, the 2020 program year planning assumptions had already been established. 2021 planning assumptions assume the 0.7% reduced per-home savings for HEM.

The level of savings targets has continued to be reduced from year to year, with significantly reduced savings targets from 2020 to 2021 (68,547 MWh to 37,331 MWh, respectively) and again in 2022 (29,881 MWh), while the program budget has remained relatively constant for the same period. The reduction in targets is largely attributed to the Company's continued reduction in the average annual energy savings per HER distributed to customers recommended by evaluation results and third-party evaluator recommendations, even though the 0.7% percent savings is generally lower than other behavioral programs. Relatedly, PSEG LI identifies a levelized cost for the HEM program of $26.48 per MMBtu, which is above the average $20.78 per MMBtu for all the commercial programs and the $19.25 per MMBtu for the overall portfolio.

Consistent with "Clean Energy Guidance document CE-08: Gross Savings Verification Guidance," the annual program evaluation process provides verification to actual savings achieved. Staff recognizes that the Company has implemented targeted approaches to identify strategies to increase savings and program participation. While Staff recommends approval of the HEM program, the lower realized savings have impacted the overall cost-effectiveness of the program. Savings continue to decrease while costs remain the same. Staff recommended the program last year but expressed similar concern regarding fluctuations in

[108] Page A-53 Utility 2.0 Annual Filing, Appendix A, Section A.2.11.2

administrative costs and savings targets. [109] Staff also supported continuing outreach activities for individual EEDR programs but strongly suggested that a more robust outreach plan was needed to engage customers.[110] Specific mention of outreach funding was not mentioned in 2020[111] and PSEG LI are not requesting additional outreach funding for 2021.[112]

In the Notable Changes Section in the Plan, Section A.2.11.2, the Company stated that it expects the number of customers in the Home Energy Report treatment group to grow to 450,000 customers in 2022.[113] Staff requested that the Company explain how it intends to achieve this goal. The Company reiterated that all residential customers have access to the Home Energy Assessment function. In addition, customers who are registered with the PSEG LI "My Account" online function have access to the "My Energy" engagement portal. PSEG LI also expects to send about 5 HEM reports a year to each of the customers included in this group.[114] The Company further stated that it ensures that goals are achieved by monitoring the reports that are sent out on a monthly basis and addressing any significant differences with the contractor as necessary.[115]

Staff inquired about the methodologies used to evaluate the success of outreach and marketing activities. The Company claims that an extensive annual evaluation is conducted by a third party and the results are submitted to LIPA. It states that future programs are shaped based on insights and recommendations from these evaluations.[116] The evaluation is conducted by Demand Side Analytics, LLC. The report summarized the 2020 program year in terms of energy savings based on participation, actual savings, and steps to improve delivery and performance. [117] While the report does discuss participation trends and offers some helpful suggestions under the umbrella of the program, it does not mention specific marketing or outreach activities tailored to this program.

The only direct mention of outreach and marketing is regarding all Residential Programs. This section describes efforts before COVID that are included in-store signage at retailers, bill inserts and community events where program representatives could talk to customers directly. Strategies changed with COVID shutdowns to more of a focus to on-line channels and other materials. Ironically, data showed that revenues for home improvement stores increased, therefore, the evaluators recommended that PSEG LI continue to utilize in store signage and rebate programs.[118] The report also discusses a new strategy of "Video vignettes". In response to the COVID-19 pandemic, the Company adapted its training model to include short training videos on the internet that were available to contractors at any time. It reports that residential trade allies found them to be useful as well. It suggests that these vignettes could be helpful for residential customers to increase interest in energy efficiency.[119]

Staff recommends that the cause of the reduction in actual per household savings should continue to be evaluated to identify the factors contributing to the lower per household savings compared with other behavioral programs. Staff also recommends the reporting of interim program evaluation results to better incorporate evaluator recommendations into subsequent program plans. As in 2020, Staff recommends that outreach plans, evaluations of outreach efforts, and a breakdown of marketing and outreach costs should be submitted for each program, including this one.

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[109] Page 39 Utility 2.0 EEDR Recommendation Memo 2020
[110] Page 40 Utility 2.0 EEDR Recommendation Memo 2020
[111] Page 40 Utility 2.0 EEDR Recommendation Memo 2020
[112] Page A-54 Behavioral Initiative (HEM) Figure A-9 Present Value Benefits and Costs of SCT
[113] Page A-53 Utility 2.0 Annual Filing, Appendix A Section A 2.11.2
[114] Response to Staff Discovery Request DPS-0062, Question 1, Item A
[115] Response to Staff Discovery Request DPS-0062.
[116] Response to Staff Discovery Request DPS-0062, Question 1, item B.
[117] Page 75 Demand Side Analytics LLC Evaluation of PSEG Long Island Energy Efficiency Programs, Section 7 Home Energy Management Program.
[118] Page 88 Demand Side Analytics LLC Evaluation of PSEG Long Island Energy Efficiency Programs, Section 8.2.2.1 Residential Programs.
[119] Page 88 Demand Side Analytics LLC Evaluation of PSEG Long Island Energy Efficiency Programs, Section 8.2.2.1 Residential Programs.

Pay for Performance Program

- A program intended to deliver financial incentives to energy efficiency portfolio managers that aggregate energy savings.
- Recommendation: Recommend, budget reduced due to unrealistic timeline.
- Requested Budget ($M): $0.20
- Staff recommended adjustment: ($0.11)

In collaboration with NYSERDA and energy efficient service providers, PSEG LI proposes to launch a Pay for Performance (P4P) pilot for measurable EE savings that accrue from portfolios of residential and commercial customers that undergo EE upgrades. Select Portfolio Managers will engage with customers to implement EE solutions under a five-year contract with PSEG LI. Portfolio Managers will enroll customers and implement EE measures during a two-year Implementation Period and three-year Performance Period, during which payments will be made to the Portfolio Managers for delivered energy savings. The funding requested is $196,670 for 2022. PSEG LI estimates the entire P4P pilot initiative will have approximately 595 participants and cost approximately $900,000 from 2022-2025. PSEG LI forecasts that the P4P program will realize EE savings of 606 MMBtu, converted from a 178 MWh reduction in electricity consumption, in 2022. The P4P program has a Societal Cost Test benefit-to-cost ratio of 0.61. PSEG LI expects its experience with the pilot will refine the delivery, scale, and cost-effectiveness of the program. The proposed P4P budget comprises 0.05% of the Company's proposed 2022 EE portfolio budget and its forecasted savings target comprises 0.22% of the total portfolio savings target for 2022.

NYSERDA is currently in the process of implementing P4P pilot programs with Consolidated Edison and National Grid. PSEG LI anticipates that it will leverage lessons learned from those engagements by partnering with NYSERDA to issue an RFP in the third quarter of 2021 to competitively select one or more Portfolio Managers. 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, opening new and exciting options for testing different approaches and business models."[120] Staff has identified an issue with PSEG LI's proposed 2022 P4P program timeline. In an information request, PSEG LI stated that, though it anticipates releasing an RFP for Portfolio Manager(s) in the third quarter of 2021, after discussions with Staff from NYSERDA, it is anticipated that NYSERDA and PSEG LI's RFP to select a Portfolio Manager will take approximately 11 months to complete. Thus, depending on when PSEG LI commences the RFP process, final negotiations and contracting with the selected Portfolio Manager(s) will not be completed until the fourth quarter of 2022 at the earliest. Staff believes that it is not prudent to assume that PSEG LI will be paying Performance Incentives, incurring Evaluation Costs or Comparison Group expenses for more than one quarter in 2022. Furthermore, once the EE measures are implemented, time must lapse for the Portfolio Manager to accumulate EE savings that would need to be evaluated against a Comparison Group.

Staff recommends approval of the proposed P4P program, as it supports innovative new business models. However, consistent with Staff's experience with IOU pilot programs and NYSERDA's experience with issuing similar RFPs, Staff recommends modifications to the 2022 budget to reflect a more realistic timeline. Based on this experience, Staff does not consider it realistic for PSEG LI to plan to incur expenses associated with Portfolio Managers, P4P Incentives, P4P Temporal Incentives, Evaluation Costs, Volumetric Costs or Comparison Group Costs for more than 4 months of the 2022 budget year. Therefore, these line

[120] PSEG LI Utility 2.0 Long Range Plan & EE and DR Plan 2021 Annual Update, Page A-47.

items should be reduced from the Company's proposed $196,670 budget. The Staff recommended P4P modified budget for 2022 should, accordingly, be approximately $82,650.

