

**GOVERNMENT OF PUERTO RICO
PUERTO RICO PUBLIC SERVICE REGULATORY BOARD
PUERTO RICO ENERGY BUREAU**

NEPR

Received:

Jan 25, 2022

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**IN RE: DESPLIEGUE DE
INFRAESTRUCTURA DE CARGADORES
PARA VEHICULOS ELECTRICOS**

CASE NO. NEPR-MI-2021-0013

SUBJECT: Motion in Compliance with Order

**MOTION IN COMPLIANCE WITH RESOLUTION AND ORDER OF DECEMBER 17,
2021**

TO THE HONORABLE PUERTO RICO ENERGY BUREAU:

COMES NOW LUMA Energy ServCo, LLC (“LUMA”), through the undersigned legal counsel, and respectfully state and request the following:

1. On December 17, 2021, this Energy Bureau issued a Resolution and Order (the “December 17th Order”) that, in relevant part, directed that on or before January 25, 2022, LUMA shall submit the following information:

- a. A copy of the LUMA "Strategy for Recovery and Transformation" ("Strategy") about the distribution and transmission systems.
- b. A narrative to accompany the Strategy identifying specific recovery-related investments and distribution grid modifications scheduled that will affect the residential customer segment, identifying specific grid locations to be affected and associated completion timetables.
- c. All data and associated analyses that indicate the available capacity of the distribution system serving residential customers, at the feeder, transformer, and substation levels, to the fullest extent possible.

2. In compliance with the December 17th Order, LUMA hereby submits as Exhibit 1, its responses to the Energy Bureau's requests for information.

WHEREFORE, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned, **accept Exhibit 1** to this Motion, and **deem** that LUMA complied with that portion of the December 17th Order that required LUMA to provide responses to three requests for information on or before January 25, 2022.

RESPECTFULLY SUBMITTED

I hereby certify that I filed this motion using the electronic filing system of this Energy Bureau and that I will send an electronic courtesy copy of this motion to the attorneys for PREPA, Joannely Marrero-Cruz, jmarrero@diazvaz.law and Katuska Bolaños-Lugo, kbolanos@diazvaz.law. LUMA understands that other participants or stakeholders in this proceeding will be notified as a result of the publicity of the filings in this process. Notwithstanding, LUMA will send a courtesy copy of the filing to the following stakeholders: energypr@gmail.com, edwin.ac, evedo@ddec.or.gov, idiaz@glenninternational.com, azayas@azeng.net, gerardocosme@solartekpr.net, luisgmoreno@gmail.com, fberriosperitoselectricistas.org, juan.diaz.galarza@guidehouse.com, angel.d.rodriguez@outlook.com, javruasesapr.org, aldo@skootel.com, pablo.rivera@hitachi-powergrids.com, divine.energy@hotmail.com, franciscojrullan@yahoo.com, ochavez@padigm.com, antoniovelocicharge.com, dcordero@group-em.com, kenan.d.davila@sargentlundy.com, emelyies.torres@toyota.com, gerard.berlinski@toyota.com, marilyn.maldonado@toyota.com, picleanenergy@gmail.com, bigwheelcorp@gmail.com, ian.rodriguez@toyota.com, Eduardo.pinera@toyota.com, marangelly.cruz@toyota.com, ismael.diaz@warren-ecm.com, alberto.cortes@warren-ecm.com, wnavasesg@gmail.com, rvea@guidehouse.com, rry@tcm.law, agalloza@aggpr.com, victor.martinez@totalenergies.pr, nmontes@cmmpr.com, zlopez@efonalledas.com, omundo@plazalasamericas.com, ialsina@plazalasamericas.com, mldron@plazaad.com, ruben.gonzalez@pumaenerg.v.com, dacosta@aggpr.com, rdiaz@glenninternational.com, l.marcano@aconer.org, jtosado@jmotorambar.net, hamely@motorambar.net, jsantana@motorambar.com, jorrodriguez@motorambar.net, nannette.berrios@solpetroleum.com, jameauxl@aim.com, j.pibernus@motorambar.com, wilfredsonllc@gmail.com, melvin.ayala@lumapr.com, francisco.berrios@hotmail.com, CR.Tejera@ddec.pr.gov, nrodriguez@senado.pr.gov, nsantos@glenninternational.com, patlopez00@gmail.com, laura.rozas@dlapiper.com, jcardona@aggpr.com, kkoch@tesla.com, jvazquez905@gmail.com, jose.maeso@crowley.com, jortiz@caguasexpressway.com, odette@grupofernandezpr.com, info@carlosmatta.com, jbouza@caguasexpressway.com, erica.cosme@gsonnell.com, clrivera@caguasexpressway.com, flota@caguasexpressway.com, lsundeen@tesla.com, carlos@cedenogmail.com.



