



LUMA Annual Report

For Fiscal Year 2022

Ending June 30, 2022

LUMAPR.COM

ProgresoDeLUMAPR.COM

We're here to deliver on the mission for Puerto Rico

The 3,000 men and women of LUMA are proud to serve the people of Puerto Rico and of the efforts we have made to fundamentally transform and modernize the energy grid. While our first fiscal year has brought many challenges as a result of an electric system that has suffered years – if not decades – of neglect from the prior operator, we have made real and measurable progress.

In the 12 months since assuming operation of the transmission and distribution system we: significantly improved worker safety, accelerated FEMA projects and launched the \$1 billion Community Streetlight Initiative, connected new customers to solar at a pace never seen in Puerto Rico, reduced the frequency of outages by 30%, established the LUMA College of Technical Training and graduated the next generation of skilled workforce, and created new tools and resources for our customers, including the Mi LUMA app, and dramatically reduced customer call wait times. This is just the beginning – we know we have more work to do. The LUMA team is excited about the future, and we are absolutely committed to delivering on our mission of building a better energy future for our 1.5 million customers.

LUMA operates government-owned transmission and distribution assets under a long-term agreement administered as part of a public-private partnership overseen by the P3 Authority and subject to regulatory oversight by the Puerto Rico Energy Bureau. This report outlines our key activities for Fiscal Year 2022, from July 1, 2021, to June 30, 2022.

Prioritizing Safety

We're getting workers the training they need to be effective while staying safe. We continue to see improvement in key safety metrics, including an 82% improvement in injury severity.

System Rebuild and Resiliency

We're repairing the most critical grid assets and advancing federally funded capital projects through design and engineering, including the launch of our \$1 billion+ Community Streetlight Initiative, replacing 12,000+ streetlights.

Improving Customer Satisfaction

We continue to create new paths to listen and respond to customers, including active engagement with Puerto Rico's 78 municipalities and customer-informed improvements to the Mi LUMA application.

Operational Excellence

We grew our skilled workforce through an expanded focus on specialized training, such as the development of an accredited apprenticeship and upskilling program and deployed our workforce more efficiently with process improvements.

Sustainable Energy Transformation

We continue to advance renewable energy in Puerto Rico by activating approximately 27,000 solar installations and collaborating in groundbreaking initiatives such as PR100.

Our Mission for Puerto Rico

To recover and transform the utility to deliver customer-centric, reliable, resilient, safe, and sustainable electricity at reasonable prices



PRIORITIZE SAFETY

Reform utility activities to support a strong safety culture focused on employee safety and the safety of the people of Puerto Rico



IMPROVE CUSTOMER SATISFACTION

Transform utility operations to deliver a positive customer experience and reliable electricity at reasonable prices



SYSTEM REBUILD & RESILIENCY

Effectively deploy federal funding to restore the grid and improve the resilience of vulnerable infrastructure



OPERATIONAL EXCELLENCE

Enable employees to pursue operational excellence through new systems, processes, and training



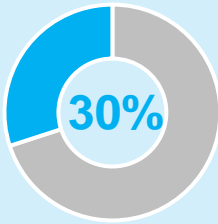
SUSTAINABLE ENERGY TRANSFORMATION

Modernize the grid and the utility to enable the sustainable energy transformation

A Year of Progress

In our first fiscal year, LUMA has delivered on promises, all without raising the customer base rate.

ENHANCING RELIABILITY



Reduced
**SERVICE
INTERRUPTIONS**
According to the System
Average Interruption
Frequency Index (SAIFI)

EXPANDED RENEWABLES

Connected
~27,000
CUSTOMERS
to rooftop solar, representing
approximately 130 MW



IMPROVED SAFETY

Achieved
67% OSHA Recordable
Injury Rate Improvement



140,000 hours
of in-class and on-the job training

INCREASED RESILIENCY

Replaced
3,000+
**BROKEN AND FAILING
UTILITY POLES**



BETTER CUSTOMER SERVICE

Registered
751,901 CUSTOMERS with a Mi
LUMA account, and the Mi LUMA app was
downloaded **261,885** times.

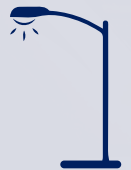
Answered
2,500,000+
CALLS with an average
wait time of **~3 minutes**



ADVANCED FEDERAL FUNDED PROJECTS

Launched
\$1,000,000,000
**COMMUNITY STREETLIGHT
INITIATIVE** in historic first
FEMA approval

Advanced
188
PROJECTS
representing billions of dollars
in investments



Prioritization of Safety and Training

- Achieved **67% improvement** in OSHA recordable injury rate, 72% in the Days Away Restricted and Transferred (DART) Rate, and 82% improvement in the Severity Rate (the measure of the level of severity of recordable injuries)
- Completed over **140,000 hours** of in-class and on-the job training
- Implemented the first **lineworker apprenticeship program** in Puerto Rico recognized by the US Department of Labor; Conducted thousands of hours of safety and technical training for employees as well as an upskilling program for line
- Implemented **Emergency Response Plan** utilizing National Incident Command System in cooperation with federal and Puerto Rico agencies. Three activations of the LUMA Emergency Operations Center
- Implemented a **Public Safety Program** through targeted communications and by initiating outreach to municipal and industrial workers and school-aged children
- Established the **LUMA College for Technical Training** which provides industry-leading educational opportunities for companies and individuals in charge of rebuilding electric power infrastructure in Puerto Rico with one goal in mind: to prepare the next set of lineworkers the people of Puerto Rico can rely on to rebuild and transform the current electric grid. The LUMA Lineworker Apprenticeship Program is Puerto Rico's first lineworker apprenticeship program to be certified by the U.S. Department of Labor in partnership with the IBEW Local 222



Improving Outreach and Response to Our Customers

- Reopened all **25 customer service centers**
- Responded to over **2.5 million customer calls**
- In FY2022, the average speed of answer was **approximately 3 minutes**
- Opened **4 contact centers**
- **751,901 customers registered** an electronic Mi LUMA account, and the Mi LUMA app was downloaded **261,885 times**
- **Launched a new customer bill** including transparency, color and multiple graphs and consumption comparisons
- Completed over **225,000 service orders** and reduced the backlog
- Increased overall **customer satisfaction by 129 points** in both in-person customer service and power quality and reliability (as measured by J.D. Power CSAT score)
- Received the **fewest claims for erroneous billing** in the history of Act 57-2014





Investing in the Communities We Serve

- Partnering with the **American Red Cross Puerto Rico**, **Boys and Girls Club of Puerto Rico** and the **Department of Education** to directly support community health, safety, and youth education in Puerto Rico
- Installing over **2,000 fire alarms** in homes across the island
- **Over 1,000 students** participated in the Plan for the Future and Diplomas to Degrees Programs
- Implementation of the **“Somos Luces” Program** – the Employee Giving and Company Matching Program – supporting local organizations and their community programs
- **Partnership with Electric Coop** (part of the League of Cooperatives of Puerto Rico) which allows for more than a hundred ELECTRICOOP employees to work together with LUMA to restore and repair the electricity grid



Advancing Capital Projects with Federal Funding

- Launched **\$1,000,000,000+ Community Streetlight Initiative** in historic first FEMA approval
- Advanced **188 federally funded projects** representing billions of dollars in investments
- Submitted **proposals for six 404 projects** to support enhanced sustainability and resiliency using technologies including advanced metering infrastructure (AMI), energy storage, and microgrids
- **Worked with FEMA and COR3** to maximize utilization of 406 hazard mitigation fund
- Obtained **15 funding obligations from FEMA** including materials with long lead times for delivery from the manufacturer

Sustainable Energy Transformation

- Connected **~27,000 customers to rooftop solar** representing approximately 130 MW
- Activated an average of approximately **2,200 new Net Metering installations per month**
- Completed studies to connect **844 MW of utility-scale generation** projects and an additional **220 MW of battery storage**
- LUMA received an additional **total of four utility-scale projects for Interconnection Studies**: 1 wind project and 3 solar projects totaling approximately 180 MWs
- Launched new **hosting capacity map on LUMA website** to provide customers insights to where to interconnect renewable generation
- Participated and collaborated with the DOE, FEMA and local stakeholders to develop Puerto Rico's roadmap to **grid resilience and transition to 100% renewables by 2050**



Repairing, Restoring & Rebuilding the Electric Grid

- **Replaced 3,000+ broken and failing utility poles**
- **Enhanced reliability** by reducing the frequency of service interruptions (SAIFI) by 30% as compared to the previous operator
- Worked with FEMA to include **vegetation clearance for FEMA funded projects**
- Deployed strategy and commenced **the installation of distribution automation devices**
- Commenced the **FEMA funded distribution pole replacement program**
- **Replaced or repaired nearly 2,000 fleet vehicles** to meet safety and technical requirements



FY2022 Financial Performance

In Fiscal Year 2022 LUMA spent within our aggregate Approved Budget and did not request an increase of the Base Rate established by the Energy Bureau's 2017 Rate Order.