Dynamic Load Management Programs

- A set of programs intended to offset stress on the power grid through various incentive load management/control programs.
- Recommendation: Recommend funding the program, however, the Company should adopt Staff's recommendations regarding reporting & transparency, adopt BCA requirements, and update program rules as set forth below.
- Requested Budget ($M): $1.38
- Staff recommended adjustment: No Adjustment.

PSEG LI operates several Dynamic Load Management (DLM) Programs, including a 21-hour advance notice peak-shaving Commercial System Relief Program (CSRP), a 2-hour advance notice reliability-based Distribution Load Relief Program (DLRP) – both of which are aimed more towards larger Commercial and Industrial customers – and a Direct Load Control (DLC) Program[121] aimed at Residential and Small Commercial customers. The CSRP and DLC Programs are consistent with the other DLM Program offerings available throughout New York State, although the DLRP is operated in a manner inconsistent with other New York State utilities. In addition, as discussed both in Staff's recommendations related to the Company's 2020 Utility 2.0 filing and EEDR Plan and again in greater detail below, the Company has not performed a Benefit Cost Analysis to justify the CSRP, DLRP, and DLC Program incentive rates that it pays to DLM Program participants, and that are then collected from customers. The budget request for this program is $1.38M.

Related to the DLM Program, NY-BEST provides several observations and recommendations. First, NY-BEST observes that there were 395 behind-the-meter (BTM) energy storage systems installed as part of the Company's BTM Storage with Solar program, but that no customers enrolled such systems in the DLM Programs due to costs associated with aggregation and enrollment outweighing the compensation participants would receive. NY-BEST encourages the Company to work with the energy storage industry to make improvements to the DLM Programs to remove barriers, reduce costs, and increase program benefits.

In its comments, NRDC touches on DLM Program issues in its discussion of the Connected Buildings Pilot. Specifically, NRDC questions whether the Connected Buildings Pilot, which involves the Company providing customers with an approximately $5,000 smart electrical panel for free with the expectation that participants using battery storage systems would enroll in the DLM Program, would be cost-effective and whether it would be possible to determine if participation in the DLM Programs is a result of the smart electrical panel or the energy storage devices.

In its comments, Energy Spectrum[122] recommends that PSEG LI increase the Reservation and Performance Payments applicable to the CSRP and DLRP, and that the Company set more aggressive load relief enrollment goals for those programs. Related to the Reservation Payments for CSRP and DLRP, Energy Spectrum recommends that the Company increase the Reservation Payment rates from $5 per kW per month for CSRP and $3 per kW per month for DLRP, to $10 per kW per month and $6 per kW per month for CSRP and DLRP, respectively, and that such incentive payment rates should increase annually based on the Consumer Price Index (CPI) – a macroeconomic measure of inflation. Energy Spectrum notes that the CPI increased by approximately 5.4% in the past year. In addition, Energy Spectrum recommends that the

[121] PSEG LI also refers to its DLC Program under its marketing name, "Smart Savers Program."
[122] E-cubed submitted the same set of comments in this proceeding on behalf of Energy Spectrum and itself, on August 25, 2021, two days after the end of the comment deadline. We refer to these comments collectively as being submitted by Energy Spectrum.

Company double the present Performance Payment incentive rate from $0.25 per kWh to $0.50 per kWh.[123] Finally, Energy Spectrum notes that the Company forecasts that the DLM Programs will grow by approximately 5.5 megawatts (MW) per year through 2026, and instead recommends that the Company seek to increase its enrollment by 22 megawatts (MW) annually, resulting in a roughly four-fold increase in annual enrollment growth compared to current Company projections. Energy Spectrum argues that simply increasing the Reservation and Performance Payment rates will drive the growth it recommends.

In its comments, SunRun notes that despite growing customer demand for residential solar plus storage installations, enrollment of such systems into the Company's DLM Programs has been unsuccessful to date and offers a number of recommendations to make the DLM Programs more attractive to residential storage customers. First, SunRun notes that the NYSERDA incentive model has been attractive to customers, however, SunRun cautions against requiring customers to participate in the DLM Programs as a precondition to being eligible for NYSERDA's residential storage incentive.[124] SunRun points to the Massachusetts Connected Solutions Program and associated incentives as a successful program for incentivizing voluntary enrollment of residential storage devices into demand response programs.

Second, SunRun argues that basic design elements underlying the CSRP and DLRP limit the benefits that residential energy storage system can provide. SunRun argues the use of baselining procedures to determine the amount of load relief a customer has provided during an event for the CSRP and DLRP is unnecessary for energy storage systems, and further argues that use of a baseline methodology may be necessary where the source of measured demand reduction is a customer's behavior or use of non-metered devices to provide such reduction. SunRun states that a baseline is not necessary for measuring storage-specific output since the storage device itself can provide performance data during events. SunRun notes that the Connected Solutions Program measures performance during events based on data from the energy storage inverter as opposed to meter data relied upon by the CSRP and DLRP. SunRun argues that the DLM Program's baseline methodology does not provide value for grid injections from energy storage during events, and states that the energy storage device should receive credit for reduction in system demand regardless of whether the energy storage system is regularly used to offset customer load or export to the grid during typical non-event days. Finally, SunRun argues that the 4-hour CSRP and DLRP events are too long, exceeding the duration of the 2-3 hour Connected Solutions events, and that shorter events would allow for increased kW performance for energy storage systems.

Third, SunRun complains that the incentive payment rates for the Company's DLM Program are insufficient compared to other offerings in different states. SunRun points out that a 13.5 kWh residential energy storage device could reasonably expect to earn approximately $2,090 over ten years related to participation in both CSRP and DLRP and compares to the approximately $4,800 that such a system could earn under the Massachusetts Connected Solutions program during a five-year term.

Before discussing substantive issues related to the Company's implementation of the DLM Programs, an issue regarding the Company's description of its DLM Programs bears discussion. On page A-50 of the EEDR Plan, the Company states, "the second part of the DLM tariff [related to the CSRP and DLRP] is a more traditional DR tariff, which emulates the New York Independent System Operator's [NYISO] Emergency Demand Response and Special Case Resource programs." While it is true that CSRP and DLRP bear some resemblance to the NYISO's demand response programs, the CSRP and DLRP are more accurately described as being based on the CSRP and DLRP programs currently in operation at investor-owned electric utilities throughout New York State. Though seemingly insignificant, this distinction is important – because the demand response programs operated by the NYISO are designed to achieve load relief during specified events to benefit bulk power system operations, whereas the DLM Programs

[123] Performance Payments are based on measured kWh of load relief provided during called demand response events.
[124] Staff takes no position on this issue, as NYSERDA's incentive program design choices are beyond the scope of the present filing.

operated by New York State investor-owned electric utilities are designed to achieve load relief during specified events to benefit distribution system operations.

The Commission has taken great care to ensure that the DLM Programs and the NYISO's bulk system demand response programs have different purposes and benefits, both in careful design of the DLM Programs and in its filings and written arguments at the Federal Energy Regulatory Commission. Because these programs have separate and distinct purposes and benefits from each other, customers may simultaneously participate in both programs. The Company affirms, in its response to IR DPS-21027, that the CSRP and DLRP are designed solely for distribution level load relief, and that incentives related to the CSRP and DLRP were developed to avoid any double-payments related to avoided generation capacity benefits; however, the Company should be more careful in its description of its DLM Programs in its formal documents, lest inaccurate filings be used in unintended ways by opponents of demand response programs to jeopardize customers' ability to simultaneously participate in both sets of programs.

Turning to substantive issues, Staff has significant concerns regarding the Company's implementation of the DLM Programs in general, and the DLRP in particular. First, the Company's transparency and program performance reporting procedures are insufficient. In 2020, Staff recommended that LIPA require additional reporting requirements for its DLM Programs to bring them into alignment with the annual statewide review of the DLM Programs that Staff undertakes each year. Specifically, in 2020 Staff recommended that LIPA should require PSEG LI to file its DLM Program Annual Reports on November 15 of each year, and to post a copy of such filing onto the Public Service Commission's Document Matter Management system in Case 14-E-0423.[125] Staff notes that as of this writing, PSEG LI has not filed its 2020 DLM Program annual report in Case 14-E-0423. Staff continues to recommend that LIPA require PSEG LI to file its annual DLM Reports in the statewide DLM Program proceeding to provide a single statewide docket where all DLM Program annual reports are filed.