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Exhibit 1



**Responses to
Electric Vehicles
Charging Infrastructure
Resolution and Order
from December 17, 2021**

NEPR-MI-2021-0013

January 25, 2022

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LUMA Response to RFIs 1-3

Response: Question 1

REQUEST

A copy of the LUMA "Strategy for Recovery and Transformation" ("Strategy") about the distribution and transmission systems.

RESPONSE

Detailed discussion of LUMA's Recovery & Transformation framework is presented in the Foreword of LUMA's *Initial Budgets: First 3 Years of Recovery & Transformation*.¹ Section 1.4 of the Initial Budgets provides detail on the development and use of the Recovery & Transformation strategic planning framework. An excerpt from LUMA's Recovery & Transformation framework narrative is included in Appendix A.

The Recovery & Transformation framework was the outcome of a strategic planning process developed during LUMA's Front-End-Transition. This process was to align LUMA's investment planning with Puerto Rico's broader public policy objectives and customer needs. The outcome of this strategic planning process is a framework consisting of a mission statement and a set of goals for making progress toward that mission. These goals (see Figure 1 below) were then used as guiding principles in the prioritization and sequencing of improvement programs for budgeting purposes.

¹ <https://energia.pr.gov/wp-content/uploads/sites/7/2021/04/20210430-MI20210004-Motion-in-compliance-with-order-and-request-for-brief-extension.pdf>

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Figure 1. LUMA's Recovery & Transformation Mission and Goals.



The Initial Budgets, including LUMA's discussion on the Recovery and Transformation Framework, were reviewed and approved by the Energy Bureau. In the Initial Budget Resolution and Order of May 31, 2021, Case NEPR-MI-2020-0004, the Energy Bureau also noted that "LUMA's Petition appropriately identifies, prioritizes, and sequences capital and operational expenditures to improve reliability and resiliency of the Puerto Rico power system."

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Response: Question 2

REQUEST

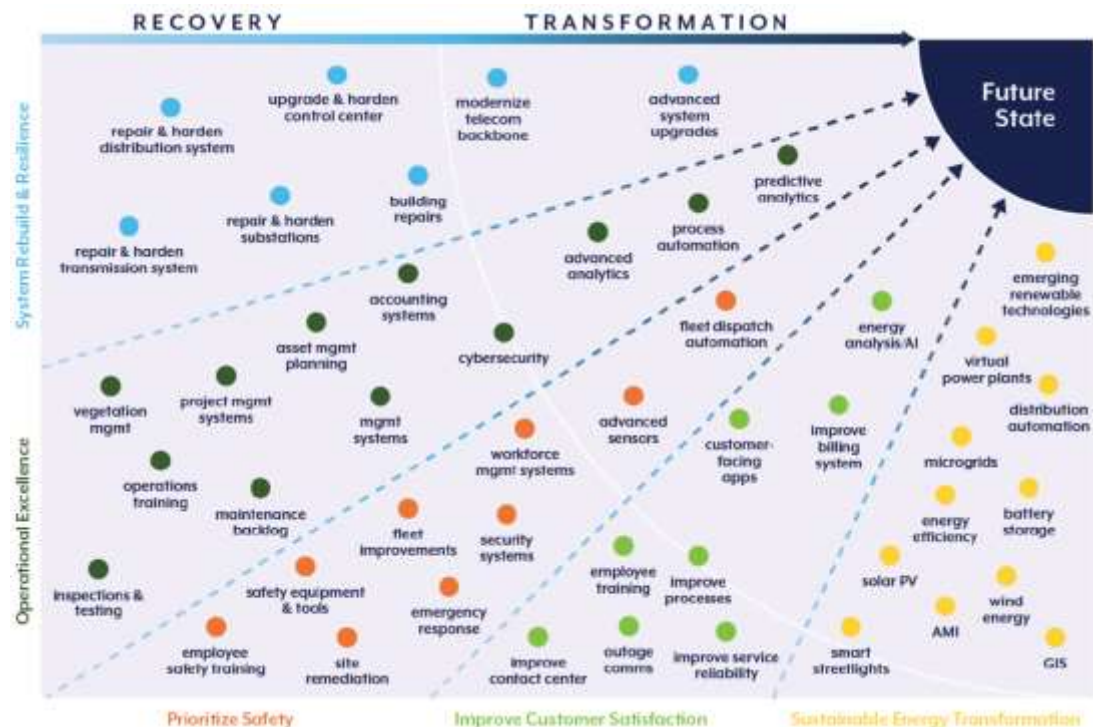
A narrative to accompany the Strategy identifying specific recovery-related investments and distribution grid modifications scheduled that will affect the residential customer segment, identifying specific grid locations to be affected and associated completion timetables.