Summary of Annual Spending (\$ millions)

	FY2022 Approved Budget ¹	FY2022 Actuals	Variance (\$)	Variance (%)
Transmission & Distribution				
Total Operating Expenditures	\$ 573.7	\$ 549.7		
Non-Federally Funded Capital Expenditures	\$ 77.3	\$ 97.8		
Subtotal	\$ 651.0	\$ 647.5	\$ 3.5	1%
Federally Funded Capital Expenditures	\$ 650.4	\$ 59.0	\$ 591.4	91%

¹ FY 2022 August 3, 2022 Approved Budget figures above include 2% Reserve for Excess Expenditures and Interim Costs and Expenses.

Transmission & Distribution Operating Expenditures (\$ millions)

	FY2022 Approved Budget	FY2022 Actuals	Variance (\$)	Variance (%)
Labor				
Salaries, Wages and Benefits	278.2	260.7	17.5	
Total Labor	\$ 278.2	\$ 260.7	\$ 17.5	6%
Non-Labor				
Materials & Supplies	26.9	30.7	(3.8)	
Transportation, Per Diem, and Mileage	27.9	24.7	3.2	
Property & Casualty Insurance	15.5	14.9	0.6	
Security	15.1	11.8	3.3	
IT Service Agreements	18.4	11.9	6.5	
Utilities & Rents	15.0	15.2	(0.2)	
Legal Services	7.4	7.1	0.3	
Communications Expenses	1.7	2.3	(0.6)	
Professional & Technical Outsourced Services	86.0	96.4	(10.4)	
Vegetation Management	49.4	50.9	(1.5)	
Regulation and Environmental Inspection	0.3	0.3	(0.0)	
Other Miscellaneous Expenses	20.6	22.7	(2.1)	
Other Expenses	-	-	-	
Total Non-Labor / Other Operating Expense	\$ 284.2	\$ 289.0	\$ (4.7)	(2%)
Subtotal	\$ 562.5	\$ 549.7	\$ 12.8	2%
2% Reserve for Excess Expenditures	11.2	-	11.2	
Total Operating Expenditures	\$ 573.7	\$ 549.7	\$ 24.0	4%

Operating Expenditures by Department

Customer Experience Operational Expenditures (\$ millions)

LUMA's Customer Experience Department is core to LUMA's mission to deliver customer-centric, reliable, resilient, safe, and sustainable electricity through implementation of appropriate communication protocols and standard billing and collection practices that personify courtesy, capture efficiencies, and create proactive solutions for customers.

	FY2022 Approved Budget	FY2022 Actuals	Variance (\$)	Variance (%)
Labor				
Salaries, Wages and Benefits	36.9	38.3	(1.4)	
Total Labor	\$ 36.9	\$ 38.3	\$ (1.4)	(4%)
Non-Labor				
Materials & Supplies	0.3	0.2	0.0	
Transportation, Per Diem, and Mileage	0.5	0.5	(0.1)	
Property & Casualty Insurance	-	-	-	
Security	-	-	-	
IT Service Agreements	0.9	0.9	(0.0)	
Utilities & Rents	1.6	1.4	0.3	
Legal Services	-	0.0	(0.0)	
Communications Expenses	0.1	0.0	0.1	
Professional & Technical Outsourced Services	22.0	19.1	2.9	
Vegetation Management	-	-	-	
Regulation and Environmental Inspection	-	-	-	
Other Miscellaneous Expenses	0.2	0.3	(0.0)	
Other Expenses	-	-	-	
Total Non-Labor / Other Operating Expense	\$ 25.6	\$ 22.5	\$ 3.2	12%
Total Operating Expense	\$ 62.5	\$ 60.8	\$ 1.8	3%

Key activities accomplished:

- LUMA generated over 14 million bills and processed payments totaling over \$3.5 billion throughout FY2022
- Reduced billing objections by more than 60%
- Made more than 12,000 outreach contacts to mayors
- Created over 12,200 payment arrangements and completed over 240,000 outbound collections calls
- Serviced 2 million customers through the customer service centers

The Customer Experience Department's operational costs were slightly higher than budgeted for labor as the team continued to expend significant effort on stabilizing and investigating the configuration and control issues identified in the Customer Care & Billing (CC&B) system. This was offset by professional and technical costs that were under budget for the year, primarily due to the CC&B monthly reporting cadence limiting the improvement workstreams as well as efficiencies and cost-saving initiatives implemented during the last two quarters of the year.

Operations Operating Expenditures (\$ in millions)

The Operations Department oversees and manages the day-to-day work on the transmission and distribution infrastructure critical to providing safe and reliable electric service to all our 1.5 million customers. Overall, the highest priority of LUMA operations continues to be the safety of our workforce and our customers, while also taking actions to also address reliability and resiliency issues.

	FY2022 Approved Budget	FY2022 Actuals	Variance (\$)	Variance (%)
Labor				
Salaries, Wages and Benefits	163.0	152.6	10.4	
Total Labor	\$ 163.0	\$ 152.6	\$ 10.4	6%
Non-Labor				
Materials & Supplies	23.7	28.2	(4.5)	
Transportation, Per Diem, and Mileage	24.9	20.7	4.2	
Property & Casualty Insurance	-	-	-	
Security	0.0	0.1	(0.1)	
IT Service Agreements	0.0	0.0	(0.0)	
Utilities & Rents	7.1	6.9	0.1	
Legal Services	-	0.0	(0.0)	
Communications Expenses	0.1	0.1	(0.0)	
Professional & Technical Outsourced Services	29.0	32.4	(3.4)	
Vegetation Management	49.4	50.9	(1.5)	
Regulation and Environmental Inspection	0.3	0.3	(0.0)	
Other Miscellaneous Expenses	0.7	1.4	(0.7)	
Other Expenses	-	-	-	
Total Non-Labor / Other Operating Expense	\$ 135.2	\$ 141.1	\$ (6.0)	(4%)
Total Operating Expense	\$ 298.2	\$ 293.8	\$ 4.4	1%

Key activities accomplished:

- Replaced approximately 3,000 poles (nearly doubling the number replaced by Puerto Rico Electric Power Authority (PREPA) over a comparable 12-month period)
- Maintained (trimmed, conducted preventative vegetation control activities, etc.) over 900 miles of vegetation, of which 173 miles involved re-establishing the transmission Right-of-Way (ROW)
- Repaired and energized Canas Substation and three substations within the San Juan Municipality and cleared 300+ substations of overgrown vegetation and debris in order to improve operations
- Performed maintenance on seven transmission lines including the inspection of 781 structures, guy wires, and anchor rods, aimed at improving system reliability
- Addressed issues on six of the 37 worst performing feeders, replacing or restoring 25 percent of 756 previously identified deficiencies
- Responded to over 37,000 Outage Events and launched new dispatch function, with extensive training in order to manage 24/7 outage response and urgent dispatch for an average of 150 events per day
- Implemented upskilling and mentorship programs for technicians, line workers, apprentices and mechanics, among others
- Introduced more efficient management of inventory as well as training all warehouse staff on Department of Transportation (DOT) Compliance, and Forklift and Crane Operations

Operations underspent its revised FY2022 budget by \$4.4 million through the implementation of strict cost controls, significant staffing adjustments and ramping up new LUMA Vegetation Management contractors with more favorable rates. Expenditures exceeded budget for Materials and Supplies and Professional and Technical Outsourced Services due to significant shortages of tools and equipment that had to be immediately addressed at commencement. This was necessary in order for employees to have the appropriate tools, supplies, equipment, and Personal Protective Equipment necessary to work safely and efficiently.

Utility Transformation Operating Expenditures (\$ in millions)

LUMA's Utility Transformation Department provides the technical, engineering, and programmatic framework required to deliver safe, reliable resilient and clean energy service to our 1.5 million customers, supports key initiatives as defined in the System Remediation Plan (SRP) and maintains focus on the long-range vision articulated in the Integrated Resource Plan (IRP). This department also plans and implements the capital investment programs, including all federally funded work on the electric grid.