Second, in 2020 Staff recommended that LIPA direct PSEG LI to include a full Benefit Cost Analysis consistent with the requirements in the BCA Framework Order as part of its DLM Program Annual Report demonstrating the cost-effectiveness of the CSRP, DLRP, and DLC Programs.[126] Underlying Staff's 2020 recommendations is the fact that the Company initially developed its proposed payment structures for the CSRP, DLRP, and DLC Program in 2016 based on the payments then-available at the other utilities and did not perform a Benefit Cost Analysis on any of the DLM Program components at that time, and hadn't performed a BCA since.[127] What cost-effectiveness comparison the Company has completed is limited to a simple comparison of the avoided Installed Capacity (ICAP) costs and the costs of running the various DLM Programs,[128] and was not consistent with the requirements stated in the BCA Framework Order.[129] Little has changed.[130] Staff continues to recommend that LIPA direct the Company to develop BCAs consistent with the directives of the BCA Framework Order, and to file such BCA results related to its DLM Programs.

The importance of developing and maintaining cost-effective DLM Programs cannot be overstated. Providing a cost-effective alternative to building new distribution infrastructure is the primary purpose of the DLM Programs specifically, and demand response programs in general. The Commission has affirmed this position in its determinations multiple times, canceling certain DLM Program components which were not cost-effective and were not expected to become cost effective in the near future,[131] and establishing

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[125] 2020 Recommendation letter at page 38-39.
[126] 2020 Recommendation letter at page 39.
[127] See 2020 IRs DPS-20064, DPS-20065, and DPS-20066.
[128] See, 2020 IRs DPS-20064, DPS-20065, and DPS-20066.
[129] Case 14-M-0101, Reforming the Energy Vision, Order Establishing the Benefit Cost Analysis Framework (issued January 21, 2016) (BCA Framework Order).
[130] See, IR DPS-0069. When asked to provide details of how the Company developed its present CSRP, DLRP, and DLC Program incentive payment rates for the 2021 EE/DR Plan, the Company referred Staff back to its answers to Staff's 2020 IRs DPS-20064, DPS-20065, and DPS-20066.
[131] Case 14-E-0423, et al., Dynamic Load Management Proceeding, Order Adopting Program Changes with Modification and Making Other Findings (issued April 23, 2018) (2018 DLM Programs Order); Case 14-E-0423, et al., supra, Order Adopting Program Changes with Modifications and Making Other Findings (issued March 18, 2019).

expectations that demand response pilots would only be graduated to full program status if such programs are expected to be cost-effective.[132] Since PSEG LI has never performed a BCA on any of its DLM Program components, we do not know whether such programs are currently cost-effective, or have ever been cost-effective. The Reservation Payments and Performance Payments applicable to the CSRP and DLRP, as well as the various participation incentives available under the DLC Program, should be designed to result in cost effective programs and be adjusted, if necessary, to establish or maintain cost-effectiveness.

Absent a firm commitment from PSEG LI to develop and file DLM Program BCAs consistent with the Commission's BCA Framework Order as part of the DLM Program annual reports, and a commitment from LIPA to ensure that PSEG LI is held to account if it fails to provide this foundational information, Staff questions whether continued expenditure of customer funds on the Company's DLM Programs is prudent.

Third, in its "notable changes" section, 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. These long-term contracts lock the reservation payment for CSRP and DLRP programs in for eligible customers for a 10-year period and was initially intended to be responsive to the Commission's directive in the Storage Order for the investor-owned electric utilities to develop programs offering longer-term demand response contracts to customers.[133] There are two issues related to this topic.

First, as previously discussed in our 2020 recommendation letter, Staff reiterates our continued belief that allowing customers to participate in both the DLM Programs and Net Energy Metering (NEM) may result in double-payments for the same resource.[134] LIPA's service territory is the only area in New York State where customers are currently allowed to simultaneously participate in both NEM and the CSRP and DLRP, and the Commission has specifically rejected this arrangement for the investor-owned electric utilities.[135] Customers with NEM-eligible technologies, such as solar and certain coupled renewable generators energy storage systems, are allowed to participate in DLM Programs if such customers opt-in to the Value Stack Tariff and agree to be compensated for the Demand Reduction Value (DRV) or Location-Specific Relief Value (LSRV) through the DLM Program.[136]

The second issue is related to LIPA's long-term contracts. Staff reiterates its recommendation from 2020 that, instead of continuing to offer a flat rate, 10-year fixed price contract, LIPA should review the Term-DLM and Auto-DLM Programs that were approved by the Commission last year[137] and implement similar programs with the same requirements for customers participating in both DLM Programs and either the Value Stack Tariff or Net Energy Metering Tariff.[138] The 10-year fixed price contract option currently offered in LIPA's service territory is inconsistent with the programs the Commission envisioned in the Storage Order[139] and later clarified and confirmed as part of its Term- and Auto-DLM Order.[140] For example, LIPA's 10-year fixed-price contract does not include penalty provisions for participants that fail to provide the contracted load relief, nor does LIPA's program provide for rapid-response load relief enabled by energy storage installations through the Auto-DLM Program. Staff notes that there has been no customer

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[132] Case 17-G-0606, Con Edison Smart Solutions, One Commissioner Order Approving Extension of Gas Demand Response Pilot Program (issued June 23, 2021).
[133] Case 18-E-0130, Energy Storage Proceeding, Order Establishing Energy Storage Goal and Deployment Policy (issued December 13, 2018) (Storage Order), pp. 32-33.
[134] 2020 Recommendation Letter at page 38.
[135] Case 18-E-0130, et al., Energy Storage Proceeding, Order Establishing Term-Dynamic Load Management Programs and Auto-Dynamic Load Management Program Procurements and Associated Cost-Recovery (issued September 7, 2020) (Term- and Auto-DLM Order), pp. 16-17. Storage Order, pp. 35-36.
[136] Case 15-E-0751, Value of Distributed Energy Resources Proceeding, Order Regarding Value Stack Compensation (issued April 18, 2019).
[137] Term- and Auto-DLM Order.
[138] 2020 Recommendation Letter at page 38.
[139] Storage Order, p. 33.
[140] For example, LIPA's 10-year fixed price contract does not include any penalty provisions for underperformance. See Term- and Auto-DLM Order, p. 47.

participation in LIPA's current 10-year fixed-price contract option to date, as shown in the Company's response to IR DPS-21027, therefore no current customers would be harmed if LIPA cancels the existing 10-year fixed price contract option and instead begins operating the Term-DLM and Auto-DLM Programs.

Finally, as noted above, Staff finds that the Company's use and implementation of the DLRP is inconsistent with Commission directives and other New York State utilities' DLRPs. As shown in the Company's response to IR DPS-0031, the Company calls events for both the CSRP and DLRP when the day-ahead forecast load level reaches the CSRP's Dispatch Trigger of 94% of the forecast summer peak load, which is inconsistent with the way that DLRP is dispatched elsewhere in New York State. Further, in its response to IR DPS-0031, the Company confirms that it currently uses the DLRP as a way to provide load relief in designated load pockets and to provide peak load relief during a weekend or federal holiday –both of these use-cases are inconsistent with DLRP programs elsewhere in New York State. In short, the Company is using the DLRP to provide enhanced peak-shaving incentives for demand response assets in certain load areas, a use case which the Commission has directly addressed and prohibited elsewhere in New York State.[141]

DLRP events should only be called to provide load relief when and where it is needed in response to reliability issues – the DLRP should generally not be called service territory-wide, and it should not be called for peak-shaving purposes. For example, Con Edison calls DLRP events in specific areas of its service territory in response to contingency events, such as when the next contingency would result in a significant outage to customers or when a voltage reduction of five percent or greater has been ordered. Instead of using the DLRP for other use-cases beyond its intended purpose, the Company should develop more granular CSRP incentive rates to attract customers to provide load relief in high-value areas – for example by offering a higher CSRP Reservation Payment rate within load pockets. In addition, the Company should make use of its already existing ability to seek peak-shaving load relief on less than 21 hours' notice and outside the typical CSRP Call Windows (for example, during atypical hours, or during weekends or federal holidays) by calling CSRP Unplanned Events as needed.