RESPONSE

The Initial Budget filing includes detailed “Program Briefs” for each improvement program (Appendix D of the Initial Budget filing) approved by the Energy Bureau. They identify key activities, timelines, budgets, and rationale for each program. The following is an excerpt from Section 1.4.3 of LUMA’s Initial Budgets filing.

LUMA’s investment plan is characterized by a near-term emphasis on foundational Recovery programs to improve both infrastructure and organizational health, while paving the way for an increasing focus on Transformation programs. [Figure 2] below presents a high-level illustration of LUMA’s Recovery & Transformation Roadmap. The diagram depicts LUMA’s key Recovery & Transformation Programs, organized by their primary goal. It should be noted that Recovery and Transformation are not distinct, sequential phases as many Transformation programs will begin alongside Recovery programs. A full list of these programs is provided in the Program Briefs within Appendix D of the Initial Budgets filing.

Figure 2. LUMA’s Recovery & Transformation Mission and Goals



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LUMA's initial Front-End Transition (FET) planning resulted in a list of programs representing a total investment of nearly \$4.0 billion over the next three years. Over half of LUMA's annual program spending will be related to system recovery and resilience programs that will establish the foundation required to enable transformation. The majority of these programs involve federally funded infrastructure restoration efforts predominantly focused on transmission, distribution and substation repairs and replacements.

LUMA also plans a significant near-term investment in operational excellence and safety programs related to technical training, tools and safety equipment, cybersecurity, T&D fleet repairs/replacements and security systems collectively viewed as enabling programs necessary to establish the necessary infrastructure to enable the successful execution of operational and capital work.

In addition, LUMA will undertake programs related to the sustainable energy transformation including LED streetlight replacements, limited advanced metering infrastructure (AMI), geospatial information system (GIS) upgrades and Integrated Resource Plan (IRP) compliance related research and planning.

Finally, LUMA is planning numerous customer experience process improvements, billing system enhancements, a Voice of the Customer (VoC) program and quick-win service reliability improvements to the distribution grid.

Below is a selection of Recovery-related programs that will (directly or indirectly) affect residential customers. Many of these are basic, fundamental systems, repairs or capabilities that are necessary to prepare the utility and/or the grid for Transformation-related investments. A select but not limited list of Program Briefs is presented below, as submitted in Appendix D to the Initial Budget filings.

- **Distribution Line Rebuild.** This program replaces damaged or ineffective overhead and underground distribution lines, including the following initiatives:
 - Perform distribution line upgrades to improve reliability and resiliency
 - Restore out of service circuits as deemed necessary
 - Complete unfinished circuit construction presently abandoned as deemed necessary
 - Perform circuit voltage conversions to improve distribution capacity
 - Improve voltage profile to customers and reduce distribution energy line losses
 - Build new distribution line extensions to connect new customers
 - Install underground cable and / or tree wiring to improve service reliability and resiliency to critical customers
- **Distribution Pole and Conductor Repair.** This 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 upon the results of an inspection of the distribution system and an analysis by engineers to schedule the repair or replacement based on the criticality of the

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pole. Following this process, safety hazard and priority poles will be replaced, along with damaged conductor and hardware.