	FY2022 Approved Budget	FY2022 Actuals	Variance (\$)	Variance (%)
Labor				
Salaries, Wages and Benefits	32.1	31.6	0.5	
Total Labor	\$ 32.1	\$ 31.6	\$ 0.5	2%
Non-Labor				
Materials & Supplies	0.2	0.4	(0.2)	
Transportation, Per Diem, and Mileage	1.0	1.4	(0.4)	
Property & Casualty Insurance	-	-	-	
Security	0.0	0.0	0.0	
IT Service Agreements	0.0	0.0	(0.0)	
Utilities & Rents	1.4	1.3	0.1	
Legal Services	-	0.0	(0.0)	
Communications Expenses	0.0	0.0	(0.0)	
Professional & Technical Outsourced Services	4.9	4.0	0.9	
Vegetation Management	-	-	-	
Regulation and Environmental Inspection	-	-	-	
Other Miscellaneous Expenses	0.3	0.5	(0.1)	
Other Expenses	-	-	-	
Total Non-Labor / Other Operating Expense	\$ 7.8	\$ 7.6	\$ 0.2	2%
Total Operating Expense	\$ 39.9	\$ 39.2	\$ 0.7	2%

Key activities accomplished:

- Completed system and asset planning studies necessary to confirm improvement plan project scopes, functional specifications, and prioritize project activities
- Created engineering design standards and equipment specifications to enable project engineering and material procurement to address unanticipated work not completed by PREPA prior to LUMA start of operations
- Developed a steady-state transmission network model to perform system-level analysis, including contingency, load transfer, renewable interconnection, and system risk studies
- Managed the turnaround of the Net Energy Metering (NEM) Program, resolving the backlog left by PREPA of over 8,000 customer applications, and connecting approximately 27,000 customers to NEM in FY2022

For FY2022, the Utility Transformation Department's labor and non-labor operational costs did not deviate significantly from the budget for the department.

Support Services Operating Expenditures (\$ in millions)

LUMA's Support Services functions enable the delivery of electric service by supporting the whole business. These include safety, emergency management, Information Technology and Operations Technology (IT OT), environmental, legal, procurement, regulatory and other areas that are imperative to LUMA's success in meeting its mission and achieving its key goals.

	FY2022 Approved Budget	FY2022 Actuals	Variance (\$)	Variance (%)
Labor				
Salaries, Wages and Benefits	46.2	38.2	8.0	
Total Labor	\$ 46.2	\$ 38.2	\$ 8.0	17%
Non-Labor				
Materials & Supplies	2.7	1.9	0.8	
Transportation, Per Diem, and Mileage	1.5	2.0	(0.5)	
Property & Casualty Insurance	15.5	14.9	0.6	
Security	15.0	11.7	3.4	
IT Service Agreements	17.5	11.0	6.5	
Utilities & Rents	5.0	5.6	(0.6)	
Legal Services	7.4	7.1	0.3	
Communications Expenses	1.6	2.2	(0.6)	
Professional & Technical Outsourced Services	30.1	40.9	(10.8)	
Vegetation Management	-	-	-	
Regulation and Environmental Inspection	-	-	-	
Other Miscellaneous Expenses	19.3	20.5	(1.2)	
Other Expenses	-	-	-	
Total Non-Labor / Other Operating Expense	\$ 115.7	\$ 117.7	\$ (2.1)	(2%)
Total Operating Expense	\$ 161.8	\$ 155.9	\$ 5.9	4%

Key activities accomplished:

- Significantly improved safety performance through enhanced training and investment in employee development
- Launched the Supplier's Portal on the Mi LUMA website. This new portal allows suppliers to access procurement events as well as vendor registry requirements
- Implemented the "Somos Luces" Program – the Employee Giving and Company Matching Program – supporting local organizations in their community programs
- Enhanced Oracle to allow for automation of data transfers to streamline financial transaction processing
- Centralized facility management across LUMA to manage efficient usage of assets
- Prepared and submitted over 420 Regulatory filings to the Puerto Rico Energy Bureau (PREB) across over 40 dockets and participated in over 50 technical conferences, workshops, and evidentiary hearings with the PREB
- Complied with all information requests by the Puerto Rico House of Representatives and Senate and provided more than 250,000 pages of detailed reports and financial information to the legislature as well as participated in a high number of hearings

Labor costs for the Support Services department were lower than budget as it took longer than anticipated to hire and onboard qualified employees with the required skills. As a result, the costs of professional & technical outsourced services and communications were higher compared to budget mainly due to need to contract additional skilled support to complete critical functions and respond to unprecedented volume of external requests. The higher miscellaneous costs are mainly related to higher bank fees and moving, cleanup, and debris removal costs associated with office buildings. These increases were offset by lower than anticipated costs incurred for materials & supplies, security, and IT service agreements.

Transmission & Distribution Capital Expenditures — Federally and Non-Federally Funded (\$ millions)

	Federally Funded Capital				Non-Federally Funded Capital			
	FY2022 Approved Budget	FY2022 Actuals ¹	Variance (\$)	Variance (%)	FY2022 Approved Budget	FY2022 Actuals	Variance (\$)	Variance (%)
Improvement Portfolio								
Customer Experience	82.7	10.0	72.7		10.5	13.9	(3.4)	
Distribution	199.2	6.3	192.9		18.2	24.4	(6.1)	
Transmission	235.9	13.4	222.5		2.5	3.7	(1.2)	
Substations	89.1	15.1	74.0		4.2	9.0	(4.8)	
Control Center & Buildings	9.3	2.3	7.0		2.5	3.6	(1.1)	
Enabling	17.1	11.6	5.5		30.6	34.2	(3.6)	
Support Services	4.3	0.4	3.9		7.3	9.1	(1.8)	
Subtotal	\$ 637.7	\$ 59.0	\$ 578.6	91%	\$ 75.8	\$ 97.8	\$ (22.0)	(29%)
Other								
2% Reserve for Excess Expenditures	12.8	-	12.8		1.5	-	1.5	
Total Capital Expenditures	\$ 650.4	\$ 59.0	\$ 591.4	91%	\$ 77.3	\$ 97.8	\$ (20.5)	(27%)

¹ Figures may not add due to rounding.

The financial information provided within this report has not been subject to audit, and this information is not appropriate for unintended purposes. The limitations and lack of integration of PREPA's financial and related systems and identified pre-existing control gaps may also affect the overall accuracy of reported results.

FY2022 Improvement Programs

The grid inherited from PREPA could not be operated immediately according to Prudent Utility Practice and minimum industry standards. LUMA's Improvement Programs¹ were designed to address the significant and substantial gaps identified and bring the utility's operations and assets up to a minimum industry standard. Program spending includes operating expenditures and capital costs within the FY2022 budget and is included in the 2021 Fiscal Plan approved by the FOMB in June 2021.

Improvement Portfolio Summary (\$ millions)

Portfolio	FY2022 Approved Budget				FY2022 Actuals				FY2022 Total Variance	
	FY2022 Federally Funded CapEx	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	FY2022 Federally Funded CapEx ¹	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	\$	%
Customer Experience	\$ 82.7	\$ 10.5	\$ 11.6	\$ 104.8	\$ 10.0	\$ 13.9	\$ 12.7	\$ 36.6	\$ 68.2	65%
Distribution	\$ 199.2	\$ 18.2	\$ 0.2	\$ 217.7	\$ 6.3	\$ 24.4	\$ 1.0	\$ 31.6	\$ 186.1	85%
Transmission	\$ 235.9	\$ 2.5	\$ 0.6	\$ 239.0	\$ 13.4	\$ 3.7	\$ 0.4	\$ 17.6	\$ 221.4	93%
Substation	\$ 89.1	\$ 4.2	\$ 1.7	\$ 95.0	\$ 15.1	\$ 9.0	\$ 1.4	\$ 25.5	\$ 69.5	73%
Control Center & Buildings	\$ 9.3	\$ 2.5	\$ 4.3	\$ 16.1	\$ 2.3	\$ 3.6	\$ 4.5	\$ 10.4	\$ 5.8	36%
Enabling	\$ 17.1	\$ 30.6	\$ 119.5	\$ 167.2	\$ 11.6	\$ 34.2	\$ 119.2	\$ 165.0	\$ 2.2	1%
Support Services	\$ 4.3	\$ 7.3	\$ 71.8	\$ 83.5	\$ 0.4	\$ 9.1	\$ 80.8	\$ 90.3	\$ (6.8)	(8%)
Total	\$ 637.7	\$ 75.8	\$ 209.8	\$ 923.2	\$ 59.0	\$ 97.8	\$ 220.0	\$ 376.9	\$ 546.3	59%

¹ Figures may not add due to rounding.