Turning to address public comments, a common theme expressed by commenters relates to the adequacy of incentive payments available under CSRP and DLRP. Staff does not recommend modifying the incentive payment rates at this time. As discussed above, the incentive payment rates should be developed such that the CSRP and DLRP are cost-effective. Since the Company has never performed a satisfactory BCA, there is no basis to change incentive payment rates. Following completion of a BCA on the Company's current programs, the Company may well be able to increase incentive payment rates to more accurately provide the value of load relief to participating customers, and as noted by Energy Spectrum, such increased incentive rates may attract more customers to participate in the programs.

Similarly, Staff does not recommend that LIPA adopt Energy Spectrum's proposed goals of increasing CSRP and DLRP participation by 22 MW per year without the Company first performing a BCA to determine that the program is currently cost-effective. While the DLM Programs might grow more rapidly if higher incentive rates are made available, the Company's forecast growth rates assuming no change to the available incentive rates are reasonable. PSEG LI forecasts enrollment growing from approximately 75 MWs in 2022 to 125 MWs in 2025, a compound annual growth rate of about 10.8% percent. This growth forecast is consistent with experience from other statewide DLM Programs, which have shown that mature DLM Programs tend to grow at approximately 10 percent per year. PSEG LI forecasts a total combined expenditure of $2.8 million during 2022, growing to $4.4 million during 2026, equating to about a 9.5% compound annual growth rate. This, too, is consistent with other utilities' experience. DLM program budgets tend to grow with increasing participation, although they tend to grow at a slower rate since the costs typically include fixed costs related to program management software and systems, and other less variable administrative costs. Staff motes that this program does not include an outreach component or a request for advertising funding.

[141] 2018 DLM Programs Order at pp. 23-24.

Staff does not recommend that any of SunRun's recommendations be implemented. SunRun suggests that the basic program design elements of the technology-agnostic C&I customer-focused CSRP and DLRP should be dramatically altered to fit the export capabilities of a single technology type for Residential customers. Many of SunRun's proposals run directly counter to clear directives provided by the Commission. The Commission specifically determined that baselines are necessary for larger Commercial DR Programs such as the CSRP, DLRP, Term-DLM Program and Auto-DLM Program.[142] The Commission determined that measuring energy storage output at the inverter is not appropriate for commercial DR programs.[143] SunRun suggests modifying the CSRP event duration from 4 hours to 2-3 hours, which is not based on any evidence that the 2-3 hour period better matches distribution system needs, but rather that the shorter duration would allow residential energy storage devices to export at a higher kW rate, and thus be eligible to earn higher financial incentives. Similarly, SunRun's argument that CSRP and DLRP incentive payment rates are set too low is premised on incentive payment rates for a residential sector and technology-specific program operated in another State, not based on any analysis of the value that such Residential energy storage systems could provide in the Company's service territory.

Although SunRun's proposals to conform the CSRP and DLRP program rules to a specific combination of customer segment and technology should not be implemented, SunRun's comments do illustrate that there is currently a fundamental mismatch between the services customers with residential energy storage systems are willing and able to provide and the requirements of the Commercial DR programs. Therefore, instead of making changes to the CSRP and DLRP, the Company should work with Staff to develop a new component of the DLC Program designed specifically for residential energy storage systems. The DLC Program routinely provides for technology-specific incentive payments and measurement and verification procedures. In addition, since residential customers cannot typically participate in the NYISO DR programs, the Company is able to operate its DLC Program to manage the Company's New York Control Area coincident peak load, and provide participants with the value of avoided ICAP in addition to avoided distribution costs. As with the CSRP and DLRP, the incentive payment rates available under a new residential energy storage component of the DLC Program should be developed based on a completed BCA. Staff estimates that an additional 1.5 MW of load relief is achievable if each of the 395 residential energy storage systems were to fully participate in such a program.[144]

Community Solar and Religious Buildings

PSEG LI budgeted $0.4M each for Community Solar and Religious Buildings. The Community Solar program is ongoing while the Religious Buildings program is new. No description was offered on either the Community Solar nor Religious Buildings programs within the filing itself. Community Solar allows solar companies to construct community solar projects on Long Island, and then residents can subscribe into a project to receive energy credits, which reduce their own PSEG LI electric bill. The credits are based on the participant's enrollment percentage and how much electricity their host project has generated that month.[145] DPS Staff recommends that PSEG LI provide additional description and budget information regarding these two programs in future filings and quarterly updates.

EEDR Labor and Outside Services

- Funding for project-related labor and third-party vendor/consulting costs.
- Recommendation: Recommend.

[142] Storage Order, p. 34.
[143] Storage Order, p. 34.
[144] Estimate derived by dividing the 13.5 kWh capacity of the Tesla Powerwall by 4 hours – approximately 3.8 kW per device (approximately three to four times as much load relief per device as provided by smart thermostats).
[145] https://www.psegliny.com/saveenergyandmoney/greenenergy/communitysolar

- Requested Budget ($M): $6.98
- Staff recommended adjustment: No Adjustment.

PSEG LI is requesting $3.95M for Energy Efficiency project related labor and $3.034M for outside services (third–party vendor and consulting costs) for the year 2022. Regarding Labor issues, Staff noted that the funding requested for 2022 represents a 26.51 percent decrease from the prior year's budget request of $5.735M. PSEG LI noted that the decrease was due to pension and other post-employment benefits reallocated to a common account rather than to the individual departments. PSEG LI stated that the forecasted pension and other benefit expense was $1.43M for 2022. Staff notes that adding $1.43M to the requested amount for 2022 makes the total request consistent with prior years. PSEG LI also stated that there are no new Full Time Employees contemplated for the 2022 Energy Efficiency Budget.

Regarding Outside Services, Staff notes that historical outside service costs for 2018, 2019, and 2020 were $2.5M, $2.6M, and $2.4M respectively. As of June 30, 2021, PSEG LI has spent $1.5M year to date on outside services. Staff noted the $3.034M funding requested for 2022 represents a 16.71% increase from the prior year's budget request of $2.6M. Per PSEG LI, the increase is due to $0.9M of General & Administrative expenses included in Outside Services this year. In the prior filing, General & Administrative expenses were treated as a remainder to the overall budget request instead of being allocated to Outside Services. The amount budgeted for General & Administrative expenses has not increased from the prior filing. Staff notes that the recognition of General & Administrative Expenses within Outside Services has affected the Outside Service numbers provided in the prior year's filing. As this does not affect the budgetary request for the total PSEG LI EEDR Labor/Outside Services/Advertising line item, Staff supports this change in expense recognition.

Staff discovered that the Company paid a total of $141,284 in membership fees last year; some of the recipients of this money appear to be unrelated to energy efficiency. Examples include the Long Island Aquarium, The Nassau and Suffolk County chapters of the New York State School Facilities Association, and the Long Island Chapter of the American Institute of Architects. Staff notes that any membership fees paid for unrelated non-energy efficiency causes should not be included in the energy efficiency budget; although Staff notes that these amounts were immaterial compared to the overall funding requested. Staff recommends the EE Labor Budget as proposed, and also the EE Outside Services Budget as proposed.

EEDR Marketing and Advertising

- Funding for advertising and outreach for EEDR programs.
- Recommendation: Recommend.
- Requested Budget ($M): $2.30
- Staff recommended adjustment: No Adjustment.

As part of PSEG LI's overall 2022 EEDR Plan budget, the Company is seeking $2.3M in funding for 2021 EEDR Plan Advertising of which $1.0 million is allocated to support the overall energy efficiency outreach and education, $0.80 million for Program Specific Programs, $0.20 million for Small Business, $0.175 million for Earth Month, $0.075 million in Sponsorships, and $0.05 million for Contingency costs.[146]

For each program, the Company identified a variety of advertising/outreach strategies to increase awareness about its programs including continued push of its primary message, "save energy and money." The Company provided a breakdown of the various platforms used to promote its programs which include

[146] Response to Staff Discovery Request DPS-0083, Attachment U 2.0_DPS-0083_2021 EE Ad Budget Allocation 2021-09-07.xlsx.

mass media (print, radio, TV), tactical (emails, direct mails, newsletters), and targeted (digital, social, and online Energy Analyzer).