- **Distribution Lines Inspection.** This program is targeted at the inspection, testing, and studying of distribution lines, along with required spot repairs and replacements.
- **Distribution Automation.** This program focuses on establishing equipment for distribution automation. This includes the installation of voltage and Volt-Amps Reactive (VAR) controls on feeders to improve power quality and reduce losses, along with the installation of intelligent switches and reclosers on select feeders (including main line and feeder ties) to reduce the number of customer interruptions per outage occurrence.
- **Distribution Technology.** This program is focused on implementing distribution technology that enables distribution planning and protection studies to be completed, as well as the production of hosting capacity information for public and internal use. The program will also procure power quality monitoring equipment and meters for each district. Software procured and implemented under this program includes advanced planning tools that will:
 - Identify reliability issues and assess appropriate actions
 - Forecast load, distribution generation and technology impacts on grid performance
 - Provide updated hosting capacity maps
- **AMI Implementation Program.** An AMI implementation program establishes two-way remote meter reading reporting and control capabilities. Such programs enable a broad range of capabilities that result in cost savings to the utility and customer satisfaction improvements. This is achieved by providing the ability to offer more granular consumption data, bi-direction metering, outage notifications, power quality measurements and remote connects / disconnects. For the utility, operational savings and revenue protection are critical drivers as well as OMSs, DR, DA, load forecasting, load research, rate studies and many other critical modern utility functions. An AMI program is usually seen as a top priority foundational program due to its large number of related and dependent programs and the savings and customer benefits that are immediately available.
- **Distribution Meter Replacement and Maintenance.** This program deals with correction, replacement, and maintenance of distribution meters. In particular, the program will replace failed Two-Way Automatic Communication System (TWACS) meters, along with maintenance items related to improving communications within the existing TWACS system.
- **Distribution Streetlighting.** This program deals with upgrading and replacing distribution streetlights that are a physical safety hazard and are scheduled for repair or replacement based on their criticality. Along with increasing the number of distribution streetlights in service, this process will also include LED replacements and GIS data entry of all streetlights.
- **Billing Accuracy and Back Office.** This program includes updates to bill print and delivery and other back-office systems to ensure LUMA has the ability to continue to produce customer invoices. Current technology, machines and systems are outdated, creating a financial liability in delayed revenue of \$12.5 million for each day invoices are not produced. This upgrade includes

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acquisition of new hardware and software to support billing and customer contracts, along with removing redundant bill printing and enveloping equipment. Additionally, the program supports back-office processing of service order paperwork and mobilizes resources to address backlogs of estimated and unbilled accounts. The program also implements a customer experience metrics dashboard and agent routing technology for Billing Services to reduce resolution time and increase customer satisfaction.

- **Modernize Customer Service Technology.** The Modernize Customer Service Technology program is primarily focused on remediating the telephony technology through the development and implementation of a new cloud-based contact center platform. Contact center software allows for the management of a high volume of inbound and outbound customer communications across a range of channels. Modernizing contact center procedures will mitigate LUMA's risk of customers being unable to report emergency situations. The program will create real time dashboards and reporting to cover KPIs across all of Customer Service, including the contact center, district offices and billing services.
- **Loss Recovery Program.** This program is targeted at reducing non-technical losses (NTLs) by the application of advanced monitoring and software techniques coupled with a significant number of inspection teams in the field. Initiatives include AMI revenue protection software and modules that can identify anomalies in equipment and customer consumption, enhanced data analytics, field theft detection tools and widespread inspections, all supported by 30 new back-office business and data analysts.
- **IT OT Telecom Systems & Networks.** This program includes IT and OT telecom investments to improve and revamp PREPA's mobile radio system, phone exchange and telephone systems and fiber optic and microwave data radio systems. These systems are used to carry all PREPA IT and OT data. Capability enhancements will include improved first responder and emergency response communication, greater resilience of the internal telecommunications network, an enhanced microfiber network and network control center to improve centralized monitoring and control over facilities and IT traffic.
- **Distribution Substation Rebuilds.** This program focuses on improvements to distribution substations as a means to strengthen the distribution grid. This includes hardening and modernizing distribution substations, upgrades to the latest codes, industry standards and practices and the replacement of electromechanical and electronic relays.
- **Distribution Substation Reliability Improvements.** This program will reinforce and upgrade the existing and aging infrastructure associated with the distribution system to improve system reliability. This includes replacement of distribution circuit breakers and other high-voltage equipment, transformers, relays, and remote terminal units (RTU) and auxiliary systems, along with procurement of emergency spares for the distribution system.
- **Critical Energy Management System Upgrades.** This program will replace an obsolete and unsupported Energy Management System (EMS) and add relevant technology to operate the electric system safely and reliably. This program will also implement an Advanced Distribution Management System (ADMS). The EMS is a computer-based system that is used by operators to