Customer Experience Improvement Portfolio Summary (\$ millions)

Program	FY2022 Approved Budget				FY2022 Actuals				FY2022 Variance	
	FY2022 Federally Funded CapEx	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	FY2022 Federally Funded CapEx	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	\$	%
Distribution Streetlighting	80.0	5.8	-	85.8	9.8	7.6	-	17.5	\$ 68.3	
Billing Accuracy & Back Office	-	1.7	10.5	12.2	-	1.4	10.5	11.9	\$ 0.3	
Standardized Metering & Meter Shop Setup	0.3	0.0	0.4	0.7	-	0.0	0.7	0.8	\$ (0.1)	
AMI Implementation Program	-	0.2	-	0.2	0.1	0.1	-	0.2	\$ (0.0)	
Programs <5% of Portfolio Total	2.4	2.8	0.7	6.0	0.0	4.8	1.5	6.3	\$ (0.3)	
Total	\$ 82.7	\$ 10.5	\$ 11.6	\$ 104.8	\$ 10.0	\$ 13.9	\$ 12.7	\$ 36.6	\$ 68.2	65%

¹ These programs were developed in late 2020, subsequently reviewed and approved by P3 Authority, and then reviewed and approved by the Energy Bureau as part of the Initial Budgets in docket NEPR-MI-2021-0004 and the System Remediation Plan in docket NEPR-MI-2020-0019. Within these programs, specific project initial SOWs for federally funded projects have been submitted for review and approval by the Energy Bureau in docket NEPR-MI-2021-0002. Detailed information on the budget, the System Remediation Plan and the implementation of federally funded capital investments is publicly available on PREB's website for the corresponding dockets.

Customer Experience Improvement Portfolio activities have made progress to enhance the customer experience including the Distribution Streetlighting program, the Billing Accuracy and Back Office program, the Standardized Metering and Meter Shop Setup program, and the Advanced Metering Infrastructure (AMI) Implementation program.

The **Distribution Streetlighting** program upgrades and replaces distribution streetlights. Key FY2022 activities include completing high-level assessments in 13 municipalities and submitting 16 projects to FEMA for FAASt numbers and 1 Streetlight projects to FEMA for approval. Five projects were approved/obligated by FEMA in FY2022. The development of a new streetlight application based on Field Maps (ESRI GIS platform) was completed to use for data collection and planning work. A quality organization and process for field assessment inspections was built and is being implemented. The total spend is lower than anticipated because the process to identify, evaluate, and complete contracts with contractors that meet FEMA requirements took longer than expected. Construction work started in mid-June 2022.

The **Billing Accuracy and Back Office** program includes updates to print and delivery of bills and other back-office systems to improve the accuracy and timeliness of customer invoices. This upgrade includes the acquisition of new hardware and software to support billing and customer contracts, along with removing redundant bill printing and enveloping equipment. Key activities accomplished in FY2022 include successfully outsourcing bill print and delivery, completing initial review of CC&B functionality, launching CC&B optimization efforts, centralizing back-office and billing functions in 25+ offices around the island, training more than 100 people and documenting more than 40 procedures and processes, and successfully launched the new LUMA bill. The spend for this program is in line with budget and variance is immaterial.

The **Standardized Metering and Meter Shop Setup** program is targeted at establishing a location for standardized meter testing and the provision of appropriate internal and external meter testing equipment. Key fiscal year activities include recovering, repairing, and calibrating all meter test equipment, testing 33,401 used meters, and developing the Quality Management System resulting in improved and more accurate metering across all customers. The spending for this program is slightly higher than anticipated due to additional component replacements and annual re-certification charges.

The **AMI Implementation** program establishes two-way remote meter reading reporting and control capabilities. Key FY2022 activities include applying for federal funding from the Department of Housing and Urban Development (HUD) Community Development Block Grant Disaster Recovery (CDBG-DR) program, development of cost analysis for implementation, and development of a business case for FEMA and HUD funds projecting AMI Implementation. The variance for this program is immaterial. As of year-end, the decision from the federal agencies is still outstanding.

Distribution Improvement Portfolio Summary (\$ millions)

Program	FY2022 Approved Budget				FY2022 Actuals				FY2022 Total Variance	
	FY2022 Federally Funded CapEx	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	FY2022 Federally Funded CapEx	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	\$	%
Distribution Line Rebuild	81.7	2.7	0.1	84.5	2.1	5.2	0.8	8.1	\$ 76.4	
Distribution Pole and Conductor Repair	85.1	14.2	0.2	99.5	2.2	17.7	0.2	20.1	\$ 79.4	
Distribution Automation	12.7	1.4	-	14.0	0.8	0.7	-	1.5	\$ 12.6	
Distribution Lines Assessments	19.7	-	-	19.7	1.2	0.8	-	2.0	\$ 17.7	
Programs <5% of Portfolio Total	-	-	-	-	-	-	-	-	\$ -	
Total	\$ 199.2	\$ 18.2	\$ 0.2	\$ 217.7	\$ 6.3	\$ 24.4	\$ 1.0	\$ 31.6	\$ 186.1	85%

The Distribution portfolio focuses on improving the low voltage system including Distribution Line Rebuild, Distribution Pole and Conductor Repair, Distribution Automation, and Distribution Line Assessments.

The **Distribution Line Rebuild** program replaces overhead and underground distribution lines by performing distribution line upgrades to improve reliability and resiliency, restoring out of service circuits, completing unfinished circuit construction presently abandoned, performing circuit voltage conversions to improve distribution capacity, building new distribution line extensions to connect new customers, and installing underground cable and/or tree wiring to improve

service reliability and resiliency to critical customers. Key FY2022 activities include completing reliability analysis on 177 feeders, planning and analysis on 158 feeders, Quality Assurance stage for reliability analysis on 146 feeders, quality assurance stage for planning analysis on 156 feeders, task order SOW on 67 feeders and the receipt of FEMA approvals for 4 projects (24 feeders). Variance is mainly due to additional engineering activities required and procurement taking longer than anticipated because of the complex nature of federal procurement requirements and processes.

The **Distribution Pole & Conductor Repair** program focuses on minimizing the safety hazard caused by distribution poles and conductors that need to be repaired or replaced. Major repairs and replacement will be based on the results of assessment analyses by engineers. Following this process, safety hazards and priority poles will be replaced, along with damaged conductors and hardware. Key FY2022 activities include the replacement of approximately 3,000 poles including emergency repairs conducted by operations. The variance was mainly due to the formulation of new Work Order packages being delayed by the implementation of a new tool to validate the structural compliance of the designs.

This **Distribution Automation** program focuses on establishing equipment for distribution automation. Key FY2022 activities include the commissioning of seven reclosers, the installation of three single-phase reclosers, and the installation of 84 fault current indicators. At the end of the fiscal year, 136 reclosers in various stages of planning and engineering with seven completed and in-service and 1,108 feeders have been identified for reclosers installations. Variance is mainly due to additional engineering activities required and procurement taking longer than anticipated because of the complex nature of federal procurement requirements and processes. Additionally, delays in equipment deliveries caused by manufacturing process deferrals and supply chain issues contributed to the variance.

The **Distribution Lines Assessments** program is targeted at the assessment, testing and study of distribution lines, along with required spot repairs and replacements. Key FY2022 activities include the assessment of 642 distribution feeders representing 57% of the currently identified 1,128 feeder assessments required. The spend for this program is slightly lower than anticipated mainly due to the delay of the Preliminary Engineering Data Collection RFP, which will be reissued. Offsetting this are the distribution line assessments which are progressing faster than anticipated and assessment results were used to assess, prioritize, and develop capital improvement plans.

Transmission Improvement Portfolio Summary (\$ millions)

Program	FY2022 Approved Budget				FY2022 Actuals				FY2022 Total Variance		
	FY2022 Federally Funded CapEx	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	FY2022 Federally Funded CapEx	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	\$	%	
IT OT Telecom Systems & Network	134.6	-	0.6	135.2	0.7	0.5	0.4	1.6	\$	133.6	
Transmission Line Rebuild	52.0	-	0.0	52.0	12.2	0.9	0.0	13.1	\$	38.9	
Transmission Priority Pole Replacements	46.1	2.5	-	48.6	0.2	2.1	-	2.3	\$	46.3	
Programs <5% of Portfolio Total	3.2	-	-	3.2	0.3	0.2	-	0.5	\$	2.6	
Total	\$ 235.9	\$ 2.5	\$ 0.6	\$ 239.0	\$ 13.4	\$ 3.7	\$ 0.4	\$ 17.6	\$	221.4	93%

The Transmission portfolio focuses on improving system recovery, resilience, and transformation through the IT OT Telecom Systems and Network program, the Transmission Line Rebuild program, and the Transmission Priority Replacements program.