With increased focus on advancing energy affordability by developing initiatives focused on energy solutions for low- to-moderate income (LMI) consumers, the Company is using various communication channels to inform disadvantaged communities about rebates, incentives, programs, and sustainability efforts. In addition, the Company continues to explore new ways to segment its customer base to identify disadvantaged communities and struggling small businesses. As the utility learns more about the targeted communities, it will modify its marketing strategies to ensure it increases their reach, including providing information in other languages. The Company intends to measure the effectiveness of its outreach strategies on a quarterly/semi-annually basis to ensure the Company is reaching its target audience. A more detailed review of the Company's advertising proposals can be found under the individual program sections above.

Staff agrees that a robust advertising/outreach plan is needed to raise awareness and educate customers about PSEG LI's EEDR programs. Staff inquired if the Company produced cost studies to determine the advertising/outreach costs for each program. Staff also requested a detailed breakdown of the $2.3 million advertising costs for EEDR programs[147] including computational workpapers, cost proposals or other documents the Company used to forecast advertising costs. The Company did not provide workpapers, cost proposals, or other documents to demonstrate how it forecasts advertising costs. The Company states that the EEDR Advertising budget is for general awareness and education of its residential and commercial EE programs. The Company added that many of its advertising campaigns were not specific to one program and therefore not allocated on a per program basis.[148] However, the support document the Company provided includes a breakdown of the $2.3 million advertising costs which allocates funding under seven categories: Energy Efficiency Outreach & Education, "Program Specific Advertising," Small Business, Energy Efficiency Conference, Earth Month, Sponsorships, and Contingency.[149] The Company requested advertising funding for five out of its ten programs. Its funding requests are part of its Program Administration Costs which may include contractor fees, labor, advertising, and evaluation.

While the Company is not requesting additional advertising funding in this year's filing, it is not possible for Staff to evaluate its individual program advertising requests and spending trends if they are combined under Program Administration Costs. In addition to customer engagement descriptions that include advertising/outreach objectives for each program, Staff needs to have four key components at the time of its filing to conduct an effective advertising needs assessment for the Company's EEDR programs: A breakdown of advertising funding requests for each program; A detailed description of each proposed line-item advertising cost for each program (i.e. social media, email campaigns, video production, etc.); Computational workpapers, cost proposals or other documents used to forecast advertising costs; and Results from evaluations of the Company's advertising, online and print marketing, and communications strategy effectiveness. Without this level of detail, Staff cannot provide a fair and adequate needs assessment of the Company's advertising funding needs for its EEDR programs. Due to the nature of its programs which are important to all customers but especially vulnerable communities, Staff recommends approving the $2.3 million to increase awareness of its programs.

[147] Response to Staff Discovery Request DPS-21025, item 1c.
[148] Response to Staff Discovery Request DPS-0083, item 1.
[149] Response to Staff Discovery Request DPS-0083, Attachment U 2.0_DPS-0083_2021 EE Ad Budget Allocation 2021-09-07.xlsx

Appendix A: Utility 2.0 Budget Adjustment Summary

Capital Adjustments

Status	Initiative	Capital ($M)								DPS Capital Adjustments					Total Capital Adjustments
		2019	2020	2021	2022	2023	2024	2025	SUM	2021	2022	2023	2024	2025	
Complete	FlexPay Planning	-	-	-	-	-	-	-	-						-
	IOAP	-	1.65	0.46	-	-	-	-	2.11						-
Canceled	Heat Pump Controls Pilot	-	-	-	-	-	-	-	-						-
Ongoing	AMI Customer Engagement Plan	-	-	-	-	-	-	-	-						-
	AMI Technology and Systems[1]	57.11	56.14	65.27	10.21	-	-	-	188.72						-
	AMI-Enabled Capabilities	3.52	2.67	4.21	4.03	-	-	-	14.43		(0.63)				(0.63)
	BTM Storage with Solar	-	-	-	-	-	-	-	-						-
	CVR Program	-	-	0.06	0.59	-	-	-	0.65						-
	Data Analytics	2.08	1.53	0.89	1.23	-	-	-	5.71						-
	EV Make-Ready Program	-	-	1.45	0.03	1.20	-	-	2.68						-
	EV Program	-	-	-	-	-	-	-	-						-
	Hosting Capacity Maps Stage 2	-	1.45	-	-	-	-	-	1.45						-
	Hosting Capacity Maps Stage 3	-	-	1.70	-	-	-	-	1.70						-
	Locational Value Study and Tool	0.20	0.32	-	-	-	-	-	0.52						-
	Next Generation Insights Pilot	-	0.57	0.20	-	-	-	-	0.77						-
	NWS Planning Tool	-	-	-	-	-	-	-	-						-
	NWS Process Development	-	-	-	-	-	-	-	-						-
	On-Bill Financing Plan	-	-	-	-	-	-	-	-						-
	Program Implementation Support	1.64	1.99	2.04	2.37	-	-	-	8.04		(0.23)				(0.23)
	Rate Modernization	1.59	3.92	2.18	2.18	2.69	-	-	12.56			(2.26)			(2.26)
	Super Savers	-	-	-	-	-	-	-	-						-
	UoF Team	0.26	0.30	0.24	0.38	-	-	-	1.18						-
	Utility Storage: Miller Place	0.09	0.14	3.78	5.44	2.81	-	-	12.26		(0.05)				(0.05)
On hold	C&I Demand Alert Pilot	-	-	-	-	1.77	0.00	-	1.78						-
	DER Visibility Platform	-	-	-	3.95	-	-	-	3.95						-
	Electric School Bus V2G Pilot	-	-	-	0.08	-	-	-	0.08						-
	Energy Concierge Pilot	-	-	-	0.03	0.98	0.54	-	1.55						-
	Enhanced Marketplace	-	-	-	-	1.41	0.40	0.00	1.81						-
	On-Bill Financing Pilot	-	-	-	1.06	0.05	0.01	-	1.12						-
Proposed	Bucket Truck Electrification Plan	-	-	-	-	-	-	-	-						-
	Connected Buildings Pilot	-	-	-	-	-	-	-	-						-
	EV Make-Ready Program (exp. scope)	-	-	-	9.82	16.36	16.36	19.85	62.39						-
	Increasing Hosting Capacity	-	-	-	-	-	-	-	-						-
	Rate Modernization (exp. scope)	-	-	-	0.85	0.34	-	-	1.19		(0.85)	(0.34)			(1.19)
	Suffolk County Bus Make-Ready Pilot	-	-	-	0.60	-	-	-	0.60						-
Total		66.46	70.67	82.49	42.83	27.60	17.32	19.85	327.23		(1.75)	(2.60)	-	-	(4.35)

[1] The budget for AMI Technology and Systems includes costs that were incurred in 2018 in 2019.