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monitor, control, and optimize the performance on the generation, transmission, and distribution system.

- **Critical System Operation Strategy and Procedures.** This program will develop all the procedures and strategies necessary to operate the system reliably and efficiently. This includes procedures and strategies associated with managing blackstarts, load shedding, outage management, transmission lines, substations, distribution, and deployment of the Outage Management System (OMS). Procedures developed will be consistent with the System Operation Principles.
- **IT OT Asset Management.** LUMA will introduce industry standard IT OT asset management procedures and 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 PREPA's 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 reliability and resilience of technology systems.
- **IT OT Cybersecurity Program.** The program centers on enabling the business and protecting key organizational assets, including people, resources, and technology to ensure that cyber risk, internal and external threats, vulnerabilities, and natural disasters are identified and mitigated based on risk and readiness factors. Improving cybersecurity is a critical part of hardening the T&D system and ensuring business continuity; cyber risks could severely impact T&D operations to the extent of widespread failure. These activities support other programs and are in addition to the scope of the associated supported programs. This program will design and implement the people, processes, and technologies essential for effective cybersecurity governance, cybersecurity operations and monitoring, vulnerability identification and management, and cloud security.
- **IT OT Enablement Program.** This program will implement capabilities to deliver and maintain IT OT services and systems enabling LUMA operations through the implementation of industry best practices and standardized processes and tools. Fit for purpose devices will be deployed to carry out business operations enabling near real-time access to electric network data providing a safer work environment. Industry best practices for Information Technology Service Management (ITSM) will be implemented so that technology assets are managed, provisioned, and maintained securely. Processes will be implemented to establish end user device standards along with mobile application management (MAM) to control how end user devices are used. Enterprise Architecture (EA) and project management frameworks will be implemented to ensure software and infrastructure assets are implemented, maintained, and disposed of in accordance with vendor support requirements including patching and upgrades. This will mitigate the risk of prolonged system outages on non-vendor supported software and infrastructure. By the end of the program LUMA will have developed and executed an operational data strategy, developed foundational enterprise architecture guidance, and outlined a cloud strategy. LUMA's IT and OT organization will be able to design, plan, deliver, operate, and control the lifecycle of IT OT services, projects, and assets. An IT service management tool will ensure that technology is

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managed, provisioned, and maintained securely to reduce risk to the organization and enable users.

- **Improvements to Systems Dispatch for Increased Reliability and Resiliency.** This program deals with the repair of non-functioning equipment and processes to allow for the system operator to have data to carry out economic dispatch of generation assets, in accordance with the System Operation Principles and applicable procedures.
- **Technical Training, Test Lab & Historian.** This program includes: (1) Training, development, and support for complex technical systems (e.g., IEC61850 communication protocols, protection relays, high-voltage gas-insulated switchgear, etc.), (2) Construction and set up of a test lab along with field test equipment, and (3) Application of a historian system to generate reports and analyses.
- **Public Safety.** LUMA will introduce an organizational strategy to engage and educate the public on safety around electric equipment and installations, thereby reducing public safety incidents. The program will include: the procurement of public safety related materials for training awareness and public outreach, the development and complete roll out of a communications plan and a continuing maintenance plan for the program.