The **IT OT Telecom Systems & Network** program includes IT and OT telecom investments to improve and revamp the systems used to carry T&D system IT and OT data. Key FY2022 activities include scoping and procurement of technical specifications for major programs (Transport Network, Microwave, Land Mobile Radio), and completing and publishing engineering specifications to be used by major stakeholders and designers for towers, fiber optic, OSP, substation, telecom enclosures, amongst others. Variance is mainly due to the time required for LUMA to define and finalize the planning phase of the program which is taking longer than anticipated.

The **Transmission Line Rebuild** program focuses on rebuilding, hardening, and upgrading 230 kV, 115 kV and 38 kV transmission infrastructure. Key FY2022 activities include the preparation of functional specifications for 42 transmission

line rebuild projects, obtaining PREB approval and initiating the FEMA approval process for 38 projects, and submitting detailed SOWs to FEMA for one project. Variance is mainly due to additional engineering activities required and procurement taking longer than anticipated because of the complex nature of federal procurement requirements and processes.

The **Transmission Priority Pole Replacements** program includes activities to replace damaged overhead transmission poles and towers, along with associated hardware and conductors. Key FY2022 activities include assessments of 284 transmission lines through the High-Level Assessment Program and completing five detailed SOWs which have been submitted to FEMA awaiting approval. Variance is mainly due to data analysis, engineering, and standards reviews required for project scope definition taking longer than anticipated and procurement taking longer than anticipated because of the complex nature of federal procurement requirements and processes.

Substations Improvement Portfolio Summary (\$ millions)

Program	FY2022 Approved Budget				FY2022 Actuals				FY2022 Total Variance	
	FY2022 Federally Funded CapEx	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	FY2022 Federally Funded CapEx	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	\$	%
Distribution Substation Rebuild	25.0	-	-	25.0	0.9	0.4	-	1.3	\$ 23.7	
Transmission Substation Reliability Improvements	17.0	2.0	-	19.0	0.4	1.2	-	1.5	\$ 17.5	
Transmission Substation Security	12.9	0.1	1.4	14.5	0.1	0.1	1.0	1.3	\$ 13.2	
Compliance & Studies	6.3	0.4	0.3	6.9	7.0	5.2	0.4	12.6	\$ (5.6)	
Transmission Substation Rebuilds	24.0	0.9	-	24.9	6.7	1.6	-	8.3	\$ 16.6	
Programs <5% of Portfolio Total	3.8	0.8	-	4.6	0.1	0.5	-	0.6	\$ 4.0	
Total	\$ 89.1	\$ 4.2	\$ 1.7	\$ 95.0	\$ 15.1	\$ 9.0	\$ 1.4	\$ 25.5	\$ 69.5	73%

The Substation portfolio aims to improve system resiliency and safety while rebuilding, hardening, and modernizing substations through the Transmission Substation Rebuilds program, the Distribution Substation Rebuild program, the Transmission Substation Reliability Improvements program, the Transmission Substation Security program, and the Compliance and Studies program.

The **Transmission Substation Rebuilds** program covers the required assessment, repair and rebuilding of damaged substations while making upgrades to meet the latest codes, industry standards and practices to improve long term reliability. Key FY2022 activities include completing planning analysis, developing functional specifications for 18 substations, conducting field assessments, submitting seven projects to FEMA and receiving FEMA funding obligations for three projects. Variance is mainly due to additional engineering activities required and procurement taking longer than anticipated because of the complex nature of federal procurement requirements and processes.

The **Distribution Substation Rebuilds** program focuses on improvements to distribution substations as a means to strengthen the distribution grid. Key FY2022 activities include completing planning analysis, developing functional specifications, conducting field assessments, submitting a total of three projects submitted to FEMA and receiving FEMA funding obligation for one project. Variance is mainly due to additional engineering activities required and procurement taking longer than anticipated because of the complex nature of federal procurement requirements and processes.

The **Transmission Substation Reliability Improvements** program covers upgrades and reinforcement to the existing and aging system infrastructure to improve system reliability. Key FY2022 activities include completing high-level assessments for 113 substation sites and developing plans to replace aging high-voltage infrastructures that are deemed end-of-life and have poor condition assessment ratings. The spend for this program is lower than anticipated mainly due to the development of the material and equipment specification requirements to align with industry codes and standards and procurement taking longer than anticipated because of the complex nature of federal procurement requirements and processes.

The **Transmission Substation Security** program will focus on security at transmission substations. The program will replace and add new security technology and hardware to deter, detect and delay security incidents. Key FY2022 activities include the replacement of substation gate padlocks with a key control process, two rounds of preventative

vegetation control activities at critical substations, and submitting three detailed SOWs and class 3 estimates for a total of 10 substations to FEMA. Variance is mainly due to engineering activities being delayed versus budget as LUMA completes the procurement process for FEMA-compliant engineering services.

The **Compliance & Studies** program consists of T&D system studies focused on eliminating major cascading outages caused by a lack of proper coordination of protective devices; implementing new procedures and standards to ensure the T&D system complies with regulations and Prudent Utility Practice; and completing studies, procedures and standards for substations and transmission compliance. Key FY2022 activities include the creation, distribution, coordination and documentation of study guidelines and standards, developing a strategy to identify coordination issues at feeders, developing functional specifications, conceptual single line diagrams, and protection and metering diagrams, developing a fusing strategy to replace and document distribution line fusing to ensure coordination with mainline breaker. The program accomplished the following: Fusing – 152 site visits with a total of 105 placements, Wide Area Protection – 230kV work orders sent to the field, 115kV work orders under development, with field implementation to start in FY23. 38kV model validation is underway. Additionally, performed NERC TPL-001-4 standard study to determine major issues with the transmission system and measures to achieve a secure and more reliable system and NERC CIP-014-2 standard study. Distribution load evaluations were completed for eight projects. Transmission load evaluations were evaluated for 28 projects. Variance is mainly due to additional effort required to advance studies, procedures, and standards in support of federally funded and non-federally funded project work that was assumed to have been completed by PREPA when the FY2022 budget was prepared.

Control Center & Buildings Improvement Portfolio Summary (\$ millions)

Program	FY2022 Approved Budget				FY2022 Actuals				FY2022 Total Variance	
	FY2022 Federally Funded CapEx	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	FY2022 Federally Funded CapEx	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	\$	%
Facilities Development & Implementation	7.8	2.3	2.0	12.2	0.2	2.3	1.2	3.7	\$ 8.5	
Critical Energy Management System Upgrades	0.5	0.1	0.0	0.7	1.4	1.0	0.0	2.4	\$ (1.7)	
Control Center Construction & Refurbishment	1.0	-	-	1.0	0.6	0.4	-	1.0	\$ (0.0)	
Programs <5% of Portfolio Total	-	-	2.3	2.3	0.0	0.0	3.2	3.2	\$ (1.0)	
Total	\$ 9.3	\$ 2.5	\$ 4.3	\$ 16.1	\$ 2.3	\$ 3.6	\$ 4.5	\$ 10.4	\$ 5.8	36%

The Control Center and Buildings portfolio focuses on building the necessary infrastructure to deliver economic and reliable energy and to meet applicable laws and regulations through the Facilities Development and Implementation program, the Critical Energy Management System Upgrades program, and the Control Center Construction and Refurbishment program.

The **Facilities Development & Implementation** program is focused on the construction required to remediate facilities and real property. Key FY2022 activities include excessive debris removal, set up of functioning working spaces across Puerto Rico, implementation of emergency evacuation action plan, facilities management recruitment and training, receipt of approval from PREB for all facilities federally funded projects, and submission of all 11 detailed SOWs to FEMA for funding obligation. The spending for this program is lower than anticipated mainly due to the reprioritization of funding to account for the backlog of work and skills gaps uncovered at commencement.

The **Critical Energy Management System (EMS) Upgrades** program will replace an obsolete and unsupported EMS and add relevant technology to operate the electric system safely and reliably. Key FY2022 activities include completing the RFI and RFP process for the replacement of the EMS including vendor evaluation and selection, obtaining a project number from FEMA, and submitting a detailed SOW to FEMA. The spend for this program is higher than anticipated mainly due to the acceleration of this program.