O&M Adjustments

Status	Initiative	O&M ($M)								GRAND TOTAL	DPS O&M Adjustments					*Total O&M Adjustments*
		2019	2020	2021	2022	2023	2024	2025	*SUM*		*2021*	*2022*	*2023*	*2024*	*2025*	
Complete	FlexPay Planning	-	0.08	-	-	-	-	-	0.08	0.08						-
	IOAP	-	-	-	-	-	-	-	-	2.11						-
Canceled	Heat Pump Controls Pilot	-	0.00	-	-	-	-	-	0.00	0.00						-
Ongoing	AMI Customer Engagement Plan	1.01	2.34	2.82	2.48	-	-	-	8.64	8.64						-
	AMI Technology and Systems[1]	1.18	1.87	3.04	3.83	-	-	-	9.91	198.63						-
	AMI-Enabled Capabilities	0.26	0.61	1.87	2.64	-	-	-	5.37	19.80						-
	BTM Storage with Solar	0.06	0.08	-	-	-	-	-	0.14	0.14						-
	CVR Program	-	-	-	0.03	-	-	-	0.03	0.68						-
	Data Analytics	0.09	0.78	1.62	2.08	-	-	-	4.55	10.27						-
	EV Make-Ready Program	-	-	1.70	0.14	0.15	0.15	0.16	2.30	4.98	(0.51)	0.01	0.01	0.01	0.01	(0.47)
	EV Program	0.63	0.86	1.67	2.19	2.14	2.51	3.02	13.03	13.03						-
	Hosting Capacity Maps Stage 2	-	0.00	-	-	-	-	-	0.00	1.45						-
	Hosting Capacity Maps Stage 3	-	-	0.49	0.43	0.34	0.32	0.32	1.92	3.62					(0.08)	(0.08)
	Locational Value Study and Tool	-	-	0.03	0.03	-	-	-	0.05	0.57						-
	Next Generation Insights Pilot	-	0.23	1.65	1.08	-	-	-	2.96	3.73						-
	NWS Planning Tool	-	0.08	0.12	-	-	-	-	0.20	0.20						-
	NWS Process Development	-	-	0.50	-	-	-	-	0.50	0.50						-
	On-Bill Financing Plan	-	-	-	-	-	-	-	-	-						-
	Program Implementation Support	-	-	0.10	0.05	-	-	-	0.15	8.19		(0.05)				(0.05)
	Rate Modernization	0.57	0.51	4.29	4.98	6.08	-	-	16.42	28.98			(0.07)			(0.07)
	Super Savers	0.48	0.29	1.20	1.03	0.75	-	-	3.75	3.75			(0.29)			(0.29)
	UoF Team	0.16	0.33	0.78	1.21	-	-	-	2.48	3.65						-
	Utility Storage: Miller Place	-	-	-	0.05	1.02	-	-	1.07	13.33						-
On hold	C&I Demand Alert Pilot	-	-	-	-	0.09	0.10	-	0.20	1.97						-
	DER Visibility Platform	-	-	-	0.07	0.04	0.05	0.06	0.22	4.16						-
	Electric School Bus V2G Pilot	-	-	-	0.50	0.07	0.07	-	0.64	0.73						-
	Energy Concierge Pilot	-	0.14	-	0.86	1.16	0.62	-	2.77	4.32						-
	Enhanced Marketplace	-	-	-	-	0.69	0.95	0.98	2.62	4.44						-
	On-Bill Financing Pilot	-	-	-	0.41	0.77	0.39	0.10	1.68	2.79						-
Proposed	Bucket Truck Electrification Plan	-	-	-	0.10	-	-	-	0.10	0.10		(0.10)				(0.10)
	Connected Buildings Pilot	-	-	-	0.99	0.20	-	-	1.19	1.19		(0.35)	(0.20)			(0.55)
	EV Make-Ready Program (exp. scope)	-	-	-	2.84	6.48	7.47	8.94	25.72	88.11			(0.64)	(0.70)	(0.30)	(1.64)
	Increasing Hosting Capacity	-	-	-	0.06	-	-	-	0.06	0.06						-

	Rate Modernization (exp. scope)	-	-	-	0.39	0.93	-	-	1.32	2.51		(0.39)	(0.93)			(1.32)
	Suffolk County Bus Make-Ready Pilot	-	-	-	0.41	0.04	-	-	0.45	1.05						-
Total		4.42	8.19	21.87	28.85	20.96	12.64	13.58	110.51	437.74	(0.51)	(0.87)	(2.12)	(0.69)	(0.37)	(4.57)

Status	Initiative	*Total DPS Adjustments*	*Notes*
Complete	FlexPay Planning	-	
	IOAP	-	
Canceled	Heat Pump Controls Pilot	-	
Ongoing	AMI Customer Engagement Plan	-	
	AMI Technology and Systems[1]	-	
	AMI-Enabled Capabilities	(0.63)	A
	BTM Storage with Solar	-	
	CVR Program	-	
	Data Analytics	-	
	EV Make-Ready Program	(0.47)	B
	EV Program	-	
	Hosting Capacity Maps Stage 2	-	
	Hosting Capacity Maps Stage 3	(0.08)	C
	Locational Value Study and Tool	-	
	Next Generation Insights Pilot	-	
	NWS Planning Tool	-	
	NWS Process Development	-	
	On-Bill Financing Plan	-	
	Program Implementation Support	(0.28)	D
	Rate Modernization	(2.33)	E
	Super Savers	(0.29)	F
	UoF Team	-	
	Utility Storage: Miller Place	(0.05)	G
On hold	C&I Demand Alert Pilot	-	
	DER Visibility Platform	-	
	Electric School Bus V2G Pilot	-	
	Energy Concierge Pilot	-	
	Enhanced Marketplace	-	
	On-Bill Financing Pilot	-	
Proposed	Bucket Truck Electrification Plan	(0.10)	H
	Connected Buildings Pilot	(0.55)	I
	EV Make-Ready Program (exp. scope)	(1.64)	J
	Increasing Hosting Capacity	-	
	Rate Modernization (exp. scope)	(2.51)	K
	Suffolk County Bus Make-Ready Pilot	-	
Total		**(8.92)**	

Notes:

A) Removal of additional funding requested related for Customer Technology Support due to inadequate support. IR DPS-0035.

B) Removal of data aggregator costs due to inadequate support, IR DPS-0035 and a delay in implementing the Salesforce database needed to track data.

C) Removal of funding to resubmit in future filing.
D) Removal of cost for 1 FTE and no justification for O&M funding remaining in budget. PSEG LI has not spent any funding in the budget since 2019.
E) Removal of Capital funding in the amount of $2.26M due to no justification provided. For O&M, removal of the difference between the original increase request of $0.31M and the support provided of $0.244M.
F) Removal of additional requested funding due to significant underspending in prior years. DPS notes that the current 2021 budget is also being underspent. In 2019 and 2020 PSEG LI underspent the Supersaver budget by at least 70%.
G) Removal of Telvent RTU being double counted.
H) Removal of new program proposed (Bucket Truck Electrification).
I) Reduction of customers from 150 to 75 for new program proposed (Connected Buildings Pilot).
J) Removal of Fleet services $0.74M and Marketing & Outreach $0.90 for 2023-2025.
K) Removal of new program proposed (Green Rates).

Appendix B: 2022 Energy Efficiency and Demand Response Plan Budget and Recommended Adjustments

2022 EE Programs	Company-Proposed Program Budget ($M)	DPS Staff Adjustments ($M)	Notes
Energy Efficient Products	24.40		
Home Comfort	11.50		
REAP (Low-Income)	1.35		
Home Performance	4.56		
Multifamily	0.25		
All Electric Homes	0.05		
Commercial Efficiency	32.40		
HEM (Behavioral)	2.70		
Pay for Performance	0.20	(0.11)	A
DLM Program	1.38		
Community Solar	0.40		
Religious Buildings	0.40		
PSEG Long Island Labor, Outside Services, Advertising	9.28		B
Total	**88.87**	**(0.11)**	

Notes:
A) Removal of associated expenses (see program review above).
B) Corrected amount as per PSEG LI email e-mail correspondence to DPS dated July 2, 2021. Changed from $10.08 to $9.28.

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Honorable Mark Fischl, Vice Chairman
Board of Trustees
Long Island Power Authority
333 Earle Ovington Blvd.
Uniondale, New York 11553

Exhibit "E"

PSEG LONG ISLAND

December 8, 2021

Via Email
Justin Bell
Vice President, Public Policy and Regulatory Affairs
Long Island Power Authority
333 Earle Ovington Blvd., Suite 403
Uniondale, NY 11553

Re: Matter 14-01299 - In the Matter of PSEG-LI Utility 2.0 Long Range Plan 2021

Annual Update, PSEG Long Island's Response to Initial and Reply Comments

Dear Mr. Bell,

Department of Public Service ("DPS") Staff, in their Interoffice Memorandum to Chief Executive Officer Rory Christian dated November 23, 2021, recommended that PSEG Long Island consider the public comments that were filed in connection with PSEG Long Island's 2021 Utility 2.0 Plan Annual Update ("Utility 2.0 Plan") and the Energy Efficiency and Demand Response Plan ("EEDR Plan"). Pursuant to that recommendation, PSEG Long Island has reviewed all of the comments from interested parties in the above-referenced proceeding and offers the following comments for LIPA's consideration in response.