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Response: Question 3

REQUEST

All data and associated analyses that indicate the available capacity of the distribution system serving residential customers, at the feeder, transformer, and substation levels, to the fullest extent possible.

RESPONSE

An extensive study is required to determine the aggregate level of EV charging that the entire system can accommodate in the near term. No such study has been conducted by LUMA. Therefore, no data is currently available on the aggregate capacity of the distribution system to serve residential EV loads.

Consistent with the Pre-Engineering Data Collection (PEDC) plan and NEPR-MI-2019-0011 Resolution and Order of December 31, 2020, the distribution feeder data required to eventually conduct this type of study is currently being collected and updated over a three-year horizon. This work will confirm feeder layouts, customer counts, and asset condition and is the critical foundation for any further analysis of feeder capacity. LUMA will prepare a plan for analyzing and mapping “EV hosting capacity” as part of the DG hosting capacity work, to be presented in the Phase 1 Plan.

The forthcoming PR100 study, conducted by the United States Department of Energy (US DOE), will undertake the modeling and analysis necessary to present preliminary answers to this question. This study will model various levels of EV adoption and EV load profiles to explore the systemwide impact in terms of fossil fuel consumption, greenhouse gases (GHGs) and pollutants emissions, electricity demand, and costs. This study will also assess the “implication on demand changes due to uncontrolled EV additions.” To avoid duplication of effort, LUMA will not initiate similar research in the near-term.

As part of the T&D System rebuilding efforts, LUMA performed feeder analysis on the worst performing feeders and identified voltage and capacity issues in the system. While some feeders analyzed are in good condition from a planning perspective, some have poor voltage regulation which will be exacerbated by the addition of distributed energy resources (DERs), including EV charging. Other areas have experienced poor reliability and some feeders and substation transformers have limited capacity, which unless upgraded, will limit EV adoption.

System limitations are not only related to Transmission and Distribution capacity, but also energy generation resource adequacy. Recent months have shown that the PREPA does not have the available generating resources to adequately meet current demand, which indicates that additional load would likely lead to further capacity shortfalls. LUMA is carrying out a resource adequacy study that will focus on the ability of current supply resources to meet demand including an adequate reserve margin to reduce the risk of a supply shortfall. The study will have 3–5-year planning horizon with a focus on the next 24 months. The analysis will be performed in PROMOD utilizing existing generation assets, their availability and outage rates, and an expected load forecast. This will allow LUMA to analyze with greater precision, topics such as impact of economic dispatch decisions, plant availability, and sensitivity to input assumptions. The study will feature a stochastic analysis of probabilities on an hourly basis for the coming 12-month period which will allow analyzing multiple variables such as load forecast, demand-side programs, electric vehicle adoption for today’s portfolio and the impact of future renewable tranches.

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APPENDIX A: Recovery and Transformation Framework

Detailed discussion of the Recovery and Transformation Framework for the T&D System is presented in the Foreword of LUMA's Initial Budgets document filed February 2021.² This same information is also detailed in LUMA's System Remediation Plan,³ both of which were reviewed and approved by the Energy Bureau.

Overview of LUMA's Recovery & Transformation Framework (Excerpt from Initial Budgets Filing)

Puerto Rico's electricity system is at a crucial inflection point. Decades of deterioration compounded by damage from Hurricanes Irma and Maria in 2017, and earthquakes in late 2019 and early 2020 provide a powerful impetus for meaningful change. Puerto Rico has set ambitious public policies to transform the electricity grid into a flexible, modern, smart grid platform leveraging renewable energy resources. LUMA is committed to implementing the transformation to a reliable, resilient, and sustainable energy future for the people of Puerto Rico.