The **Control Center Construction & Refurbishment** program is targeted at the construction or refurbishment of buildings to house the main and backup control centers and all ancillary support services. Key FY2022 activities include defining the control center building criteria and project requirements on the basis of the design document, identifying the

site requirements and location criteria for the primary and secondary control center buildings, initiating contract negotiations following the selection of the Architectural & Engineering vendor, and selecting the primary control center site. The spend for this program has no material variance.

Enabling Improvement Portfolio Summary (\$ millions)

Program	FY2022 Approved Budget				FY2022 Actuals				FY2022 Total Variance	
	FY2022 Federally Funded CapEx	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	FY2022 Federally Funded CapEx	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	\$	%
Vegetation Management	-	-	51.7	51.7	-	-	50.9	50.9	\$ 0.7	
T&D Fleet	1.6	14.8	28.1	44.5	0.0	15.5	30.1	45.6	\$ (1.1)	
Capital Programs, PMO & Funding Management Office Setup	11.5	0.3	-	11.7	10.1	0.6	-	10.7	\$ 1.1	
Tools Repair & Management	-	10.7	-	10.7	-	12.3	-	12.3	\$ (1.5)	
HSEQ and Technical Training	-	-	38.0	38.0	-	-	37.2	37.2	\$ 0.9	
Programs <5% of Portfolio Total	4.1	4.8	1.7	10.6	1.5	5.9	1.1	8.5	\$ 2.1	
Total	\$ 17.1	\$ 30.6	\$ 119.5	\$ 167.2	\$ 11.6	\$ 34.2	\$ 119.2	\$ 165.0	\$ 2.2	1%

The Enabling portfolio of investment projects focuses on safety and operational excellence through the Vegetation Management program; the T&D Fleet program; the Capital Programs, Project Management Office (PMO), and Funding Management Office Setup program; the Tools Repair and Management program; and the Health Safety Environment & Quality (HSEQ) and Technical Training program.

The **Vegetation Management** program includes work to abate or mitigate immediate vegetation risk in critical locations, along with an ongoing program to clear and re-establish ROWs to standard widths. Key FY2022 activities include renegotiating vegetation management contracts resulting in an average 30 percent reduction in rates, maintaining over 900 miles of vegetation, clearing vegetation and debris at all substation locations not included in the physical security program, and completing two rounds of preventative vegetation control activities at each substation site. There was no material variance for this program.

The **T&D Fleet** program includes activities and investments to bring the current vehicle, aircraft, and equipment fleet up to industry standards and is focused on initializing and improving processes for data collection, repair, and maintenance of these assets. Key FY2022 activities include conducting all required training for fleet employees, completing inspections and certifications of all available fleet assets in accordance with Puerto Rico's DOT and Public Works (DTOP), USDOT and American National Standards Institute (ANSI) standards. Additionally, LUMA purchased or rented new vehicles, as necessary, to ensure a right-sized, fit-for-purpose fleet, reduced the previously unaccounted for vehicles from over 2,000 to less than 700, placed 16 repair and maintenance facilities into operations and upgraded them to meet industry standards and implemented fleet management software. There was no material variance in the budget to actuals for this program.

The **Capital Programs, PMO & Funding Management Office Setup** program includes the activities to create a dedicated Capital Programs Department to manage a large number of capital improvement projects to be undertaken. The office was created and worked on the submission and creation of all FEMA funded projects, project formulation, contract administration, field supervision, estimates, benefit-cost analysis, independent cost estimates, schedules and creating work order packages. Reporting tools were developed to keep track of schedule milestones, financial performance and project expenditure and overall project tracking. Key FY2022 activities include building up the program management, portfolio management and related activities for Capital Programs work; implementation of core PMO processes, procedures, tools, templates for managing capital projects; implementation of project management, scheduling, cost control, contract administration and reporting; and implementation of new document control system for capital project work. There was no material variance for this program.

The **Tools Repair & Management** program focuses on a Personal Protective Equipment (PPE) and tooling plan to address safety needs along with putting in place a better system for managing PPE and tools including a centralized Tool and Equipment Crib system. Key FY2022 activities include inventorying 85% of the tools that comprise LUMA's tool crib,

purchasing required PPE to support field staffing levels (include high-priority PPE and necessary equipment for employees to work safely and support training programs), addressing critical tool inventory gaps through purchases, initiating procurement process for standalone tool crib service contract, introducing monthly testing cycles (by region) to anticipate/identify critical gaps in inventory, and completing supplier set up and commission of the Caguas Testing Lab. Spending for this program is higher than anticipated mainly due to an increase in tool purchases necessary to compensate for noted shortages at commencement of operations.

The **HSEQ and Technical Training** program provides HSEQ and technical training to field personnel. Key FY2022 activities include developing and rolling-out of an accredited apprenticeship and upskilling program; holding over 160 safety courses including, but not limited to, First Aid/Cardiopulmonary Resuscitation (CPR) incident investigations, confined space entry and electrical safety; and completing over 140,000 hours of in-class and on-the job training for newly onboarded employees. The variance of budget to actuals for this program is immaterial.

Support Services Improvement Portfolio Summary (\$ millions)

Program	FY2022 Approved Budget				FY2022 Actuals				FY2022 Total Variance	
	FY2022 Federally Funded CapEx	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	FY2022 Federally Funded CapEx	FY2022 Non-Federally Funded CapEx	FY2022 OpEx	Total	\$	%
Renewables Integration, Minigrids and Generation Studies	-	-	1.6	1.6	-	-	2.5	2.5	\$	(1.0)
HR Programs	-	0.4	62.3	62.8	-	0.6	72.0	72.5	\$	(9.8)
IT OT Asset Management	4.3	0.4	0.0	4.7	0.4	0.6	0.0	1.0	\$	3.7
Programs <5% of Portfolio Total	-	6.5	7.9	14.4	-	7.9	6.3	14.2	\$	0.3
Total	\$ 4.3	\$ 7.3	\$ 71.8	\$ 83.5	\$ 0.4	\$ 9.1	\$ 80.8	\$ 90.3	\$ (6.8)	(8%)

The Support Services portfolio supports the overall successful operation of the utility through various programs including the Human Resources (HR) Program; the Renewables Integration, Minigrids and Generation Studies program, and the IT OT Asset Management program.

The **HR Programs** program includes human resources activities to implement an employee benefit program, an employee engagement strategy, core compliance training and human capital management software. Key activities accomplished in FY2022 include providing companywide training including compliance, performance, leadership, and job-specific training activities, completing roll-out of employee benefits including the Health and Wellness program and Competitive 401k Plan, and implementing Human Capital Management Software to streamline HR processes across LUMA to manage employee information. The spend for this program is higher than anticipated mainly due to increased training requirements.

The **Renewables Integration, Minigrids and Generation Studies** program involves completing technical studies to inform generation and system planning to support compliance with the IRP requirements related to renewable integration, minigrids, energy efficiency and generation. Key FY2022 activities include developing and publishing Distributed Generation (DG) Hosting Capacity Maps on a publicly available website quarterly to provide customer and developer visibility into DG penetration, completing the first Energy Efficiency and Demand Response Portfolio Plan for Puerto Rico, completing the Phase 1 Electric Vehicle Infrastructure Deployment Plan and an Electric Vehicle Time of Use Rate Design Proposal. The variance for this program is mainly due to costs associated with additional governmental requirements related to electric vehicles.

Through the **IT OT Asset Management program**, LUMA has introduced industry standard IT OT asset management procedures and continues to provide the necessary system upgrades to ensure secure business operation and continuity, as well as improved customer responsiveness. The scope of the program includes assessing the application and infrastructure portfolio and beginning a series of software and infrastructure upgrades that drive toward a transition to cloud-based technology. IT OT resilience in this program also extends to the establishment of a new backup data center to ensure the reliability and resilience of technology systems. Key activities accomplished in FY2022 include implementing multiple technology projects in support of our LUMA teams, completing the Outage Management System (OMS)

stabilization process to improve LUMA's ability to respond to and report on outages, and developing and deploying map migration process from G/Technology software to OMS. Variance is mainly attributed to a slow start of the projects that compose the program and complex processes to get FEMA approval. In some cases, procurement is taking longer than anticipated because of the complex nature of federal procurement requirements and processes.