Before replying to individual comments (summarized in the bullets below), PSEG Long Island offers the following general response and note of caution about the cost of implementing many of the recommendations from outside parties. During the preparation of this Utility 2.0 Plan, PSEG Long Island was careful to balance the desire to advance the goals outlined in the Climate Leadership and Community Protection Act ("CLCPA") with their resulting rate impacts. For example, the EV Make-Ready program as proposed includes $62.4 million of capital expenditure and $25.7 million of operating expense over the next four years. The program was designed specifically to minimize rate impacts by having LIPA own and capitalize the DCFC make-ready infrastructure, for the first 10 years, allowing LIPA's low cost of capital to mitigate overall program cost.

Many of the public comments are recommending more spending. While PSEG Long Island shares the underlying objectives of rapid decarbonization of the electric grid and electrification of other sectors of the economy, we observe that any increased spending on specific Utility 2.0 initiatives must be offset by reductions made elsewhere in order to manage the total impact on customer rates. Maintaining affordability is critical, particularly as we seek to enable electrification of transportation and heating loads.

In general, PSEG Long Island aims to align its Utility 2.0 Plan, energy efficiency, and beneficial electrification programs with the policies of New York State. The New York Climate Action Council is issuing a Scoping Plan that will map out New York's strategies to decarbonize the electric grid and accelerate energy efficiency and beneficial electrification, further addressing the appropriate roles for

State, Federal, and ratepayer-funded initiatives. The Council's Scoping Plan will establish the foundation for policy and programmatic changes to be considered and proposed by PSEG Long Island in future plans.

EV Make Ready Program

- PSEG Long Island should allocate more resources (funds) to the deployments of DCFC Corridor chargers
    - PSEGLI Response: The Gabel EV Study included in Appendix B of the Utility 2.0 Plan outlines a reasonable path to incentivizing adequate publicly accessible DCFC infrastructure to support 180,000 light-duty electric vehicles by 2025. The DCFC deployments recommended in the Gabel Study align with the DPS's prior recommendations to the LIPA Board. The Study recommends allocating most of the DCFC make-ready incentives to DCFC chargers located in travel corridors and the remainder to DCFC chargers located in communities. This is a reasonable approach to combating range anxiety while also ensuring that charging is publicly accessible in communities outside of designated travel corridors.

- PSEG Long Island should assign a single point of contact to conduct desktop evaluations, improve load letter processing process and develop an EV hosting capacity map.
    - PSEGLI Response: We support having a dedicated resource and are adding a full time EV Program Manager and Ombudsperson to facilitate new service requests. Applications for EV charging stations are treated like any new business request and reviewed to determine the cost and feasibility of providing service at the recommended location. We routinely evaluate and make refinements to business processes, including those related to interconnection and load letters. Regarding hosting capacity maps, PSEG Long Island is in the process of implementing new Stage 3 hosting capacity maps for DERs. At this time, we are not proposing to create EV-specific hosting capacity maps. After our current hosting capacity map upgrades are complete, we will consider including further enhancements in future filings.
- PSEG Long Island should have dedicated EV team members with a breadth of expertise that includes interconnection, distribution system planners and other key SME's. They should be well versed in site analysis and interconnection processes to assist EV charging stations in a timely manner.
    - PSEGLI Response: The budget for 2022 includes the addition of two additional staff to the EV department.

- Start to finish of the application being sent in and having a final cost of the project & utility design should be completed within 1 month
    - PSEGLI Response: Once PSEG Long Island receives all required information from the developer, the current process takes between 4-6 weeks to determine what, if any, utility side upgrades are required for the project.

- PSEG LI should carve out a portion of the EV Make Ready program for fleets, including local governments, to use specifically for fleets that still offers the 90% reimbursement rate (currently

offers 50%). This carve out can be extended to all levels of government to include Towns, Cities, Villages, Schools, Libraries and Fire Districts.

- PSEGLI Response: While it is true that county government serves the public, all businesses, hospitals, schools, and other non-profit organizations also serve the public. PSEG Long Island believes that a 50% subsidy on make-ready infrastructure is appropriate and balances benefits to individual customers with the overall concern for impact on customer rates.

- Medium to Heavy Duty Vehicles should be supported under EV Make Ready
  - PSEGLI Response: This will be considered after guidance is provided by the Public Service Commission to investor-owned utilities in New York State.

- Ensure that Environmental Justice/Low-to-Moderate Income communities realize the benefits of electrification
  - PSEGLI Response: Proposed EV charging stations located in those communities are eligible up to 100% in incentives for make-ready infrastructure. PSEGLI will continue to monitor public charger deployment in environmental justice and disadvantaged communities to determine the effectiveness of its incentive policies and propose future adjustments as needed.

- Customers should be made aware of relevant TOU rates since PSEG Long Island is closing the Smart Charger Program
  - PSEGLI Response: PSEGLI's new TOU rates, which include discounted super off-peak periods appropriate for EV charging, will be marketed to EV owners beginning in 2022.

- PSEG-LI should recognize the unique value offered by innovative approaches to electric vehicle supply equipment (EVSE), namely battery-integrated EVSE. Specifically, on-site or integrated battery technologies should qualify for make-ready incentives (and the DCFC incentive program) given that they can avoid make-ready upgrades, open up new locations, and help avoid peak power demand associated with EV fast charging.
  - PSEGLI Response: The concept of integrating battery storage with EV charging equipment could be used to smooth out short-term peaks in demand, thus reducing the demand charges for the station owner. Similarly, batteries could be installed at other customer locations and used for a similar purpose. PSEG Long island recommends that such batteries be considered for any battery storage incentives that may be available from NYSERDA, rather than be included as part of EV make-ready infrastructure.

- For DCFC Corridors, 100kW minimum is still a little undersized and would like to suggest a reevaluation of this level to increase it to at least 150kW. Also, there should be tiered funding that provides incentive to install a 350kW charger over a 150kW charger.
  - PSEGLI Response: Developers are encouraged to install higher capacity chargers that supply more than 150kW per port (when power sharing is active, when applicable).

Setting 100 kW as the minimum for DCFC Corridors is designed so that slow chargers (<100kW) are not installed to encourage fast charging.

- Interstates, U.S. routes, NYS routes, thruways, expressways and major trucking routes; which are those labeled as "Corridor DCFC" in the Utility 2.0 Plan, should be sized as large as possible to be able to handle the charging requirements of the medium-duty (MD) and heavy-duty (HD) trucks and buses that have larger battery systems and longer range requirements in order to keep the charging times to a minimum
    - PSEGLI Response: The minimum size of Corridor DCFC are 100kW and we encourage developers to install higher kW chargers as the market progresses. As discussed above, we expect the NY PSC to address medium-duty and heavy-duty charging incentive policies in the near future. PSEGLI will monitor those proceedings and propose appropriate actions to address the MDHD market.

- PSEG LI should offer site hosts (for DCFC) a choice of a rebate-based approach similar to that offered by investor-owned utilities in New York or the proposed lease model.
    - PSEGLI Response: Unlike the investor-owned utilities in New York, LIPA is a public power utility. As a result of LIPA's access to low-cost capital, the proposed hybrid public-private ownership model is the lowest cost option for LIPA to fund DCFC make-ready infrastructure. In contrast, cash rebates are treated as operating expenses, which have a significant near-term impact on customer rates, and the use of regulatory assets to fund current year operating expenses is not feasible within the public power financial model.

- Distribution load capacity maps showing suitable sites for DCFC interconnection will allow for the faster and more cost-effective deployment of DCFC infrastructure
    - PSEGLI Response: A load capacity map does not substitute for traditional utility engineering load letter study that is done for each load letter that PSEG LI receives. However, load capacity maps may have other benefits. As discussed above, after PSEG Long Island has completed upgrades to its hosting capacity maps, it will consider whether to offer additional mapping services as suggested by this comment.

Electric Vehicles

- Adding an innovative utility EV incentive program, stacked up on other federal and New York State incentive programs, would help accelerate EV adoption by overcoming the primary EV decision tipping point, which is lowering upfront switching cost to acquire an EV, either purchase or lease.
    - PSEGLI Response: PSEG Long Island aims to align its EV programs with New York State's transportation electrification policies. To date, New York policymakers have emphasized that the focus of utilities in this area should be to encourage deployment of EV charging infrastructure and efficient charging behavior. The New York Climate Action Council is issuing a Scoping Plan that will further detail this approach and identify additional strategies to electrify transportation, taking into account the appropriate balance among State, Federal, and ratepayer-funded incentives. The Council's Scoping

Plan will become the foundation for future EV policy and programmatic changes to be considered and proposed by PSEG Long Island.