LUMA's initial assessment of the utility, its assets and organization, reveals infrastructure and organizational systems that are in significant need of improvement. Nearly all organizational systems and processes require substantial changes or complete replacement to enable more systematic, standardized, and cost-effective deployment of resources and capital. Physical assets are in poor condition from inadequate maintenance and subsequent storm damage, which has corresponding effects on system performance and reliability. The Puerto Rico Electric Power Authority (PREPA)'s reliability metrics (i.e., System Average Interruption Duration Index [SAIDI], System Average Interruption Frequency Index [SAIFI]) are currently eight to nine times higher (worse) than the median benchmark for US utilities in the fifty states. According to the 2020 Institute of Electrical and Electronics Engineers (IEEE) Distribution Reliability Benchmark⁴, an average US customer can expect to have approximately one outage per year and approximately 120 minutes without electricity, excluding major events like hurricanes. In Puerto Rico, 2020 data shows the average PREPA customer suffers more than 9 outages per year for a total of more than 1,300 minutes (or 21 hours), not including major events like hurricanes.

The hurricanes in 2017 destroyed significant electrical infrastructure and were devastating to the overall health and safety of the people of Puerto Rico. The restoration of service was slow, chaotic and the length of time that customers had to wait for service restoration was unprecedented. Puerto Rico's electric system was already fragile and wholly unprepared for a major disaster. The lack of emergency preparedness, weak physical assets, and inability to draw on resources quickly for restoration all contributed to a complete failure of the system for many months. PREPA's emergency preparedness is still well below prudent levels for a utility of its size that is subject to multiple threats of natural disasters.

LUMA's task is to repair a damaged system while simultaneously reshaping the fundamental architecture of that system. The transformation required to achieve that task must be carefully coordinated and

² <https://energia.pr.gov/wp-content/uploads/sites/7/2021/04/20210430-MI20210004-Motion-in-compliance-with-order-and-request-for-brief-extension.pdf>

³ <https://energia.pr.gov/wp-content/uploads/sites/7/2021/05/Motion-in-Compliance-with-Order-Submitting-Revised-Redacted-Version-of-SRP-and-Redacted-Attachments-to-Responses-to-RIs-NEPR-MI-2020-0019.pdf>

⁴ <https://cmt.eiee.org/pes-drwg/wp-content/uploads/sites/61/2020-IEEE-DRWG-Benchmarking-Results.pdf>

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managed. The right changes must be prioritized and sequenced at the right time to prevent further disruption and deterioration of service reliability. Otherwise, as noted in Hawaii’s recent Grid Modernization Strategy, “investing in advanced technologies overlaid on old, failing infrastructure is like putting a high-performance battery-electric drive system in a rusty 40-year-old car with flat tires.”⁵

LUMA’s strategy to implement the change mandated by the Government is comprised of two phases: recovery and transformation, as shown in Figure 1-2. The Recovery phase begins with the restoration of the utility’s infrastructure and processes to a well-functioning state. During this phase, LUMA will complete foundational investments to repair the grid in the near term (one to three years), leveraging the experience of current PREPA employees, who will be joining LUMA, while implementing new processes, systems, and training for more effectively managing fundamental utility operations. As the utility recovers, LUMA will accelerate the pace of transformation by training its employees on the knowledge, skills, and abilities they need to manage advanced technologies and systems. In this Transformation phase, the utility will be redesigned to meet Puerto Rico’s energy policies and needs for the coming decades. This phase will accelerate the transition to greater reliance, and eventually full reliance on renewable generation and distributed energy resources, made possible through advanced operational systems and technologies designed for the utility of the future. It should be noted that Recovery and Transformation are not separate, sequential phases as many Transformation programs will begin alongside and in coordination with Recovery programs.

Figure 1-2. Recovery & Transformation Phases



LUMA has developed a comprehensive approach to planning for the Recovery and Transformation of Puerto Rico’s electric power system, in the same spirit with which it intends to implement it. The following section outlines LUMA’s coordinated approach to developing the major filings LUMA is required to submit to the Puerto Rico Public-Private Partnerships Authority (P3A) and the Puerto Rico Energy Board (PREB). These filings are for the Initial Budgets, System Remediation Plan (SRP), System Operation Principles (SOP) and Performance Metrics. These filings are closely interrelated and are each part of LUMA’s overall approach to planning the Puerto Rico utility service in alignment with current public energy policy.

⁵ Hawaiian Electric Companies. *Modernizing Hawaii’s Grid for Our Customers*. Pg. 39. 2017.