The financial information provided within this report has not been subject to audit, and this information is not appropriate for unintended purposes. The limitations and lack of integration of PREPA's financial and related systems and identified pre-existing control gaps may also affect the overall accuracy of reported results.

Compliance with Section 8 of May

Introduction

Within the May 31, 2021, Resolution and Order, the Energy Bureau required that LUMA provide an annual report on the implementation of improved efficiencies and quantification of resulting savings. It should be noted that on June 23, 2021, the Energy Bureau approved LUMA's almost \$4 billion System Remediation Plan, recognizing that a period of remediation, repair and replacement is required to bring the T&D System up to minimum standards. Additionally, during the FY2022 Technical Conferences held in May 2021, the Energy Bureau requested that LUMA accelerate certain Improvement Programs if possible.

With that in mind, LUMA reports on efficiencies for Fiscal Year 2022.

Throughout FY2022, all of us who work for LUMA Energy – over 3,000 strong men and women have had to overcome and address an array of historic energy infrastructure and organizational challenges to provide value to our customers and make progress towards our mission and goals. LUMA is a new organization with a new organizational structure and is building a new utility from the ground up. This unprecedented change and development activities are prioritized based on the benefits provided to LUMA's customers, aligned with Puerto Rico public policy and approved by the Energy Bureau.

Efficiencies, cost avoidance and cost savings are embedded in LUMA's goals and support our progress towards our mission. Activities within our Improvement Programs whether it be System Remediation related or other improvements build a safer, more systematic, and resilient utility. LUMA prioritizes safety to ensure we are keeping our people and the public safe and, as a result of prioritizing safety, costly and lifechanging impacts to our people and the public can be avoided. Driving operational excellence can be seen through our development of thousands of procedures, standards, models and the challenging work of unwinding previous system configurations in order to rebuild them in more standard and efficient manners. Our focus on advancing federally funded work to rebuild and strengthen the T&D System supports the construction and work required to improve infrastructure efficiencies and over time reduces the risk of failures which have plagued the electric system for the last decade. Through our improvement to the way we interact with our customers, including self-serve options and more effective contact centers, customers have been able to do more and receive better, more timely service from LUMA. Further, LUMA has made significant progress, as presented in the Annual Report and Quarterly Reports while not increasing the base rate to customers despite inflationary pressures.

Efficiencies and Savings

In response to the six efficiencies and savings outlined by the Energy Bureau in the May 31, 2021, Resolution and Order, LUMA provides the following.

EFFICIENT CONTRACTING OF SERVICES

LUMA's Procurement Manual was approved on May 31, 2022, by the P3 Authority of Puerto Rico (P3A) and COR3 and consists of one consolidated procurement manual for both federally funded activities and non-federally funded activities as required by COR3 and P3A. This differs from the two Procurement Manuals specified in the T&D OMA - one procurement

manual for federally funded contracts and one for non-federally funded contracts. At the time of FY2022 budget development, two procurement manuals were contemplated. As such, upon commencement, adjustments to procurement processes were required to comply with the consolidated procurement manual.

Notwithstanding, LUMA continued to drive efficiencies in its procurement processes and contract management with vendors in FY2022. A dedicated team was developed to implement cost control, contract administration and scheduling. The team also increased competition during the bidding process and obtained better prices/rates, established Master Service Agreements, eliminated contracts no longer required, updated terms and conditions, engaged in renewal negotiations, updated scopes of work and requirements, and attracted specialized equipment and skills to Puerto Rico, among other improvements. Savings and efficiencies were realized across the business including, but not limited to, vegetation management, IT OT, insurance, engineering, security, real estate, waste management and recycling.

As examples, LUMA completed the Masters Builders Risk and General Liability and Excess Insurance renewals resulting in lower premiums by approximately \$2.2 million, and LUMA eliminated duplicative Microsoft licenses and saved over \$1 million in OMS related contracts that were renegotiated or no longer required. LUMA also renegotiated existing contracts and contracted new vegetation management companies resulting in approximately 30% savings, equating to productivity improvements and efficiency gains of approximately \$10 million. LUMA also performed an assessment of leases resulting in \$0.8 million in annual savings.

EFFECTIVE REVENUE COLLECTIONS FROM PAST DUE BILLS

In an effort to more effectively address collections from past due bills, a dedicated revenue protection team was created at commencement to develop and execute a standard dunning process. During LUMA's first year of operations, the team has created and executed a 30/60/90-day process to collect on past due accounts, made more than 240,000 outbound collections calls, processed over 3,400 bankruptcy cases, and created more than 12,000 new payment plans. This resulted in collection of more than \$203 million in past due bills.

Specific to bill collection efforts, and as discussed within LUMA's quarterly reports, LUMA has prioritized its efforts for bill collection since commencement by creating multiple new channels of communication protocols, standard billing, and collection practices. LUMA has supported customers who are struggling to pay their energy bills by proactively reaching out to offer payment arrangements and to provide resourceful information on how to access financial aid available through COVID-19 relief funds and/or low-income funding programs. During FY2022 LUMA was able to support customers accessing \$38 million dollars of financial aid. LUMA will continue to advance its mission to deliver customer-centric, reliable, resilient, safe, and sustainable electricity through implementation of appropriate communication protocols and standard billing and collection practices that personify courtesy, capture efficiencies, and create proactive solutions for customers.

LINE LOSSES WILL BE MINIMIZED

Modern grid practices help improve grid services, including reducing the energy loss on the transmission and distribution systems. This allows customers to reduce energy consumption, saving money and emissions, without changing behavior. LUMA has executed a series of plans to support this improvement in the longer term.

On the distribution system, LUMA implemented new engineering design standards for distribution mainline, including larger conductors, strategic voltage conversion on 4 kV feeders, switchable cap banks, and voltage regulators. We also connected approximately 27,000 distributed energy resources (DER) that generated energy closer to load, reducing line losses. We implemented new engineering design standards for substations, eliminating redundant voltage transformations for further grid projects, and for replacing transformers.

ADDRESSING CUSTOMERS WITHOUT METERS OR WITH MALFUNCTIONING METERS

In FY2022, LUMA took several actions to improve meter reading including meter replacement and field quality checks, establishing a meter shop and a Quality Management System. Starting with mechanical meters for Commercial and Industrial accounts, LUMA focused on replacing malfunctioning and outdated meters with new meters that can be read remotely. This supported operational efficiencies in addition to more timely and accurate energy metering. Although there is a global shortage of meters given supply chain issues, LUMA was able to replace 11,508 meters with communication issues. These were replaced with meters from the meter shop process and allowed for remote readings. Further, LUMA has started quality field checks of malfunctioning meters and equipment throughout the system to identify and start to resolve communication failures. Overall, these improvements have increased the remote readings from 87% to 94.5%, contributing to less field visits and associated operating costs.

LUMA started building an ANSI compliant meter shop in FY2022, including work areas and a warehouse. LUMA also created a Quality Management System which has supported the testing of used meters based on ANSI requirements and identified 22,111 compliant meters of the 33,401 tested. This allowed LUMA to place these meters in inventory and continue to replace meters despite the global shortage and reduce overall purchase demands.

REDUCING ENERGY THEFT

Reducing non-technical losses has been a significant focus for LUMA. The initial focus has been regarding non-technical losses due to billing and collection related losses. In our initial year, we also developed procedures and training, held training, conducted legal analyses and had conversations with stakeholders. The activities in our first year also focused on a changed philosophy in approach to theft detection by improving data analytics, hiring analysts and building a team of knowledgeable specialists throughout multiple departments for coordinated approach to addressing this issue. Additionally, advancements include the centralization of the back-office team and an App for work management between the employees in the field and the employees who complete the work in CC&B.

In FY2022 LUMA performed the foundational activities to take the next step in FY2023, which includes finalizing the necessary steps to implementation of the changed processes, procedures and structure associated with LUMA's new approach to non-technical losses. LUMA plans to increase awareness of LUMA's anonymous theft reporting channels (e.g., website main page and bill inserts) as well as messaging to deter future instances of energy theft. LUMA believes in treating customers equally and fairly during the theft investigation process which supports customer confidence.

REVENUES FROM THIRD PARTY ATTACHMENTS

In line with LUMA's Update to Third Party Use, Audit, Contract and Billing Procedures Improvement Program, during FY2022 LUMA launched several efforts to implement industry standard practices in the management of third-party attachments while complying with applicable regulation. LUMA completed: a fulsome review of processes followed by PREPA, including historical data on existing attachments, applicable regulations and key stakeholders; drafting a new Third-Party Attachment Agreement; benchmarking industry practices for management of third-party attachments; developing applicable engineering standards for third party attachments on PREPA's distribution poles; starting modeling for pole loading analyses; and starting to gain resources to support these efforts. LUMA is on track to advance the program in line with milestones presented and approved in LUMA's SRP Improvement Program.