- While the company's proposal for electrification of bucket trucks was included in this year's filing, PSEG LI should also consider in their plan the electrification of their light-duty fleet and other utility-owned vehicles
    - PSEGLI Response: The study will evaluate the feasibility and cost for electrifying all of the PSEG Long Island fleet, including service vans and other light duty vehicles.

Photovoltaic (PV) Solar

- LIPA's allocated share of New York's CLCPA-mandated distributed solar target for 2025 is proportionally correct, but should serve as a minimum target considering the challenge of meeting 2030 and 2040 CLCPA mandates. PSEG-LI and LIPA must establish a roadmap for compliance with 2030 and 2040 CLCPA mandates
    - PSEGLI Response: The Utility 2.0 Plan focuses on targets for 2025. PSEG Long Island will be preparing an Integrated Resource Plan in 2022 that will consider how to best meet the longer-term targets. We note that New York's Governor recently announced a statewide goal of 10 GW of solar by 2030. LIPA and PSEG Long Island are committed to meeting their share of that goal as well.

- PSEG/LIPA must increase their investments in distributed solar incentives going forward, including extending the Community Credit and Community Adder incentives for Community Solar on Long Island
    - PSEGLI Response: For community solar, LIPA has announced an extension of its 5-cent community credit until the earlier of December 31, 2022, or the date on which 100 MW of CDG is interconnected on Long Island, after which time LIPA proposes to replace its community credit with a community adder. For onsite residential and commercial solar, the previously available NY Sun Program was designed to phase out incentives for solar PV over a period of several years with declining rebates in each subsequent block. Such rebates were eliminated entirely on Long Island by 2019 and since that time solar installations on Long Island have remained steady at about 6,000 per year. The solar industry on Long Island is now mature and does not require further ratepayer subsidies at this time. LIPA and PSEG Long Island will continue to monitor our progress toward Long Island's share of New York's solar goals and will take additional action if needed to ensure we remain on track to meet the goals.

Energy Storage

- The 2021 Plan continues to fall short in major areas, especially with the scope, scale and timing of initiatives related to energy storage.
    - PSEGLI Response: At a minimum, LIPA intends to meet state mandates for deployment of energy storage resources. Beyond that, LIPA and PSEG Long Island continue to explore cost-effective opportunities to deploy energy storage and incentivize customer-sited storage. The Integrated Resource Plan (IRP) will evaluate all commercially viable resources, including storage, to identify the least cost resource mix to meet LIPA's clean

energy goals and reliability needs. Please refer to LIPA's online fact sheet on the forthcoming Integrated Resource Plan (IRP), through which process we will carefully consider and balance the multiple considerations, including cost, resiliency, peak load reduction, and transmission and distribution investment deferral, that attend introducing or expanding any resource technology in LIPA's portfolio.

Dynamic Load Management (DLM) Program

- The Commercial System Relief Program (CSRP) and the Distribution Load Relief Program (DLRP) should have an increase in incentives in order to increase projected megawatts in the program.
    - PSEGLI Response: The reservation payments in our DLM tariff are based on the marginal cost of capacity on Long Island. Such tariff payments are reviewed periodically and will be modified if there are significant changes to marginal costs.

- The DLM Program should be re-evaluated to attract more customer participation
    - PSEGLI Response: PSEG Long Island recently worked with NYSERDA to make changes that will increase participation in our DLM tariff by customers with onsite battery storage. Separately, in our Super Savers program, we have been testing the effectiveness of various tactics to increase customer participation in the DLM program and other peak reduction initiatives.

Next Gen Insights Pilot

- This pilot should be ready to scale into a full program as early as possible so that more customers can participate in the program
    - PSEGLI Response: This program was approved in 2020 and is well underway. As approved, the program budget supports enrollment of up to 200,000 customers. The outcomes of the program (include costs and benefits realized) will be assessed in subsequent Utility 2.0 Plans and adjustments to the program, which may include expansions or contractions of program size, will be considered at that time based on program outcomes.

Non Wire Solutions

- The 2021 Plan does not include any specific NWS projects for 2021
    - PSEGLI Response: Non-Wire Solutions are currently evaluated using a 3rd party developed NWS Screening Tool which was proposed in our 2018 Utility 2.0 Plan. Using the NWS Screening Tool, we evaluate non-wire alternatives to T&D infrastructure projects on an ongoing basis. When the screening tool identifies the opportunity where an NWS is likely to be successful, an RFP is issued. For a typical NWS, issuance of the RFP would occur outside of the Utility 2.0 filing. For example, in LIPA's 2021 Request for Proposals for Bulk Energy Storage, PSEGLI identified two points of interconnection, Southold 69-kV and Glenwood 138-kV substations, for potential deferment of

transmission lines and provided information on the transmission needs in these locations and the battery energy storage systems solutions that would help meet the needs.

Flex Pay

- The 2021 Plan shows that PSEG-LI did not pursue this initiative that was proposed as a pilot project in last year's Utility 2.0 Plan. No explanation for its discontinuation was included in this year's plan and welcomes an explanation
    - PSEGLI Response: This pilot was ultimately rejected by both the NYS Department of Public Service and the Long Island Power Authority in Dec 2020, which is why this project was never pursued after those recommendations.

Connected Buildings Pilot

- There are serious concerns about utility control of customer-owned and sited DER and reducing the value proposition of those assets for the customers as a result of curtailment or other measures.
    - PSEGLI Response: The Span technology actually increases the ability of the customer to more easily utilize their DER to optimize the value the customer can realize of the DER assets they have installed at their facility. Customers will be offered the option to participate in different utility offerings, however, their decision will not jeopardize their participation in the pilot, and as such, any utility control would be at the customer's option. Informal feedback from PV developers suggest that much of the storage installed by them is there only for backup power during outages. This pilot could provide the ability for customers to utilize their investment in that storage to help them move to a TOU rate more easily without jeopardizing their resiliency goals. Similarly, it will allow customers to prioritize loads served by their DER technology during outages without the need to hardwire dedicated circuits in a separate panel.

CLCPA (Climate Act)

- Significant proactive investments in distribution infrastructure are needed to realize CLCPA goals, and are not mentioned in the LRP
    - PSEGLI Response: PSEG Long Island has been investing over $500 million every year for capital investments to upgrade LIPA's transmission and distribution systems. Infrastructure upgrades for purposes of increasing capacity for the transmission and distribution of renewable generation are governed by separate processes administered by the Public Service Commission and the Department of Public Service. For example, LIPA and PSEG Long Island submitted project proposals totaling $1.5 billion in the PSC's Accelerated Renewable Energy Growth and Community Benefit Act proceeding.

- PSEG-LI and LIPA must establish a roadmap for compliance with 2030 and 2040 CLCPA mandates

- PSEGLI Response: PSEG Long Island will be issuing a quarterly CLCPA status report as part of its Utility 2.0 reporting to DPS and LIPA. Longer term compliance will be considered as part of the Integrated Planning process, currently underway. The scope of work for the IRP (https://www.lipower.org/irp/) includes developing an Action Plan that will lay out the necessary steps that LIPA should undertake to best position itself to serve its customers reliably, environmentally responsibly, and economically in both the short and long-term and achieve the IRP objectives, which include compliance with CLCPA mandates.

Other Comments

- PSEG LI should look to incorporate a mechanism in the U2.0 plan to track utility spending based on geographic location to ensure the equitable distribution of ratepayer funds
  - PSEGLI Response: PSEG Long Island is working together with NYSERDA to investigate tracking and reporting of its clean energy, energy efficiency, and beneficial electrification program investments by geographic location for purposes of complying with the CLCPA's requirement that a minimum of 35% and a target of 40% of such investments benefit disadvantaged communities. The methodology and requirements are still being determined by the New York Climate Action Council, upon recommendations of the Climate Justice Working Group. That information will be reported publicly.

Sincerely,

Michael Voltz
Director, Energy Efficiency

cc: Dan Eichhorn
Rick Walden
Tom Falcone
Jeff Greenblatt