Additional Efficiencies and Avoided Costs

First year of operations has been characterized by gaining control and working to stabilize the T&D System, onboarding thousands of employees, adding new customer communication channels, and addressing multiple backlogs of uncompleted work as well as uncovering and beginning to address significant deficiencies and omissions within the PREPA organizational and infrastructure systems. Most importantly, in addition to these activities, LUMA made real progress in FY2022 and started to build a foundation on which future improvements will be based. During the first year of

operations, LUMA has been able to start eliminating constraints, build new functions, skills and capabilities within the organization and drive efficiencies throughout the business to deliver more value to the customer.

LUMA has realized efficiencies across the business which have resulted in benefits to the customer, examples of such efficiencies include:

- Mi LUMA (mobile application and webpage) allows customers to perform the majority of customer facing processes, online, on their own time, without having to interact with anyone. As of the end of FY2022, more than 751,901 customers had registered with Mi LUMA
- All contact center advisors are multi-channel. Each advisor is trained to answer calls, emails, and direct messages from customers (no separate teams) which enables improved coverage and consistency in service delivery across channels
- Quality assurance process with contact center advisors whereby quality and process adherence of their service interactions are reviewed to ensure consistency of service delivery – supporting the reduction in errors and/or requirement for error corrections and rework
- The development of a team dedicated to process improvement which reviews processes based on customer and employee feedback to either improve service delivery and/or reduce employee and customer effort
- Implementation of a Low Voltage App, improving turnaround time and reducing the use of paper for service orders completed in the field
- Cross training of advisors on the various services to ensure there is constant coverage
- Communication programs are proactively built out for communication and coordination with municipalities to improve relationships, reduce escalations, and improve planning processes
- Strengthened IT integration of the Oracle financial system with software to allow for automation of processes and streamlining the processing of financial transactions
- Successfully reducing the backlog of 6,000 unpaid invoices and strengthening the invoice payment process
- Implemented a centralized facility services organization supporting the entire business needs for real estate and facility management across the organization supporting the efficient usage of facilities and contracted services required to manage these facilities
- Implemented a Facilities ServiceNow system to allow the business to request facility support and deploy resources from a centralized team
- The removal of debris and obsolete equipment allowing for improved usage of space, workflow and safety as employees perform work within LUMA facilities
- Centralizing billing services from 25 regional offices into one location to standardize billing processes and enable improved billing expertise, allowing for enhanced learnings across the team, and more systematic billing processes
- Dedicated an entire team building relationships and providing enhanced customer experience to LUMA's highest value industrial and commercial accounts and municipalities
- Through proactive customer resolution, the team was able to reduce the number of Act 57-2014 claims to review bills received from customers to an all-time historical low. Reduces the amount of administrative work required by the Independent Office of Consumer Protection (OIPC), PREB, and LUMA, and reduces the customer effort
- Developed dedicated regulatory department that was able to submit 423 filings in FY2022, attend 51 Technical Conferences, Evidentiary Hearings and Workshops and actively participate in over 40 dockets. As a result, the Energy Bureau was able to pursue three new workstreams with LUMA including the Wind Study, Electric Vehicles and Energy Efficiency and Demand Response Transition Period Plan
- LUMA experienced a significant decrease in occupational injuries and illness which results in a more efficient workforce with less employees spending time seeking medical care and with less severe incidents. There was fewer time away for employees recovering from injury and less training required to replace workers who have been injured and are unable to work
- Reached the Remediated State in four System Remediation Plan Programs including: Modernize Customer Service Technology, Critical System Operation Strategy and Processes, Human Resources Programs, Integrated Safety & Operational Management System, increasing compliance and decreasing overall risk to the utility

- Implemented a cloud-based contact center platform to allow for better continuity during emergency and blue-sky operations
- Developed and trained on critical System Operations procedures to implement standardized processes to manage the bulk energy system in accordance with the System Operations Principles
- Completed core compliance training with all LUMA employees in line with corporate policies, laws and regulations
- Implemented software system for tracking health, safety and environmental incidents and inspections which automates reporting, data collection, review and approval process allowing for more accurate and efficient reporting of field information as well as reviewing real-time performance and undertaking corrective actions to prevent incident recurrence
- Made significant advances in cyber security over 15 different initiatives, technologies and tools including providing backup of documents, technologies and processes to protect employees from non-compliant data, spam, viruses and intrusions and others to significantly reduce risks and potential costs associated with cyber risk
- LUMA standardized and automated IT OT dashboards, reporting data and notifications for more consistent data communication and enabling strategic efficiencies
- Significant work to upgrade, update and improve OMS through migration improvements, adding missing distribution points, replacing failing legacy Supervisory Control and Data Acquisition (SCADA) storage equipment, replacing unsupported firewalls. LUMA also saved over a million dollars on multiple contracts through renegotiations and non-renewals
- Distributed over 4,000 personal devices to enable increased productivity including laptops, cell phones and tablets and launched ServiceNow to enable a more efficient method of resolving employee IT OT requests
- Implemented effective IT OT project execution team including providing approximately 100 hours of training. The team was able to complete 30 projects including improving connectivity between systems, enhancing utilization and encouraging more efficient use of IT OT systems and tools
- Successfully executed the DG Action Plan which reduced the Net Energy Metering backlog that was inherited from PREPA. This included centralizing key Net Energy Metering organizational functions, developing new streamlined process, and starting the development of a new application portal. This resulted in approximately 27,000 Net Energy Metering applications being processed compared to 8,500 in the 12 months prior to LUMA taking over operations
- Ensured our field crew had a right-sized, fit-for-purpose fleet, conducting 567 ANSI and 933 DOT inspections to comply with Puerto Rico's DOT and Public Works (DTOP), USDOT and ANSI standards
- Increased available vehicles in service by over 800 vehicles and found hundreds of fleet units that were missing upon commencement and implemented a dispatch and tracking tool for fleet to optimize internal driver routes and measure overall efficiency
- Integrated commissioning team with substations team to facilitate sharing of vehicles, use of testing equipment and tools, and conducting of any related training
- Improved work order process to ensure issued work orders are shovel ready (e.g., access clearances established, materials available, permits obtained, and any underground locates competed)
- Implemented a decision tree to support efficient dispatch of crews
- Dedicated resources to PRASA Outage Management to improve coordination and efficiency among all involved stakeholders
- Implemented PowerApps to streamline the forwarding and processing of service requests (e.g., Flame Resistant Clothing, Safety Boots, Asset Recovery and Shipping/Courier Requests)
- Opened a meter shop warehouse to improve cycling of meters undergoing repair and testing
- Established after hours refueling/maintenance capability, determined to be self-funded for activities exceeding 30 minutes
- Introduced more efficient management of inventory as well as training all warehouse staff on DOT Compliance, and Forklift and Crane Operations
- Substantially reduced the backlog of 100,000+ service orders inherited at commencement
- Eliminated the backlog of new customer requests for service connections, advancing the sale of energy to customers
- Eliminated projects for evaluation and endorsement backlog received from the Permit Management Office

- Identified, documented, and subsequently prioritized approximately 1,000 out-of-service elements on the grid, including energizing three substations supporting avoided costs associated with overloading circuits
- Development of systematic engineering and planning practices for long term efficiencies (e.g. engineering standards) and supporting the federally funded recovery
- Adopted IEEE 1366 Reliability standards for efficient, effective, and standardized reliability reporting
- Submitted 188 FEMA projects that will lead to long term system efficiencies
- Developed Hosting Capacity Maps for efficient customer communications on DG integration
- Followed the prioritization of planned work driven by Asset Management and Planning and performed a detailed review of scopes in order to align with the execution plans
- Utilized project submission checklists to increase the efficiency of project narratives and project formulations
- Coordinated with FEMA Environmental and Historical Preservation review with checklists and guidelines to submit projects with detailed environmental information to support a more efficient review process
- Improved the accuracy of Class 3 and 5 estimates by reviewing actuals and utilizing recent estimate data

The financial information provided within this report has not been subject to audit, and this information is not appropriate for unintended purposes. The limitations and lack of integration of PREPA's financial and related systems and identified pre-existing control gaps may also affect the overall accuracy of reported results.



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